



ANNEXURES

**Ordinary Council Meeting
Under Separate Cover
Wednesday, 12 February 2025**

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COONAMBLE SHIRE COUNCIL

CODE OF MEETING PRACTICE

2024

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1 INTRODUCTION

This Code of Meeting Practice for Coonamble Shire Council is made under section 360 of the *Local Government Act 1993* (the Act) and the *Local Government (General) Regulation 2021* (the Regulation).

This Code applies to all meetings of Council and Committees of Council of which all the members are councillors (Committees of Council). Council committees whose members include persons other than councillors may adopt their own rules for meetings unless Council determines otherwise.

Council must adopt a Code of Meeting Practice that incorporates the mandatory provisions of the Model Meeting Code.

Council's adopted Code of Meeting Practice incorporates some non-mandatory provisions of the Model Meeting Code and other supplementary provisions. However, this Code does not contain provisions that are inconsistent with the mandatory provisions of the Model Meeting Code.

2 MEETING PRINCIPLES

2.1 Council and committee meetings should be:

Transparent: Decisions are made in a way that is open and accountable.

Informed: Decisions are made based on relevant, quality information.

Inclusive: Decisions respect the diverse needs and interests of the local community.

Principled: Decisions are informed by the principles prescribed under Chapter 3 of the Act.

Trusted: The community has confidence that councillors and staff act ethically and make decisions in the interests of the whole community.

Respectful: Councillors, staff and meeting attendees treat each other with respect.

Effective: Meetings are well organised, effectively run and skilfully chaired.

Orderly: Councillors, staff and meeting attendees behave in a way that contributes to the orderly conduct of the meeting.

3 BEFORE THE MEETING

Timing of ordinary Council meetings

3.1 Council shall, by resolution, set the frequency, time, date and place of its ordinary meetings. However, ordinary meetings of Council will generally be held on the second Wednesday of each month, commencing at 9:00am at the Coonamble Shire Council Chambers, 80 Castlereagh Street, Coonamble,

NSW, 2829. There is no meeting in January and the March meeting is held at Gulargambone and the August meeting is held at Quambone.

Extraordinary meetings

- 3.2 If the mayor receives a request in writing, signed by at least two (2) councillors, the mayor must call an extraordinary meeting of Council to be held as soon as practicable, but in any event, no more than fourteen (14) days after receipt of the request. The mayor can be one of the two councillors requesting the meeting.

Note: Clause 3.2 reflects section 366 of the Act.

Notice to the public of Council meetings

- 3.3 Council must give notice to the public of the time, date and place of each of its meetings, including extraordinary meetings and of each meeting of Committees of Council.

Note: Clause 3.3 reflects section 9(1) of the Act.

- 3.4 For the purposes of clause 3.3, notice of a meeting of Council and of a Committee of Council is to be published before the meeting takes place. The notice must be published on Council's website, and in such other manner that Council is satisfied is likely to bring notice of the meeting to the attention of as many people as possible.

- 3.5 For the purposes of clause 3.3, notice of more than one (1) meeting may be given in the same notice.

Notice to councillors of ordinary Council meetings

- 3.6 The general manager must send to each councillor, at least four (4) business days before each meeting of Council, a notice specifying the time, date and place at which the meeting is to be held, and the business proposed to be considered at the meeting.

Note: Clause 3.6 reflects section 367(1) of the Act.

- 3.7 The notice and the agenda for, and the business papers relating to, the meeting may be given to councillors in electronic form, but only if all councillors have facilities to access the notice, agenda and business papers in that form.

Note: Clause 3.7 reflects section 367(3) of the Act.

Notice to councillors of extraordinary meetings

- 3.8 Notice of less than three (3) days may be given to councillors of an extraordinary meeting of Council in cases of emergency.

Note: Clause 3.9 reflects section 367(2) of the Act.

Giving notice of business to be considered at Council meetings

- 3.9 A councillor may give notice of any business they wish to be considered by Council at its next ordinary meeting by way of a notice of motion. To be included on the agenda of the meeting, the notice of motion must be in writing and must be submitted seven (7) business days before the meeting is to be held.

Note: Refer Appendix “A” for Notice of Motion template.

- 3.10 A councillor may, in writing to the general manager, request the withdrawal of a notice of motion submitted by them prior to its inclusion in the agenda and business paper for the meeting at which it is to be considered.
- 3.11 If the general manager considers that a notice of motion submitted by a councillor for consideration at an ordinary meeting of Council has legal, strategic, financial or policy implications which should be taken into consideration by the meeting, the general manager may prepare a report in relation to the notice of motion for inclusion with the business papers for the meeting at which the notice of motion is to be considered by Council.
- 3.12 A notice of motion for the expenditure of funds on works and/or services other than those already provided for in Council’s current adopted operational plan must identify the source of funding for the expenditure that is the subject of the notice of motion. If the notice of motion does not identify a funding source, the general manager must either:
- (a) prepare a report on the availability of funds for implementing the motion if adopted for inclusion in the business papers for the meeting at which the notice of motion is to be considered by Council, or
 - (b) by written notice sent to all councillors with the business papers for the meeting for which the notice of motion has been submitted, defer consideration of the matter by Council to such a date specified in the notice, pending the preparation of such a report.

Questions with notice

- 3.13 A councillor may, by way of a notice submitted under clause 3.9, ask a question for response by the general manager about the performance or operations of Council.
- 3.14 A councillor is not permitted to ask a question with notice under clause 3.13 that comprises a complaint against the general manager or a member of staff of Council, or a question that implies wrongdoing by the general manager or a member of staff of Council.
- 3.15 The general manager or their nominee may respond to a question with notice submitted under clause 3.13 by way of a report included in the business papers for the relevant meeting of Council or orally at the meeting.

Agenda and business papers for ordinary meetings

- 3.16 The general manager must cause the agenda for a meeting of Council or a Committee of Council to be prepared as soon as practicable before the meeting.
- 3.17 The general manager must ensure that the agenda for an ordinary meeting of Council states:
- (a) all matters to be dealt with arising out of the proceedings of previous meetings of Council, and
 - (b) if the mayor is the chairperson – any matter or topic that the chairperson proposes, at the time when the agenda is prepared, to put to the meeting, and
 - (c) all matters, including matters that are the subject of staff reports and reports of committees, to be considered at the meeting, and
 - (d) any business of which due notice has been given under clause 3.9.
- 3.18 Nothing in clause 3.17 limits the powers of the mayor to put a mayoral minute to a meeting under clause 8.6.
- 3.19 The general manager must not include in the agenda for a meeting of Council any business of which due notice has been given if, in the opinion of the general manager, the business is, or the implementation of the business would be, unlawful. The general manager must report, without giving details of the item of business, any such exclusion to the next meeting of Council.
- 3.20 Where the agenda includes the receipt of information or discussion of other matters that, in the opinion of the general manager, is likely to take place when the meeting is closed to the public, the general manager must ensure that the agenda of the meeting:
- (a) identifies the relevant item of business and indicates that it is of such a nature (without disclosing details of the information to be considered when the meeting is closed to the public), and
 - (b) states the grounds under section 10A(2) of the Act relevant to the item of business.

Note: Clause 3.20 reflects section 9(2A)(a) of the Act.

- 3.21 The general manager must ensure that the details of any item of business which, in the opinion of the general manager, is likely to be considered when the meeting is closed to the public, are included in a business paper provided to councillors for the meeting concerned. Such details must not be included in the business papers made available to the public and must not be disclosed by a councillor or by any other person to another person who is not authorised to have that information.

Statement of ethical obligations

- 3.22 Business papers for all ordinary and extraordinary meetings of Council and Committees of Council must contain a statement reminding councillors of their oath or affirmation of office made under section 233A of the Act and their

obligations under Council's Code of Conduct to disclose and appropriately manage conflicts of interest.

Availability of the agenda and business papers to the public

- 3.23 Copies of the agenda and the associated business papers, such as correspondence and reports for meetings of Council and Committees of Council, are to be published on Council's website, and must be made available to the public for inspection, or for taking away by any person free of charge at the offices of Council, at the relevant meeting and at such other venues determined by Council.

Note: Clause 3.23 reflects section 9(2) and (4) of the Act.

- 3.24 Clause 3.23 does not apply to the business papers for items of business that the general manager has identified under clause 3.20 as being likely to be considered when the meeting is closed to the public.

Note: Clause 3.24 reflects section 9(2A)(b) of the Act.

- 3.25 For the purposes of clause 3.23, copies of agendas and business papers must be published on Council's website and made available to the public at a time that is as close as possible to the time they are available to councillors.

Note: Clause 3.25 reflects section 9(3) of the Act.

- 3.26 A copy of an agenda, or of an associated business paper made available under clause 3.23, may in addition be given or made available in electronic form.

Note: Clause 3.26 reflects section 9(5) of the Act.

Agenda and business papers for extraordinary meetings

- 3.27. The general manager must ensure that the agenda for an extraordinary meeting of Council deals only with the matters stated in the notice of the meeting.

- 3.28 Despite clause 3.27, business may be considered at an extraordinary meeting of Council, even though due notice of the business has not been given, if:

- (a) a motion is passed to have the business considered at the meeting, and
- (b) the business to be considered is ruled by the chairperson to be of great urgency on the grounds that it requires a decision by Council before the next scheduled ordinary meeting of Council.

- 3.29 A motion moved under clause 3.28(a) can be moved without notice but only after the business notified in the agenda for the extraordinary meeting has been dealt with.

- 3.30 Despite clauses 9.20–9.30, only the mover of a motion moved under clause 3.28(a) can speak to the motion before it is put.

- 3.31 A motion of dissent cannot be moved against a ruling of the chairperson under

clause 3.28(b) on whether a matter is of great urgency.

Pre-meeting briefing sessions

- 3.32 Prior to each ordinary meeting of Council, the general manager may arrange a pre-meeting briefing session to brief councillors on business to be considered at the meeting. Pre-meeting briefing sessions may also be held for extraordinary meetings of Council and meetings of Committees of Council.
- 3.33 Pre-meeting briefing sessions are to be held in the absence of the public.
- 3.34 Pre-meeting briefing sessions may be held by audio-visual link.
- 3.35 The general manager or a member of staff nominated by the general manager is to preside at pre-meeting briefing sessions.
- 3.36 Councillors must not use pre-meeting briefing sessions to debate or make preliminary decisions on items of business they are being briefed on, and any debate and decision-making must be left to the formal Council or Committee meeting at which the item of business is to be considered.
- 3.37 Councillors (including the mayor) must declare and manage any conflicts of interest they may have in relation to any item of business that is the subject of a briefing at a pre-meeting briefing session, in the same way that they are required to do so at a Council or Committee meeting. Council is to maintain a written record of all conflict of interest declarations made at pre-meeting briefing sessions and how the conflict of interest was managed by the councillor who made the declaration.

4 PUBLIC FORUMS

- 4.1 Council may hold a public forum prior to each ordinary meeting of Council for the purpose of hearing oral submissions from members of the public on items of business to be considered at the meeting or community business that falls under the jurisdiction of Council. Public forums may also be held prior to extraordinary Council meetings and meetings of Committees of Council.
- 4.2 Public forums are to be chaired by the mayor or their nominee.
- 4.3 To speak at a public forum, a person must first make an application in writing (eg email or at front counter) to Council. Applications to speak at the public forum must be received by 9:00am one (1) day before the date on which the public forum is to be held, and must identify the item of business the person wishes to speak on, and whether they wish to speak 'for' or 'against' the item.
- 4.4 A person may apply to speak on no more than four (4) items of business.
- 4.5 Legal representatives acting on behalf of others are not to be permitted to speak at a public forum unless they identify their status as a legal representative when applying to speak at the public forum.

- 4.6 The general manager or their delegate may refuse an application to speak at a public forum. The general manager or their delegate must give reasons in writing for a decision to refuse an application.
- 4.7 No more than four (4) speakers are to be permitted to speak 'for' or 'against' each item of business on the agenda for the Council meeting.
- 4.8 If more than the permitted number of speakers apply to speak 'for' or 'against' any item of business, the general manager or their delegate may request the speakers to nominate from among themselves the persons who are to address Council on the item of business. If the speakers are not able to agree on whom to nominate to address Council, the general manager or their delegate is to determine who will address Council at the public forum.
- 4.9 If more than the permitted number of speakers apply to speak 'for' or 'against' any item of business, the general manager or their delegate may, in consultation with the mayor or the mayor's nominated chairperson, increase the number of speakers permitted to speak on an item of business, where they are satisfied that it is necessary to do so to allow Council to hear a fuller range of views on the relevant item of business.
- 4.10 Approved speakers at the public forum are to register with Council any written, visual or audio material to be presented in support of their address to Council at the public forum, and to identify any equipment needs no more than one day before the public forum. The general manager or their delegate may refuse to allow such material to be presented.
- 4.11 The general manager or their delegate is to determine the order of speakers at the public forum.
- 4.12 Each speaker will be allowed five (5) minutes to address Council. This time is to be strictly enforced by the chairperson.
- 4.13 Speakers at public forums must not digress from the item of business they have applied to address Council on. If a speaker digresses to irrelevant matters, the chairperson is to direct the speaker not to do so. If a speaker fails to observe a direction from the chairperson, the speaker will not be further heard.
- 4.14 A councillor (including the chairperson) may, through the chairperson, ask questions of a speaker following their address at a public forum. Questions put to a speaker must be direct, succinct and without argument.
- 4.15 Speakers are under no obligation to answer a question put under clause 4.14. Answers by the speaker, to each question are to be limited to five (5) minutes.
- 4.16 Speakers at public forums cannot ask questions of Council, councillors, or Council staff.
- 4.17 The general manager or their nominee may, with the concurrence of the chairperson, address Council for up to five (5) minutes in response to an address to Council at a public forum after the address and any subsequent questions and answers have been finalised.

- 4.18 Where an address made at a public forum raises matters that require further consideration by Council staff, the general manager may recommend that Council defer consideration of the matter pending the preparation of a further report on the matters.
- 4.19 When addressing Council, speakers at public forums must comply with this code and all other relevant Council codes, policies, and procedures. Speakers must refrain from engaging in disorderly conduct, publicly alleging breaches of Council's Code of Conduct or making other potentially defamatory statements.
- 4.20 If the chairperson considers that a speaker at a public forum has engaged in conduct of the type referred to in clause 4.19, the chairperson may request the person to refrain from the inappropriate behaviour and to withdraw and unreservedly apologise for any inappropriate comments. Where the speaker fails to comply with the chairperson's request, the chairperson may immediately require the person to stop speaking.
- 4.21 Clause 4.20 does not limit the ability of the chairperson to deal with disorderly conduct by speakers at public forums in accordance with the provisions of Part 14 of this code.
- 4.22 Where a speaker engages in conduct of the type referred to in clause 4.19, the general manager or their delegate may refuse further applications from that person to speak at public forums for such a period as the general manager or their delegate considers appropriate.
- 4.23 Councillors (including the mayor) must declare and manage any conflicts of interest they may have in relation to any item of business that is the subject of an address at a public forum, in the same way that they are required to do so at a Council or Committee meeting. Council is to maintain a written record of all conflict of interest declarations made at public forums and how the conflict of interest was managed by the councillor who made the declaration.

Note: Public forums should not be held as part of a Council or Committee meeting. Council or Committee meetings should be reserved for decision-making by Council or Committee of Council. Where a public forum is held as part of a Council or Committee meeting, it must be conducted in accordance with the other requirements of this code relating to the conduct of Council and Committee meetings.

5 COMING TOGETHER

Attendance by councillors at meetings

- 5.1 All councillors must make reasonable efforts to attend meetings of Council and of Committees of Council of which they are members.

Note: A councillor may not attend a meeting as a councillor (other than the first meeting of Council after the councillor is elected or a meeting at which the councillor takes an oath or makes an affirmation of office) until they have taken an oath or made an affirmation of office in the form prescribed under section 233A of the Act.

- 5.2 A councillor cannot participate in a meeting of Council or of a Committee of Council unless personally present at the meeting, unless permitted to attend the meeting by audio-visual link under this code.
- 5.3 Where a councillor is unable to attend one or more ordinary meetings of Council, the councillor should request that Council grant them a leave of absence from those meetings. This clause does not prevent a councillor from making an apology if they are unable to attend a meeting. However, the acceptance of such an apology does not constitute the granting of a leave of absence for the purposes of this code and the Act.
- 5.4 A councillor's request for leave of absence from Council meetings should, if practicable, identify (by date) the meetings from which the councillor intends to be absent and the grounds upon which the leave of absence is being sought.
- 5.5 Council must act reasonably when considering whether to grant a councillor's request for a leave of absence.
- 5.6 A councillor's civic office will become vacant if the councillor is absent from three (3) consecutive ordinary meetings of Council without prior leave of Council, or leave granted by Council at any of the meetings concerned, unless the holder is absent because they have been suspended from office under the Act, or because Council has been suspended under the Act, or as a consequence of a compliance order under section 438HA.
- Note: Clause 5.6 reflects section 234(1)(d) of the Act.**
- 5.7 A councillor who intends to attend a meeting of Council despite having been granted a leave of absence should, if practicable, give the general manager at least two (2) days' notice of their intention to attend.

The quorum for a meeting

- 5.8 The quorum for a meeting of Council is a majority of the councillors of Council who hold office at that time and are not suspended from office.
- Note: Clause 5.8 reflects section 368(1) of the Act.**
- 5.9 Clause 5.8 does not apply if the quorum is required to be determined in accordance with directions of the Minister in a performance improvement order issued in respect of Council.
- Note: Clause 5.9 reflects section 368(2) of the Act.**
- 5.10 A meeting of Council must be adjourned if a quorum is not present:
- (a) at the commencement of the meeting where the number of apologies received for the meeting indicates that there will not be a quorum for the meeting, or
 - (b) within half an hour after the time designated for the holding of the meeting, or
 - (c) at any time during the meeting.

- 5.11 In either case, the meeting must be adjourned to a time, date, and place fixed:
- (a) by the chairperson, or
 - (b) in the chairperson's absence, by the majority of the councillors present, or
 - (c) failing that, by the general manager.
- 5.12 The general manager must record in Council's minutes the circumstances relating to the absence of a quorum (including the reasons for the absence of a quorum) at or arising during a meeting of Council, together with the names of the councillors present.
- 5.13 Where, prior to the commencement of a meeting, it becomes apparent that a quorum may not be present at the meeting, or that the health, safety or welfare of councillors, Council staff and members of the public may be put at risk by attending the meeting because of a natural disaster or a public health emergency, the mayor may, in consultation with the general manager and, as far as is practicable, with each councillor, cancel the meeting. Where a meeting is cancelled, notice of the cancellation must be published on Council's website and in such other manner that Council is satisfied is likely to bring notice of the cancellation to the attention of as many people as possible.
- 5.14 Where a meeting is cancelled under clause 5.13, the business to be considered at the meeting may instead be considered, where practicable, at the next ordinary meeting of Council or at an extraordinary meeting called under clause 3.2.

Meetings held by audio-visual link

- 5.15 A meeting of Council or a Committee of Council may be held by audio-visual link where the mayor determines that the meeting should be held by audio-visual link because of a natural disaster or a public health emergency. The mayor may only make a determination under this clause where they are satisfied that attendance at the meeting may put the health and safety of councillors and staff at risk. The mayor must make a determination under this clause in consultation with the general manager and, as far as is practicable, with each councillor.
- 5.16 Where the mayor determines under clause 5.15 that a meeting is to be held by audio-visual link, the general manager must:
- (a) give written notice to all councillors that the meeting is to be held by audio-visual link, and
 - (b) take all reasonable steps to ensure that all councillors can participate in the meeting by audio-visual link, and
 - (c) cause a notice to be published on Council's website and in such other manner the general manager is satisfied will bring it to the attention of as many people as possible, advising that the meeting is to be held by audio-visual link and providing information about where members of the public may view the meeting.
- 5.17 This code applies to a meeting held by audio-visual link under clause 5.15 in the same way it would if the meeting was held in person.

Note: Where a council holds a meeting by audio-visual link under clause 5.15, it is still required under section 10 of the Act to provide a physical venue for members of the public to attend in person and observe the meeting.

Attendance by councillors at meetings by audio-visual link

- 5.18 Councillors may attend and participate in meetings of Council and committees of council by audio-visual link with the approval of Council or the relevant committee.
- 5.19 A request by a councillor for approval to attend a meeting by audio-visual link must be made in writing to the General Manager prior to the meeting in question and must provide reasons why the councillor will be prevented from attending the meeting in person.
- 5.20 Councillors may request approval to attend more than one meeting by audio-visual link. Where a councillor requests approval to attend more than one meeting by audio-visual link, the request must specify the meetings the request relates to in addition to the information required under clause 5.16.
- 5.21 Council must comply with the Health Privacy Principles prescribed under the *Health Records and Information Privacy Act 2002* when collecting, holding, using and disclosing health information in connection with a request by a councillor to attend a meeting by audio-visual link.
- 5.22 A councillor who has requested approval to attend a meeting of council or a committee of Council by audio-visual link may participate in the meeting by audio-visual link until Council or the committee determines whether to approve their request and is to be taken as present at the meeting. The councillor may participate in a decision in relation to their request to attend the meeting by audio-visual link.
- 5.23 A decision whether to approve a request by a councillor to attend a meeting of Council or a committee of Council by audio-visual link must be made by a resolution of Council or the committee concerned. The resolution must state:
- (a) the meetings the resolution applies to. And
 - (b) the reason why the councillor is being permitted to attend the meetings by audio-visual link where it is on grounds other than illness, disability, or caring responsibilities.
- 5.24 If Council or the committee refuses a councillor's request to attend a meeting by audio-visual link, their link to the meeting is to be terminated.
- 5.25 A decision whether to approve a councillor's request to attend a meeting by audio-visual link is at Council's or the relevant committee's discretion. Council and committees of Council must act reasonably when considering requests by councillors to attend meetings by audio-visual link. However, Council and committees of Council are under no obligation to approve a councillor's request to attend a meeting by audio-visual link where the technical capacity does not exist to allow the councillor to attend the meeting by these means.

- 5.26 Council and committees of Council may refuse a councillor's request to attend a meeting by audio-visual link where Council or the committee is satisfied that the councillor has failed to appropriately declare and manage conflicts of interest, observe confidentiality or to comply with this code on one or more previous occasions they have attended a meeting of Council or a committee of Council by audio-visual link.
- 5.27 This code applies to a councillor attending a meeting by audio-visual link in the same way it would if the councillor was attending the meeting in person. Where a councillor is permitted to attend a meeting by audio-visual link under this code, they are to be taken as attending the meeting in person for the purposes of the code and will have the same voting rights as if they were attending the meeting in person.
- 5.28 A councillor must give their full attention to the business and proceedings of the meeting when attending a meeting by audio-visual link. The councillor's camera must be on at all times during the meeting except as may be otherwise provided for under this code.
- 5.29 A councillor must be appropriately dressed when attending a meeting by audio-visual link and must ensure that no items are within sight of the meeting that are inconsistent with the maintenance of order at the meeting or that are likely to bring the council or the committee into disrepute.

Entitlement of the public to attend Council meetings

- 5.30 Everyone is entitled to attend a meeting of Council and Committees of Council. Council must ensure that all meetings of Council and Committees of Council are open to the public.

Note: Clause 5.30 reflects section 10(1) of the Act.

- 5.31 Clause 5.18 does not apply to parts of meetings that have been closed to the public under section 10A of the Act.
- 5.32 A person (whether a councillor or another person) is not entitled to be present at a meeting of Council or a Committee of Council if expelled from the meeting:

- (a) by a resolution of the meeting, or
- (b) by the person presiding at the meeting if Council has, by resolution, authorised the person presiding to exercise the power of expulsion.

Note: Clause 5.32 reflects section 10(2) of the Act.

Webcasting of meetings

- 5.33 Each meeting of Council or a Committee of Council is to be recorded by means of an audio or audio-visual device.
- 5.34 At the start of each meeting of Council or a Committee of Council, the chairperson must inform the persons attending the meeting that:

- (a) the meeting is being recorded and made publicly available on Council's website, and
 - (b) persons attending the meeting should refrain from making any defamatory statements.
- 5.35 The recording of a meeting is to be made publicly available on Council's website:
- (a) at the same time as the meeting is taking place, or
 - (b) as soon as practicable after the meeting.
- 5.36 The recording of a meeting is to be made publicly available on Council's website for at least 12 months after the meeting.
- 5.37 Clauses 5.35 and 5.36 do not apply to any part of a meeting that has been closed to the public in accordance with section 10A of the Act.
- Note: Clauses 5.33 – 5.37 reflect section 236 of the Regulation.**
- 5.38 Recordings of meetings may be disposed of in accordance with the *State Records Act 1998*.

Attendance of the general manager and other staff at meetings

- 5.39 The general manager is entitled to attend, but not to vote at, a meeting of Council or a meeting of a Committee of Council of which all of the members are councillors.
- Note: Clause 5.39 reflects section 376(1) of the Act.**
- 5.40 The general manager is entitled to attend a meeting of any other Committee of Council and may, if a member of the committee, exercise a vote.
- Note: Clause 5.40 reflects section 376(2) of the Act.**
- 5.41 The general manager may be excluded from a meeting of Council or a committee while Council or committee deals with a matter relating to the standard of performance of the general manager or the terms of employment of the general manager.
- Note: Clause 5.41 reflects section 376(3) of the Act.**
- 5.42 The attendance of other Council staff at a meeting, (other than as members of the public) shall be with the approval of the general manager.
- 5.43 The general manager and other council staff may attend meetings of Council and Committees of Council by audio-visual-link. Attendance by council staff at meetings by audio-visual link (other than as members of the public) shall be with the approval of the general manager.

6 THE CHAIRPERSON

The chairperson at meetings

- 6.1 The mayor, or at the request of or in the absence of the mayor, the deputy mayor (if any) presides at meetings of Council.

Note: Clause 6.1 reflects section 369(1) of the Act.

- 6.2 If the mayor and the deputy mayor (if any) are absent, a councillor elected to chair the meeting by the councillors present presides at a meeting of Council.

Note: Clause 6.2 reflects section 369(2) of the Act.

Election of the chairperson in the absence of the mayor and deputy mayor

- 6.3 If no chairperson is present at a meeting of Council at the time designated for the holding of the meeting, the first business of the meeting must be the election of a chairperson to preside at the meeting.

- 6.4 The election of a chairperson must be conducted:

- (a) by the general manager or, in their absence, an employee of Council designated by the general manager to conduct the election, or
- (b) by the person who called the meeting or a person acting on their behalf if neither the general manager nor a designated employee is present at the meeting, or if there is no general manager or designated employee.

- 6.5 If, at an election of a chairperson, two (2) or more candidates receive the same number of votes and no other candidate receives a greater number of votes, the chairperson is to be the candidate whose name is chosen by lot.

- 6.6 For the purposes of clause 6.5, the person conducting the election must:

- (a) arrange for the names of the candidates who have equal numbers of votes to be written on similar slips, and
- (b) then fold the slips so as to prevent the names from being seen, mix the slips and draw one of the slips at random.

- 6.7 The candidate whose name is on the drawn slip is the candidate who is to be the chairperson.

- 6.8 Any election conducted under clause 6.3, and the outcome of the vote, are to be recorded in the minutes of the meeting.

Chairperson to have precedence

- 6.9 When the chairperson rises or speaks during a meeting of Council:

- (a) any councillor then speaking or seeking to speak must cease speaking and, if standing, immediately resume their seat, and
- (b) every councillor present must be silent to enable the chairperson to be heard without interruption.

7 ORDER OF BUSINESS FOR ORDINARY COUNCIL MEETINGS

- 7.1 The general order of business for an ordinary meeting of Council shall be:
- 01 Opening meeting
 - 02 Acknowledgement of traditional owners of the land
 - 03 Apologies and applications for a leave of absence
 - 04 Confirmation of minutes
 - 05 Disclosures of interests
 - 06 Mayoral minute(s)
 - 07 Reports of committees
 - 08 Reports to council
 - 09 Notices of motions/Questions with notice/Rescission motions
 - 10 Confidential matters
 - 11 Conclusion of the meeting
- 7.2 The order of business as fixed under clause 7.1 may be altered for a particular meeting of Council if a motion to that effect is passed at that meeting. Such a motion can be moved without notice.
- 7.3 Despite clauses 9.20–9.30, only the mover of a motion referred to in clause 7.2 may speak to the motion before it is put.

8 CONSIDERATION OF BUSINESS AT COUNCIL MEETINGS

Business that can be dealt with at a council meeting

- 8.1 Council must not consider business at a meeting of Council:
- (a) unless a councillor has given notice of the business, as required by clause 3.9, and
 - (b) unless notice of the business has been sent to the councillors in accordance with clause 3.6 in the case of an ordinary meeting or clause 3.8 in the case of an extraordinary meeting called in an emergency.
- 8.2 Clause 8.1 does not apply to the consideration of business at a meeting, if the business:
- (a) is already before, or directly relates to, a matter that is already before Council, or
 - (b) is the election of a chairperson to preside at the meeting, or
 - (c) subject to clause 8.9, is a matter or topic put to the meeting by way of a mayoral minute, or
 - (d) is a motion for the adoption of recommendations of a committee, including, but not limited to, a Committee of Council.
- 8.3 Despite clause 8.1, business may be considered at a meeting of Council even though due notice of the business has not been given to the councillors if:
- (a) a motion is passed to have the business considered at the meeting, and
 - (b) the business to be considered is ruled by the chairperson to be of great urgency on the grounds that it requires a decision by Council before the next scheduled ordinary meeting of Council.

- 8.4 A motion moved under clause 8.3(a) can be moved without notice. Despite clauses 9.20–9.30, only the mover of a motion referred to in clause 8.3(a) can speak to the motion before it is put.
- 8.5 A motion of dissent cannot be moved against a ruling by the chairperson under clause 8.3(b).

Mayoral minutes

- 8.6 Subject to clause 8.9, if the mayor is the chairperson at a meeting of Council, the mayor may, by minute signed by the mayor, put to the meeting without notice any matter or topic that is within the jurisdiction of Council, or of which Council has official knowledge.
- 8.7 A mayoral minute, when put to a meeting, takes precedence over all business on Council's agenda for the meeting. The chairperson (but only if the chairperson is the mayor) may move the adoption of a mayoral minute without the motion being seconded.
- 8.8 A recommendation made in a mayoral minute put by the mayor is, so far as it is adopted by Council, a resolution of Council.
- 8.9 A mayoral minute must not be used to put without notice matters that are routine and not urgent or matters for which proper notice should be given because of their complexity. For the purpose of this clause, a matter will be urgent where it requires a decision by Council before the next scheduled ordinary meeting of Council.
- 8.10 Where a mayoral minute makes a recommendation which, if adopted, would require the expenditure of funds on works and/or services other than those already provided for in Council's current adopted operational plan, it must identify the source of funding for the expenditure that is the subject of the recommendation. If the mayoral minute does not identify a funding source, Council must defer consideration of the matter, pending a report from the general manager on the availability of funds for implementing the recommendation if adopted.

Staff reports

- 8.11 A recommendation made in a staff report is, so far as it is adopted by Council, a resolution of Council.

Reports of committees of council

- 8.12 The recommendations of a Committee of Council are, so far as they are adopted by Council, resolutions of Council.
- 8.13 If in a report of a Committee of Council distinct recommendations are made, Council may make separate decisions on each recommendation.

Questions

- 8.14 A question must not be asked at a meeting of Council unless it concerns a matter on the agenda of the meeting or notice has been given of the question in accordance with clauses 3.9 and 3.13.
- 8.15 A councillor may, through the chairperson, put a question to another councillor about a matter on the agenda.
- 8.16 A councillor may, through the general manager, put a question to a Council employee about a matter on the agenda. Council employees are only obliged to answer a question put to them through the general manager at the direction of the general manager.
- 8.17 A councillor or Council employee to whom a question is put is entitled to be given reasonable notice of the question and, in particular, sufficient notice to enable reference to be made to other persons or to information. Where a councillor or Council employee to whom a question is put is unable to respond to the question at the meeting at which it is put, they may take it on notice and report the response to the next meeting of Council.
- 8.18 Councillors must put questions directly, succinctly, respectfully and without argument.
- 8.19 The chairperson must not permit discussion on any reply to, or refusal to reply to, a question put to a councillor or Council employee.

9 RULES OF DEBATE

Motions to be seconded

- 9.1 Unless otherwise specified in this code, a motion or an amendment cannot be debated unless or until it has been seconded.

Notices of motion

- 9.2 A councillor who has submitted a notice of motion under clause 3.10 is to move the motion the subject of the notice of motion at the meeting at which it is to be considered.
- 9.3 If a councillor who has submitted a notice of motion under clause 3.9 wishes to withdraw it after the agenda and business paper for the meeting at which it is to be considered have been sent to councillors, the councillor may request the withdrawal of the motion when it is before Council.
- 9.4 In the absence of a councillor who has placed a notice of motion on the agenda for a meeting of Council:
- (a) any other councillor may, with the leave of the chairperson, move the motion at the meeting, or
 - (b) the chairperson may defer consideration of the motion until the next meeting of Council.

Chairperson's duties with respect to motions

- 9.5 It is the duty of the chairperson at a meeting of Council to receive and put to the meeting any lawful motion that is brought before the meeting.
- 9.6 The chairperson must rule out of order any motion or amendment to a motion that is unlawful or the implementation of which would be unlawful.
- 9.7 Before ruling out of order a motion or an amendment to a motion under clause 9.6, the chairperson is to give the mover an opportunity to clarify or amend the motion or amendment.
- 9.8 Any motion, amendment, or other matter that the chairperson has ruled out of order is taken to have been lost.

Motions requiring the expenditure of funds

- 9.9 A motion or an amendment to a motion which if passed would require the expenditure of funds on works and/or services other than those already provided for in Council's current adopted operational plan must identify the source of funding for the expenditure that is the subject of the motion. If the motion does not identify a funding source, Council must defer consideration of the matter, pending a report from the general manager on the availability of funds for implementing the motion if adopted.

Amendments to motions

- 9.10 An amendment to a motion must be moved and seconded before it can be debated.
- 9.11 An amendment to a motion must relate to the matter being dealt with in the original motion before Council and must not be a direct negative of the original motion. An amendment to a motion which does not relate to the matter being dealt with in the original motion, or which is a direct negative of the original motion, must be ruled out of order by the chairperson.
- 9.12 The mover of an amendment is to be given the opportunity to explain any uncertainties in the proposed amendment before a seconder is called for.
- 9.13 If an amendment has been lost, a further amendment can be moved to the motion to which the lost amendment was moved, and so on, but no more than one (1) motion and one (1) proposed amendment can be before Council at any one time.
- 9.14 While an amendment is being considered, debate must only occur in relation to the amendment and not the original motion. Debate on the original motion is to be suspended while the amendment to the original motion is being debated.
- 9.15 If the amendment is carried, it becomes the motion and is to be debated. If the amendment is lost, debate is to resume on the original motion.
- 9.16 An amendment may become the motion without debate or a vote where it is accepted by the councillor who moved the original motion.

Foreshadowed motions

- 9.17 A councillor may propose a foreshadowed motion in relation to the matter the subject of the original motion before Council, without a seconder during debate on the original motion. The foreshadowed motion is only to be considered if the original motion is lost or withdrawn and the foreshadowed motion is then moved and seconded. If the original motion is carried, the foreshadowed motion lapses.
- 9.18 Where an amendment has been moved and seconded, a councillor may, without a seconder, foreshadow a further amendment that they propose to move after the first amendment has been dealt with. There is no limit to the number of foreshadowed amendments that may be put before Council at any time. However, no discussion can take place on foreshadowed amendments until the previous amendment has been dealt with and the foreshadowed amendment has been moved and seconded.
- 9.19 Foreshadowed motions and foreshadowed amendments are to be considered in the order in which they are proposed. However, foreshadowed motions cannot be considered until all foreshadowed amendments have been dealt with.

Limitations on the number and duration of speeches

- 9.20 A councillor who, during a debate at a meeting of Council, moves an original motion, has the right to speak on each amendment to the motion and a right of general reply to all observations that are made during the debate in relation to the motion, and any amendment to it at the conclusion of the debate before the motion (whether amended or not) is finally put.
- 9.21 A councillor, other than the mover of an original motion, has the right to speak once on the motion and once on each amendment to it.
- 9.22 A councillor must not, without the consent of Council, speak more than once on a motion or an amendment, or for longer than five (5) minutes at any one time.
- 9.23 Despite clause 9.22, the chairperson may permit a councillor who claims to have been misrepresented or misunderstood to speak more than once on a motion or an amendment, and for longer than five (5) minutes on that motion or amendment to enable the councillor to make a statement limited to explaining the misrepresentation or misunderstanding.
- 9.24 Despite clause 9.22, Council may resolve to shorten the duration of speeches to expedite the consideration of business at a meeting.
- 9.25 Despite clauses 9.20 and 9.21, a councillor may move that a motion or an amendment be now put:
- (a) if the mover of the motion or amendment has spoken in favour of it and no councillor expresses an intention to speak against it, or
 - (b) if at least two (2) councillors have spoken in favour of the motion or amendment and at least two (2) councillors have spoken against it.

- 9.26 The chairperson must immediately put to the vote, without debate, a motion moved under clause 9.25. A seconder is not required for such a motion.
- 9.27 If a motion that the original motion or an amendment be now put is passed, the chairperson must, without further debate, put the original motion or amendment to the vote immediately after the mover of the original motion has exercised their right of reply under clause 9.20.
- 9.28 If a motion that the original motion or an amendment be now put is lost, the chairperson must allow the debate on the original motion or the amendment to be resumed.
- 9.29 All councillors must be heard without interruption and all other councillors must, unless otherwise permitted under this code, remain silent while another councillor is speaking.
- 9.30 Once the debate on a matter has concluded and a matter has been dealt with, the chairperson must not allow further debate on the matter.

10 VOTING

Voting entitlements of councillors

- 10.1 Each councillor is entitled to one (1) vote.

Note: Clause 10.1 reflects section 370(1) of the Act.

- 10.2 The person presiding at a meeting of Council has, in the event of an equality of votes, a second or casting vote.

Note: Clause 10.2 reflects section 370(2) of the Act.

- 10.3 Where the chairperson declines to exercise, or fails to exercise, their second or casting vote, in the event of an equality of votes, the motion being voted upon is lost.

Voting at Council meetings

- 10.4 A councillor who is present at a meeting of Council but who fails to vote on a motion put to the meeting is taken to have voted against the motion.
- 10.5 Voting at a meeting, including voting in an election at a meeting, is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system). However, Council may resolve that the voting in any election by councillors for mayor or deputy mayor is to be by secret ballot.
- 10.6 All voting at council meetings, (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.

Voting on planning decisions

- 10.7 The general manager must keep a register containing, for each planning

decision made at a meeting of Council or a Council committee (including, but not limited to a Committee of Council), the names of the councillors who supported the decision and the names of any councillors who opposed (or are taken to have opposed) the decision.

10.8 Each decision recorded in the register is to be described in the register or identified in a manner that enables the description to be obtained from another publicly available document.

10.9 Clauses 10.7–10.8 apply also to meetings that are closed to the public.

Note: Clauses 10.7–10.19 reflect section 375A of the Act.

Note: The requirements of clause 10.7 may be satisfied by maintaining a register of the minutes of each planning decision.

11 COMMITTEE OF THE WHOLE

11.1 Council may resolve itself into a committee to consider any matter before Council.

Note: Clause 11.1 reflects section 373 of the Act.

11.2 All the provisions of this code relating to meetings of Council, so far as they are applicable, extend to and govern the proceedings of Council when in committee of the whole, except the provisions limiting the number and duration of speeches.

Note: Clauses 9.20–9.30 limit the number and duration of speeches.

11.3 The general manager or, in the absence of the general manager, an employee of Council designated by the general manager, is responsible for reporting to Council the proceedings of the committee of the whole. It is not necessary to report the proceedings in full, but any recommendations of the committee must be reported.

11.4 Council must ensure that a report of the proceedings (including any recommendations of the committee) is recorded in Council's minutes. However, Council is not taken to have adopted the report until a motion for adoption has been made and passed.

12 DEALING WITH ITEMS BY EXCEPTION

12.1 Council or a Committee of Council may, at any time, resolve to adopt multiple items of business on the agenda together by way of a single resolution.

12.2 Before Council or the committee resolves to adopt multiple items of business on the agenda together under clause 12.1, the chairperson must list the items of business to be adopted and ask councillors to identify any individual items of business listed by the chairperson that they intend to vote against the recommendation made in the business paper or that they wish to speak on.

12.3 Council or the committee must not resolve to adopt any item of business under

clause 12.1 that a councillor has identified as being one they intend to vote against the recommendation made in the business paper or to speak on.

- 12.4 Where the consideration of multiple items of business together under clause 12.1 involves a variation to the order of business for the meeting, Council or the committee must resolve to alter the order of business in accordance with clause 8.3.
- 12.5 A motion to adopt multiple items of business together under clause 12.1 must identify each of the items of business to be adopted and state that they are to be adopted as recommended in the business paper.
- 12.6 Items of business adopted under clause 12.1 are to be taken to have been adopted unanimously.
- 12.7 Councillors must ensure that they declare and manage any conflicts of interest they may have in relation to items of business considered together under clause 12.1 in accordance with the requirements of Council's Code of Conduct.

13 CLOSURE OF COUNCIL MEETINGS TO THE PUBLIC

Grounds on which meetings can be closed to the public

- 13.1 Council or a Committee of Council may close to the public so much of its meeting as comprises the discussion or the receipt of any of the following types of matters:
- (a) personnel matters concerning particular individuals (other than councillors),
 - (b) the personal hardship of any resident or ratepayer,
 - (c) information that would, if disclosed, confer a commercial advantage on a person with whom the council is conducting (or proposes to conduct) business,
 - (d) commercial information of a confidential nature that would, if disclosed:
 - (i) prejudice the commercial position of the person who supplied it, or
 - (ii) confer a commercial advantage on a competitor of the council, or
 - (iii) reveal a trade secret,
 - (e) information that would, if disclosed, prejudice the maintenance of law,
 - (f) matters affecting the security of the council, councillors, council staff or council property,
 - (g) advice concerning litigation, or advice that would otherwise be privileged from production in legal proceedings on the ground of legal professional privilege,
 - (h) information concerning the nature and location of a place or an item of Aboriginal significance on community land,
 - (i) alleged contraventions of the council's code of conduct.

Note: Clause 13.1 reflects section 10A(1) and (2) of the Act.

- 13.2 Council or a Committee of Council may also close to the public so much of its meeting as comprises a motion to close another part of the meeting to the public.

Note: Clause 13.2 reflects section 10A(3) of the Act.

Matters to be considered when closing meetings to the public

- 13.3 A meeting is not to remain closed during the discussion of anything referred to in clause 13.1:
- (a) except for so much of the discussion as is necessary to preserve the relevant confidentiality, privilege or security, and
 - (b) if the matter concerned is a matter other than a personnel matter concerning particular individuals, the personal hardship of a resident or ratepayer or a trade secret – unless Council or the committee concerned is satisfied that discussion of the matter in an open meeting would, on balance, be contrary to the public interest.

Note: Clause 13.3 reflects section 10B(1) of the Act.

- 13.4 A meeting is not to be closed during the receipt and consideration of information or advice referred to in clause 13.1(g) unless the advice concerns legal matters that:
- (a) are substantial issues relating to a matter in which Council or the committee is involved, and
 - (b) are clearly identified in the advice, and
 - (c) are fully discussed in that advice.

Note: Clause 13.4 reflects section 10B(2) of the Act.

- 13.5 If a meeting is closed during the discussion of a motion to close another part of the meeting to the public (as referred to in clause 13.2), the consideration of the motion must not include any consideration of the matter or information to be discussed in that other part of the meeting other than consideration of whether the matter concerned is a matter referred to in clause 13.1.

Note: Clause 13.5 reflects section 10B(3) of the Act.

- 13.6 For the purpose of determining whether the discussion of a matter in an open meeting would be contrary to the public interest, it is irrelevant that:
- (a) a person may misinterpret or misunderstand the discussion, or
 - (b) the discussion of the matter may:
 - (i) cause embarrassment to Council or the committee concerned, or to councillors or to employees of Council, or
 - (ii) cause a loss of confidence in Council or the committee.

Note: Clause 13.6 reflects section 10B(4) of the Act.

- 13.7 In deciding whether part of a meeting is to be closed to the public, Council or the committee concerned must consider any relevant guidelines issued by the Departmental Chief Executive of the Office of Local Government.

Note: Clause 13.7 reflects section 10B(5) of the Act.

Notice of likelihood of closure not required in urgent cases

- 13.8 Part of a meeting of Council, or of a Committee of Council, may be closed to the public while Council or the committee considers a matter that has not been identified in the agenda for the meeting under clause 3.21 as a matter that is likely to be considered when the meeting is closed, but only if:
- (a) it becomes apparent during the discussion of a particular matter that the matter is a matter referred to in clause 13.1, and
 - (b) Council or the committee, after considering any representations made under clause 13.9, resolves that further discussion of the matter:
 - (i) should not be deferred (because of the urgency of the matter), and
 - (ii) should take place in a part of the meeting that is closed to the public.

Note: Clause 13.8 reflects section 10C of the Act.

Representations by members of the public

- 13.9 Council, or a Committee of Council, may allow members of the public to make representations to or at a meeting, before any part of the meeting is closed to the public, as to whether that part of the meeting should be closed.

Note: Clause 13.9 reflects section 10A(4) of the Act.

- 13.10 A representation under clause 13.9 is to be made after the motion to close the part of the meeting is moved and seconded.
- 13.11 Where the matter has been identified in the agenda of the meeting under clause 3.21 as a matter that is likely to be considered when the meeting is closed to the public, in order to make representations under clause 13.9, members of the public must first make an application to Council in the approved form. Applications must be received by 4:30pm the day before the meeting at which the matter is to be considered.
- 13.12 The general manager (or their delegate) may refuse an application made under clause 13.11. The general manager or their delegate must give reasons in writing for a decision to refuse an application.
- 13.13 No more than three (3) speakers are to be permitted to make representations under clause 13.9.
- 13.14 If more than the permitted number of speakers apply to make representations under clause 13.9, the general manager or their delegate may request the speakers to nominate from among themselves the persons who are to make representations to Council. If the speakers are not able to agree on whom to nominate to make representations under clause 13.9, the general manager or their delegate is to determine who will make representations to Council.
- 13.15 The general manager (or their delegate) is to determine the order of speakers.
- 13.16 Where Council or a Committee of Council proposes to close a meeting or part of a meeting to the public in circumstances where the matter has not been

identified in the agenda for the meeting under clause 3.21 as a matter that is likely to be considered when the meeting is closed to the public, the chairperson is to invite representations from the public under clause 13.9 after the motion to close the part of the meeting is moved and seconded. The chairperson is to permit no more than three (3) speakers to make representations in such order as determined by the chairperson.

- 13.17 Each speaker will be allowed five (5) minutes to make representations, and this time limit is to be strictly enforced by the chairperson. Speakers must confine their representations to whether the meeting should be closed to the public. If a speaker digresses to irrelevant matters, the chairperson is to direct the speaker not to do so. If a speaker fails to observe a direction from the chairperson, the speaker will not be further heard.

Expulsion of non-councillors from meetings closed to the public

- 13.18 If a meeting or part of a meeting of Council or a Committee of Council is closed to the public in accordance with section 10A of the Act and this code, any person who is not a councillor and who fails to leave the meeting when requested, may be expelled from the meeting as provided by section 10(2)(a) or (b) of the Act.

- 13.19 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by Council or person presiding, may, by using only such force as is necessary, remove the first-mentioned person from that place and, if necessary restrain that person from re-entering that place for the remainder of the meeting.

Information to be disclosed in resolutions closing meetings to the public

- 13.20 The grounds on which part of a meeting is closed must be stated in the decision to close that part of the meeting and must be recorded in the minutes of the meeting. The grounds must specify the following:
- (a) the relevant provision of section 10A(2) of the Act,
 - (b) the matter that is to be discussed during the closed part of the meeting,
 - (c) the reasons why the part of the meeting is being closed, including (if the matter concerned is a matter other than a personnel matter concerning particular individuals, the personal hardship of a resident or ratepayer or a trade secret) an explanation of the way in which discussion of the matter in an open meeting would be, on balance, contrary to the public interest.

Note: Clause 13.20 reflects section 10D of the Act.

Resolutions passed at closed meetings to be made public

- 13.21 If Council passes a resolution during a meeting, or a part of a meeting, that is closed to the public, the chairperson must make the resolution public as soon as practicable after the meeting, or the relevant part of the meeting, has ended, and the resolution must be recorded in the publicly available minutes of the meeting.

- 13.22 Resolutions passed during a meeting, or a part of a meeting, that is closed to the public must be made public by the chairperson under clause 13.21 during a part of the meeting that is webcast.

14 KEEPING ORDER AT MEETINGS

Points of order

- 14.1 A councillor may draw the attention of the chairperson to an alleged breach of this code by raising a point of order. A point of order does not require a seconder.
- 14.2 A point of order cannot be made with respect to adherence to the principles contained in clause 2.1.
- 14.3 A point of order must be taken immediately it is raised. The chairperson must suspend the business before the meeting and permit the councillor raising the point of order to state the provision of this code they believe has been breached. The chairperson must then rule on the point of order – either by upholding it or by overruling it.

Questions of order

- 14.4 The chairperson, without the intervention of any other councillor, may call any councillor to order whenever, in the opinion of the chairperson, it is necessary to do so.
- 14.5 A councillor who claims that another councillor has committed an act of disorder, or is out of order, may call the attention of the chairperson to the matter.
- 14.6 The chairperson must rule on a question of order immediately after it is raised but, before doing so, may invite the opinion of Council.
- 14.7 The chairperson's ruling must be obeyed unless a motion dissenting from the ruling is passed.

Motions of dissent

- 14.8 A councillor can, without notice, move to dissent from a ruling of the chairperson on a point of order or a question of order. If that happens, the chairperson must suspend the business before the meeting until a decision is made on the motion of dissent.
- 14.9 If a motion of dissent is passed, the chairperson must proceed with the suspended business as though the ruling dissented from had not been given. If, as a result of the ruling, any motion or business has been rejected as out of order, the chairperson must restore the motion or business to the agenda and proceed with it in due course.
- 14.10 Despite any other provision of this code, only the mover of a motion of dissent and the chairperson can speak to the motion before it is put. The mover of the motion does not have a right of general reply.

Acts of disorder

- 14.11 A councillor commits an act of disorder if the councillor, at a meeting of Council or a Committee of Council:
- (a) contravenes the Act, the Regulation or this code, or
 - (b) assaults or threatens to assault another councillor or person present at the meeting, or
 - (c) moves or attempts to move a motion or an amendment that has an unlawful purpose or that deals with a matter that is outside the jurisdiction of Council or the committee, or addresses or attempts to address Council or the committee on such a motion, amendment or matter, or
 - (d) insults, makes unfavourable personal remarks about, or imputes improper motives to any other Council official, or alleges a breach of Council's Code of Conduct, or
 - (e) says or does anything that is inconsistent with maintaining order at the meeting or is likely to bring Council or the committee into disrepute.

Note: Clause 14.11 reflects section 182 of the Regulation.

- 14.12 The chairperson may require a councillor:
- (a) to apologise without reservation for an act of disorder referred to in clauses 14.11(a), (b), or (e), or
 - (b) to withdraw a motion or an amendment referred to in clause 14.11(c) and, where appropriate, to apologise without reservation, or
 - (c) to retract and apologise without reservation for any statement that constitutes an act of disorder referred to in clauses 14.11(d) and (e).

Note: Clause 15.12 reflects section 233 of the Regulation.

How disorder at a meeting may be dealt with

- 14.13 If disorder occurs at a meeting of Council, the chairperson may adjourn the meeting for a period of not more than fifteen (15) minutes and leave the chair. Council, on reassembling, must, on a question put from the chairperson, decide without debate whether the business is to be proceeded with or not. This clause applies to disorder arising from the conduct of members of the public as well as disorder arising from the conduct of councillors.

Expulsion from meetings

- 14.14 All chairpersons of meetings of Council and Committees of Council are authorised under this code to expel any person, including any councillor, from a Council or committee meeting, for the purposes of section 10(2)(b) of the Act.
- 14.15 Clause 14.14 does not limit the ability of Council or a Committee of Council to resolve to expel a person, including a councillor, from a Council or committee meeting, under section 10(2)(a) of the Act.
- 14.16 A councillor may, as provided by section 10(2)(a) or (b) of the Act, be expelled from a meeting of Council for having failed to comply with a requirement under clause 14.12. The expulsion of a councillor from the meeting for that reason

does not prevent any other action from being taken against the councillor for the act of disorder concerned.

Note: Clause 14.16 reflects section 233(2) of the Regulation.

- 14.17 A member of the public may, as provided by section 10(2)(a) or (b) of the Act, be expelled from a meeting of Council for engaging in or having engaged in disorderly conduct at the meeting.
- 14.18 Where a councillor or a member of the public is expelled from a meeting, the expulsion and the name of the person expelled, if known, are to be recorded in the minutes of the meeting.
- 14.19 If a councillor or a member of the public fails to leave the place where a meeting of Council is being held immediately after they have been expelled, a police officer, or any person authorised for the purpose by Council or person presiding, may, by using only such force as is necessary, remove the councillor or member of the public from that place and, if necessary, restrain the councillor or member of the public from re-entering that place for the remainder of the meeting.

Use of mobile phones and the unauthorised recording of meetings

- 14.20 Councillors, Council staff and members of the public must ensure that mobile phones are turned to silent during meetings of Council and Committees of Council.
- 14.21 A person must not live stream or use an audio recorder, video camera, mobile phone or any other device to make a recording of the proceedings of a meeting of Council or a Committee of Council without the prior authorisation of Council or the committee.
- 14.22 Without limiting clause 14.17, a contravention of clause 14.21 or an attempt to contravene that clause, constitutes disorderly conduct for the purposes of clause 14.17. Any person who contravenes or attempts to contravene clause 14.21, may be expelled from the meeting as provided for under section 10(2) of the Act.
- 14.23 If any such person, after being notified of a resolution or direction expelling them from the meeting, fails to leave the place where the meeting is being held, a police officer, or any person authorised for the purpose by Council or person presiding, may, by using only such force as is necessary, remove the first-mentioned person from that place and, if necessary, restrain that person from re-entering that place for the remainder of the meeting.

15 CONFLICTS OF INTEREST

- 15.1 All councillors and, where applicable, all other persons, must declare and manage any conflicts of interest they may have in matters being considered at meetings of Council and Committees of Council in accordance with Council's Code of Conduct. All declarations of conflicts of interest and how the conflict of interest was managed by the person who made the declaration must be recorded in the minutes of the meeting at which the declaration was made.

16 DECISIONS OF THE COUNCIL

Council decisions

- 16.1 A decision supported by a majority of the votes at a meeting of Council at which a quorum is present is a decision of Council.

Note: Clause 16.1 reflects section 371 of the Act.

- 16.2 Decisions made by Council must be accurately recorded in the minutes of the meeting at which the decision is made.

Rescinding or altering Council decisions

- 16.3 A resolution passed by Council may not be altered or rescinded except by a motion to that effect of which notice has been given under clause 3.9.

Note: Clause 16.3 reflects section 372(1) of the Act.

- 16.4 If a notice of motion to rescind a resolution is given at the meeting at which the resolution is carried, the resolution must not be carried into effect until the motion of rescission has been dealt with.

Note: Clause 16.4 reflects section 372(2) of the Act.

- 16.5 If a motion has been lost, a motion having the same effect must not be considered unless notice of it has been duly given in accordance with clause 3.9.

Note: Clause 16.5 reflects section 372(3) of the Act.

- 16.6 A notice of motion to alter or rescind a resolution, and a notice of motion which has the same effect as a motion which has been lost, must be signed by three (3) councillors if less than three (3) months has elapsed since the resolution was passed, or the motion was lost.

Note: Clause 16.6 reflects section 372(4) of the Act.

- 16.7 If a motion to alter or rescind a resolution has been lost, or if a motion which has the same effect as a previously lost motion is lost, no similar motion may be brought forward within three (3) months of the meeting at which it was lost. This clause may not be evaded by substituting a motion differently worded, but in principle the same.

Note: Clause 16.7 reflects section 372(5) of the Act.

- 16.8 The provisions of clauses 16.5–16.7 concerning lost motions do not apply to motions of adjournment.

Note: Clause 16.8 reflects section 372(7) of the Act.

- 16.9 A notice of motion submitted in accordance with clause 16.6 may only be withdrawn under clause 3.10 with the consent of all signatories to the notice of motion.

16.10 A notice of motion to alter or rescind a resolution relating to a development application must be submitted to the general manager no later than thirty (30) minutes after the meeting at which the resolution was adopted.

16.11 A motion to alter or rescind a resolution of Council may be moved on the report of a Committee of Council and any such report must be recorded in the minutes of the meeting of Council.

Note: Clause 16.11 reflects section 372(6) of the Act.

16.12 Subject to clause 16.7, in cases of urgency, a motion to alter or rescind a resolution of Council may be moved at the same meeting at which the resolution was adopted, where:

- (a) a notice of motion signed by three councillors is submitted to the chairperson, and
- (b) a motion to have the motion considered at the meeting is passed, and
- (c) the chairperson rules the business that is the subject of the motion is of great urgency on the grounds that it requires a decision by Council before the next scheduled ordinary meeting of Council.

16.13 A motion moved under clause 16.12(b) can be moved without notice. Despite clauses 9.20–9.30, only the mover of a motion referred to in clause 16.12(b) can speak to the motion before it is put.

16.14 A motion of dissent cannot be moved against a ruling by the chairperson under clause 16.12(c).

Recommitting resolutions to correct an error

16.15 Despite the provisions of this Part, a councillor may, with the leave of the chairperson, move to recommit a resolution adopted at the same meeting:

- (a) to correct any error, ambiguity or imprecision in Council's resolution, or
- (b) to confirm the voting on the resolution.

16.16 In seeking the leave of the chairperson to move to recommit a resolution for the purposes of clause 16.15(a), the councillor is to propose alternative wording for the resolution.

16.17 The chairperson must not grant leave to recommit a resolution for the purposes of clause 16.15(a), unless they are satisfied that the proposed alternative wording of the resolution would not alter the substance of the resolution previously adopted at the meeting.

16.18 A motion moved under clause 16.15 can be moved without notice. Despite clauses 9.20–9.30, only the mover of a motion referred to in clause 16.15 can speak to the motion before it is put.

16.19 A motion of dissent cannot be moved against a ruling by the chairperson under clause 16.15.

16.20 A motion moved under clause 16.15 with the leave of the chairperson cannot

be voted on unless or until it has been seconded.

17 AFTER THE MEETING

Minutes of meetings

- 17.1 Council is to keep full and accurate minutes of the proceedings of meetings of Council.

Note: Clause 17.1 reflects section 375(1) of the Act.

- 17.2 At a minimum, the general manager must ensure that the following matters are recorded in Council's minutes:

- (a) the names of councillors attending a Council meeting,
- (b) details of each motion moved at a Council meeting and of any amendments moved to it,
- (c) the names of the mover and seconder of the motion or amendment,
- (d) whether the motion or amendment was passed or lost, and
- (e) such other matters specifically required under this code.

- 17.3 The minutes of a Council meeting must be confirmed at a subsequent meeting of Council.

Note: Clause 17.3 reflects section 375(2) of the Act.

- 17.4 Any debate on the confirmation of the minutes is to be confined to whether the minutes are a full and accurate record of the meeting they relate to.

- 17.5 When the minutes have been confirmed, they are to be signed by the person presiding at the subsequent meeting.

Note: Clause 17.5 reflects section 375(2) of the Act.

- 17.6 The confirmed minutes of a meeting may be amended to correct typographical or administrative errors after they have been confirmed. Any amendment made under this clause must not alter the substance of any decision made at the meeting.

- 17.7 The confirmed minutes of a Council meeting must be published on Council's website. This clause does not prevent Council from also publishing unconfirmed minutes of its meetings on its website prior to their confirmation.

Access to correspondence and reports laid on the table at, or submitted to, a meeting

- 17.8 Council and Committees of Council must, during or at the close of a meeting, or during the business day following the meeting, give reasonable access to any person to inspect correspondence and reports laid on the table at, or submitted to, the meeting.

Note: Clause 17.8 reflects section 11(1) of the Act.

- 17.9 Clause 17.8 does not apply if the correspondence or reports relate to a matter that was received or discussed or laid on the table at, or submitted to, the meeting when the meeting was closed to the public.

Note: Clause 17.9 reflects section 11(2) of the Act.

- 17.10 Clause 17.8 does not apply if Council or the committee resolves at the meeting, when open to the public, that the correspondence or reports are to be treated as confidential because they relate to a matter specified in section 10A(2) of the Act.

Note: Clause 17.10 reflects section 11(3) of the Act.

- 17.11 Correspondence or reports to which clauses 17.9 and 17.10 apply are to be marked with the relevant provision of section 10A(2) of the Act that applies to the correspondence or report.

Implementation of decisions of Council

- 17.12 The general manager is to implement, without undue delay, lawful decisions of Council.

Note: Clause 17.12 reflects section 335(b) of the Act.

18 COUNCIL COMMITTEES

Application of this Part

- 18.1 This Part only applies to Committees of Council whose members are all councillors.

Council committees whose members are all councillors

- 18.2 Council may, by resolution, establish such committees as it considers necessary.
- 18.3 A Committee of Council is to consist of the mayor and such other councillors as are elected by the councillors or appointed by Council.
- 18.4 The quorum for a meeting of a Committee of Council is to be:
- (a) such number of members as Council decides, or
 - (b) if Council has not decided a number – a majority of the members of the committee.

Functions of committees

- 18.5 Council must specify the functions of each of its committees when the committee is established but may from time to time amend those functions.

Notice of committee meetings

- 18.6 The general manager must send to each councillor, regardless of whether they

are a committee member, at least three (3) days before each meeting of the committee, a notice specifying:

- (a) the time, date and place of the meeting, and
- (b) the business proposed to be considered at the meeting.

18.7 Notice of less than three (3) days may be given of a committee meeting called in an emergency.

Attendance at committee meetings

18.8 A committee member (other than the mayor) ceases to be a member of a committee if the committee member:

- (a) has been absent from three (3) consecutive meetings of the committee without having given reasons acceptable to the committee for the member's absences, or
- (b) has been absent from at least half of the meetings of the committee held during the immediately preceding year without having given to the committee acceptable reasons for the member's absences.

18.9 Clause 18.8 does not apply if all of the members of Council are members of the committee.

Non-members entitled to attend committee meetings

18.10 A councillor who is not a member of a Committee of Council is entitled to attend, and to speak at a meeting of the committee. However, the councillor is not entitled:

- (a) to give notice of business for inclusion in the agenda for the meeting, or
- (b) to move or second a motion at the meeting, or
- (c) to vote at the meeting.

Chairperson and deputy chairperson of Council committees

18.11 The chairperson of each Committee of Council must be:

- (a) the mayor, or
- (b) if the mayor does not wish to be the chairperson of a committee, a member of the committee elected by Council, or
- (c) if Council does not elect such a member, a member of the committee elected by the committee.

18.12 Council may elect a member of a Committee of Council as deputy chairperson of the committee. If Council does not elect a deputy chairperson of such a committee, the committee may elect a deputy chairperson.

18.13 If neither the chairperson nor the deputy chairperson of a Committee of Council is able or willing to preside at a meeting of the committee, the committee must elect a member of the committee to be acting chairperson of the committee.

18.14 The chairperson is to preside at a meeting of a Committee of Council. If the chairperson is unable or unwilling to preside, the deputy chairperson (if any) is

to preside at the meeting, but if neither the chairperson nor the deputy chairperson is able or willing to preside, the acting chairperson is to preside at the meeting.

Procedure in committee meetings

- 18.15 Subject to any specific requirements of this code, each Committee of Council may regulate its own procedure. The provisions of this code are to be taken to apply to all Committees of Council unless Council or the committee determines otherwise in accordance with this clause.
- 18.16 Whenever the voting on a motion put to a meeting of the committee is equal, the chairperson of the committee is to have a casting vote as well as an original vote unless Council or the committee determines otherwise in accordance with clause 18.15.
- 18.17 Voting at a Council committee meeting is to be by open means (such as on the voices, by show of hands or by a visible electronic voting system).

Closure of committee meetings to the public

- 18.18 The provisions of the Act and Part 14 of this code apply to the closure of meetings of Committees of Council to the public in the same way they apply to the closure of meetings of Council to the public.
- 18.19 If a Committee of Council passes a resolution, or makes a recommendation, during a meeting, or a part of a meeting that is closed to the public, the chairperson must make the resolution or recommendation public as soon as practicable after the meeting or part of the meeting has ended, and report the resolution or recommendation to the next meeting of Council. The resolution or recommendation must also be recorded in the publicly available minutes of the meeting.
- 18.20 Resolutions passed during a meeting, or a part of a meeting that is closed to the public must be made public by the chairperson under clause 18.19 during a part of the meeting that is webcast.

Disorder in committee meetings

- 18.21 The provisions of the Act and this code relating to the maintenance of order in Council meetings apply to meetings of Committees of Council in the same way as they apply to meetings of Council.

Minutes of Council committee meetings

- 18.22 Each Committee of Council is to keep full and accurate minutes of the proceedings of its meetings. At a minimum, a committee must ensure that the following matters are recorded in the committee's minutes:
- (a) the names of councillors attending a meeting and whether they attended the meeting in person or by audio-visual link,
 - (b) details of each motion moved at a meeting and of any amendments moved to it,

- (c) the names of the mover and seconder of the motion or amendment,
 - (d) whether the motion or amendment was passed or lost, and
 - (e) such other matters specifically required under this code.
- 18.23 All voting at meetings of Committees of Council (including meetings that are closed to the public), must be recorded in the minutes of meetings with the names of councillors who voted for and against each motion or amendment, (including the use of the casting vote), being recorded.
- 18.24 The minutes of meetings of each Committee of Council must be confirmed at a subsequent meeting of the committee.
- 18.25 Any debate on the confirmation of the minutes is to be confined to whether the minutes are a full and accurate record of the meeting they relate to.
- 18.26 When the minutes have been confirmed, they are to be signed by the person presiding at that subsequent meeting.
- 18.27 The confirmed minutes of a meeting may be amended to correct typographical or administrative errors after they have been confirmed. Any amendment made under this clause must not alter the substance of any decision made at the meeting.
- 18.28 The confirmed minutes of a meeting of a Committee of Council must be published on Council's website. This clause does not prevent Council from also publishing unconfirmed minutes of meetings of Committees of Council on its website prior to their confirmation.

19 IRREGULARITIES

- 19.1 Proceedings at a meeting of Council or a Council committee are not invalidated because of:
- (a) a vacancy in a civic office, or
 - (b) a failure to give notice of the meeting to any councillor or committee member, or
 - (c) any defect in the election or appointment of a councillor or committee member, or
 - (d) a failure of a councillor or a committee member to declare a conflict of interest, or to refrain from the consideration or discussion of, or vote on, the relevant matter, at a Council or committee meeting in accordance with Council's Code of Conduct, or
 - (e) a failure to comply with this code.

Note: Clause 19.1 reflects section 374 of the Act.

20 DEFINITIONS

the Act	means the <i>Local Government Act 1993</i>
act of disorder	means an act of disorder as defined in clause 14.11 of this code
amendment	in relation to an original motion, means a motion moving an amendment to that motion
audio recorder	any device capable of recording speech
audio-visual link	means a facility that enables audio and visual communication between persons at different places
business day	means any day except Saturday or Sunday or any other day the whole or part of which is observed as a public holiday throughout New South Wales
chairperson	in relation to a meeting of Council – means the person presiding at the meeting as provided by section 369 of the Act and clauses 6.1 and 6.2 of this code, and in relation to a meeting of a committee – means the person presiding at the meeting as provided by clause 18.11 of this code
this code	means Council's adopted Code of Meeting Practice
committee of council	means a committee established by Council in accordance with clause 18.2 of this code (being a committee consisting only of councillors) or Council when it has resolved itself into committee of the whole under clause 11.1
council official	has the same meaning it has in the Model Code of Conduct for Local Councils in NSW
day	means calendar day
foreshadowed amendment	means a proposed amendment foreshadowed by a councillor under clause 9.18 of this code during debate on the first amendment
foreshadowed motion	means a motion foreshadowed by a councillor under clause 9.17 of this code during debate on an original motion
open voting	means voting on the voices or by a show of hands or by a visible electronic voting system or similar means
planning decision	means a decision made in the exercise of a function of a council under the <i>Environmental Planning and Assessment Act 1979</i> including any decision relating to a development application, an environmental planning instrument, a development control plan or a development contribution plan under that Act, but not including the making of an order under Division 9.3 of Part 9 of that Act
performance improvement order	means an order issued under section 438A of the Act

quorum	means the minimum number of councillors or committee members necessary to conduct a meeting
the Regulation	means the <i>Local Government (General) Regulation 2021</i>
webcast	a video or audio broadcast of a meeting transmitted across the internet either concurrently with the meeting or at a later time
year	means the period beginning 1 July and ending the following 30 June

21 APPENDIX “A” – NOTICE OF MOTION TEMPLATE

Subject Heading:

Background:

Issues:

Relevance to Integrated Planning and Reporting Framework:

Financial Considerations:

Legal/Policy Implications:

Attachments:

Recommendation:

22 APPENDIX “B” – THE ROLE OF THE CHAIRPERSON

1. The Chairperson shall insist upon the proper conduct of debate.
2. The Chairperson should be impartial and consistent in rulings on all occasions regardless of their personal views and beliefs on the subject being discussed whether or not they have made their view known.
3. The Chairperson shall receive and put to the meeting any motion which is brought before the meeting in accordance with the Act, Regulation and Code of Meeting Practice.
4. The Chairperson should not permit discussion unless there is a motion before the meeting.
5. The Chairperson shall have no power to adjourn the meeting of his or her own accord except, but not limiting the provisions of the Act or the Regulation, the Chair can adjourn when the meeting lacks a quorum and when disorder arises.
6. The Chairperson shall have the right to rule out of order motions that do not relate to the business before Council and motions that are “ultra vires”.
7. The Chairperson may refuse to put motions and amendments that are not clear.
8. The Chairperson has the authority to advise and counsel the meeting.
9. The Chairperson shall preserve order and endeavour to prevent interference with speakers by private talk or heckling remarks, offensive statements and the imputation of improper motives. In the event of such occurrences, the Chairperson may call upon speakers to withdraw and apologise.
10. The Chairperson of Council Meeting or Committees of which all Councillors are members shall have the right to exercise a casting vote.

23 APPENDIX “C” – MOTIONS, AMENDMENTS AND FORESHADOWED MOTIONS

Motions:

1. A motion is a proposal, moved by one Councillor and seconded by another, calling for a specific action to be taken or a decision to be made on the particular matter before the Committee or Council.
2. If that motion is passed it becomes a resolution of the Council or the Committee (within the Committee’s delegation).

The mover of a motion may be given the opportunity to explain the motion before a seconder is called for, if considered necessary by the Chairperson.
3. Once a motion is moved and seconded the meeting can then try and reach a decision by considering the specific proposal with speakers supporting it, opposing it or suggesting changes to it.
4. If there is no objection to a motion before Council or Committee, there shall be no right of reply and the Chair shall put the motion.
5. Where there is a motion and an amendment, following debate on the amendment and then the motion, the mover of the motion has a right of reply prior to voting on the amendment taking place.
6. A motion should be very specific in its intention and must be capable of being implemented.
7. If possible, a motion should be qualified by referring to a timetable, financial implications, person required to take the necessary action, etc.
8. The motion should be simple and easy to understand so that there is no doubt about its meaning – it should be well structured and if it involves a number of different aspects then there should be different parts to the motion.
9. A Councillor seconding the motion is in effect saying “I support this proposal”. If no person present is prepared to second the motion it then lapses and should not be discussed further.
10. When a motion is complex in its wording and intent, to assist other Councillors of the Committee/Council, a Council shall submit the motion in writing so that it can be circulated to all members present and the minute taker either electronically or in hard copy format. This will remove any doubt in the minds of Councillors as to what exactly is being moved. Likewise, the Chairperson should ensure that any motion/amendment is clearly understood by all Councillors present prior to voting.
11. A motion should start with the word “THAT”, for example “THAT the road be closed”.
12. Motions should be written in a positive sense so that a “yes” vote indicates support for the action and a “no” vote indicates that no action should be taken.

13. The mover of the motion has the right to speak first and a general “right of reply” at the end of the debate. No new information or material should be argued during the “right of reply”.
14. The seconder of the motion speaks after the mover, but may choose to hold over their speaking rights until later in the debate.
15. At the end of the debate, the Chairperson puts the motion to the meeting for voting by Councillors.

Amendments

1. An Amendment to a motion requires a mover and a seconder to put it forward.
2. The Amendment must be dealt with before voting on the main motion. Debate is allowed only in relation to the amendment and not the main motion – which is suspended while the amendment is considered.
3. If the Amendment is passed, it becomes the motion and this new motion can be debated. If the Amendment is not supported, the main motion stays in its original form.
4. There should only be one Amendment to a Motion before Council at any time. If several amendments are proposed, each should be moved, seconded, debated and voted upon before the next.
5. Amendments may be in the form of additional words to a motion and/or the removal of words. Any such Amendment to a Motion must not alter the Motion to the extent that it effectively reverses the motion. In any case, an Amendment to a Motion will need to be made with the concurrence of the mover and seconder of the Motion.

Foreshadowed Motions/Amendments

1. It is possible to advise the Council of a foreshadowed Motion/Amendment that relates to the business currently before Council.
2. The Chairperson cannot accept the foreshadowed Motion/Amendment until the current Motion/Amendment has been determined.

24 APPENDIX “D” – CALLING A POINT OF ORDER

1. A Point of Order may be called in the following circumstances:
 - (a) a matter is raised that does not relate to the subject being discussed;
 - (b) there is no quorum present in the Council Chamber;
 - (c) there has been a failure to comply with some rule, regulation, standing order, policy or accepted rules of debate;
 - (d) a Council has used objectionable, insulting, offensive, abusive language or defamatory insinuations about a person’s motives or conduct;
 - (e) a speaker has exceeded the time limit for speeches;
 - (f) an amendment under discussion has not been seconded;
 - (g) a matter is raised which is outside the powers of the Council.
2. The Chairperson may rule a Councillor out-of-order in two (2) ways – generally upon a ruling being given by the Chairperson after another Councillor has made a point of order, or by the Chairperson on his or her own initiative making the ruling.
3. When a Councillor raises a point of order, the person speaking must stop until the point has been dealt with. The Councillor who raises the point of order shall, where possible, refer to the specific section of the Code of Meeting Practice. For example:

“Under section 8.4 of the Code of Meeting Practice...”
4. No other Councillor may speak on the Point of Order.
5. The Chairperson will then rule on the Point of Order, either by agreeing that the speaker is out-of-order or disagreeing and allowing the speaker to continue.
6. If there is an objection to the Chairperson’s ruling, a Councillor may move a Motion of Dissent.
7. A Point of Order must not be taken for the purposes of contradicting statements made by another Councillor or providing a personal explanation. It must only be concerned with the conduct of the meeting. An explanation or contradiction is not a Point of Order.

1. INTRODUCTION

- 1.1 The *Councillor and Staff Interaction Policy* (the Policy) provides a framework for councillors when exercising their civic functions by specifically addressing their ability to interact with, and receive advice from, authorised staff.
- 1.2 The Policy complements and should be read in conjunction with Coonamble Shire Council's *Code of Conduct* (the Code of Conduct).
- 1.3 The aim of the Policy is to facilitate a positive working relationship between councillors, as the community's elected representatives, and staff, who are employed to administer the operations of the Council. The Policy provides direction on interactions between councillors and staff to assist both parties in carrying out their day-to-day duties professionally, ethically and respectfully.
- 1.4 It is important to have an effective working relationship that recognises the important but differing contribution both parties bring to their complementary roles.

2. APPLICATION

- 2.1 This Policy applies to all councillors and Council staff.
- 2.2 This Policy applies to all interactions between councillors and staff, whether face-to-face, online (including social media and virtual meeting platforms), by phone, text message or in writing.
- 2.3 This Policy applies whenever interactions between councillors and staff occur, including inside or outside of work hours, and at both Council and non-Council venues and events.
- 2.4 This Policy does not confer any delegated authority upon any person. All delegations to staff are made by the General Manager.
- 2.5 The Code of Conduct provides that Council officials must not conduct themselves in a manner that is contrary to Council's policies. A breach of this Policy will be a breach of the Code of Conduct.

3. POLICY OBJECTIVES

- 3.1 The objectives of the Policy are to:

- a) establish positive, effective and professional working relationships between councillors and staff defined by mutual respect and courtesy
- b) enable councillors and staff to work together appropriately and effectively to support each other in their respective roles
- c) ensure that councillors receive advice in an orderly, courteous and appropriate manner to assist them in the performance of their civic duties
- d) ensure councillors have adequate access to information to exercise their statutory roles
- e) provide direction on, and guide councillor interactions with, staff for both obtaining information and in general situations
- f) maintain transparent decision making and good governance arrangements
- g) ensure the reputation of Council is enhanced by councillors and staff interacting consistently, professionally and positively in their day-to-day duties
- h) provide a clear and consistent framework through which breaches of the Policy will be managed in accordance with the Code of Conduct.

4. PRINCIPLES, ROLES AND RESPONSIBILITIES

- 4.1 Several factors contribute to a good relationship between councillors and staff. These include goodwill, understanding of roles, communication, protocols, and a good understanding of legislative requirements.
- 4.2 Council's governing body and its administration (being staff within the organisation) must have a clear and sophisticated understanding of their different roles, and the fact that these operate within a hierarchy. The administration is accountable to the General Manager, who in turn, is accountable to Council's governing body.
- 4.3 Section 232 of the *Local Government Act 1993* (the LG Act) states that the role of a councillor is as follows:
 - a) to be an active and contributing member of the governing body
 - b) to make considered and well-informed decisions as a member of the governing body

- c) to participate in the development of the integrated planning and reporting framework
- d) to represent the collective interests of residents, ratepayers and the local community
- e) to facilitate communication between the local community and the governing body
- f) to uphold and represent accurately the policies and decisions of the governing body
- g) to make all reasonable efforts to acquire and maintain the skills necessary to perform the role of a councillor.

4.4 The administration’s role is to advise the governing body, implement Council’s decisions and to oversee service delivery.

4.5 It is beneficial if the administration recognises the complex political environments in which elected members operate and acknowledge that they work within a system that is based on democratic governance. Councillors similarly need to understand that it is a highly complex task to prepare information and provide quality advice on the very wide range of issues that Council operations cover.

4.6 Council commits to the following principles to guide interactions between councillors and staff:

Principle	Achieved by
Equitable and consistent	Ensuring appropriate, consistent and equitable access to information for all councillors within established service levels.
Considerate and respectful	Councillors and staff working supportively together in the interests of the whole community, based on mutual respect and consideration of their respective positions.
Ethical, open and transparent	Ensuring that interactions between councillors and staff are ethical, open, transparent, honest and

	display the highest standards of professional conduct.
Fit for purpose	Ensuring that the provision of equipment and information to councillors is done in a way that is suitable, practical and of an appropriate size, scale and cost for a client group of nine people.
Accountable and measurable	Providing support to councillors in the performance of their role in a way that can be measured, reviewed and improved based on qualitative and quantitative data.

- 4.7 Councillors are members of Council’s governing body, which is responsible for directing and controlling the affairs of Council in accordance with the LG Act. Councillors need to accept that:
- a) responses to requests for information from councillors may take time and consultation to prepare and be approved prior to responding
 - b) staff are not accountable to them individually
 - c) they must not direct staff except by giving appropriate direction to the General Manager by way of a Council or committee resolution, or by the Mayor exercising their functions under section 226 of the LG Act.
 - d) they must not, in any public or private forum, direct or influence, or attempt to direct or influence, a member of staff in the exercise of their functions
 - e) they must not contact a member of staff on Council-related business unless in accordance with this Policy
 - f) they must not use their position to attempt to receive favourable treatment for themselves or others.
- 4.8 The General Manager is responsible for the efficient and effective day-to-day operation of Council and for ensuring that the lawful decisions of Council are implemented without undue delay. Council staff need to understand:

- a) they are not accountable to individual councillors and do not take direction from them. They are accountable to the General Manager, who is in turn accountable to Council's governing body
- b) they should not provide advice to councillors unless it has been approved by the General Manager or a staff member with a delegation to approve advice to councillors
- c) they must carry out reasonable and lawful directions given by any person having the authority to give such directions in an efficient and effective manner
- d) they must ensure that participation in political activities outside the service of Council does not interfere with the performance of their official duties
- e) they must provide full and timely information to councillors sufficient to enable them to exercise their civic functions in accordance with this Policy.

5. THE COUNCILLOR REQUESTS SYSTEM

- 5.1 Councillors have a right to request information provided it is relevant to councillors' exercise of their civic functions. This right does not extend to matters about which a councillor is merely curious.
- 5.2 Councillors do not have a right to request information about matters that they are prevented from participating in decision-making on because of a conflict of interest, unless the information is otherwise publicly available.
- 5.3 The General Manager may identify Council support staff (the Executive Support Officer) under this Policy for the management of requests from councillors.
- 5.4 Councillors can use the councillor request system to:
 - a) request information or ask questions that relate to the strategic position, performance or operation of Council
 - b) bring concerns that have been raised by members of the public to the attention of staff
 - c) request IT or other support from the Council administration
 - d) request that a staff member be present at a meeting (other than a meeting of Council) for the purpose of providing advice to the meeting.

- 5.5 Councillors must, to the best of their knowledge, be specific about what information they are requesting, and make their requests respectfully. Where a councillor's request lacks specificity, the General Manager or staff member authorised to manage the matter is entitled to ask the councillor to clarify their request and the reason/s why they are seeking the information.
- 5.6 Staff must make every reasonable effort to assist councillors with their requests and do so in a respectful manner.
- 5.7 The General Manager or the staff member authorised to manage a councillor request will provide a response within five working days. Where a response cannot be provided within that timeframe, the councillor will be advised, and the information will be provided as soon as practicable.
- 5.8 Requests under clause 5.4 (d) must be made five working days before the meeting. The General Manager, or members of staff that are listed at Schedule 1 of this Policy, are responsible for determining:
- a) whether a staff member can attend the meeting; and
 - b) which staff member will attend the meeting.

Staff members who attend such meetings must be appropriately senior and be subject matter experts on the issues to be discussed at the meeting.

- 5.9 Councillors are required to treat all information provided by staff appropriately and to observe any confidentiality requirements.
- 5.10 Staff will inform councillors of any confidentiality requirements for information they provide so councillors can handle the information appropriately.
- 5.11 Where a councillor is unsure of confidentiality requirements, they should contact the General Manager, or the staff member authorised to manage their request.
- 5.12 The General Manager may refuse access to information requested by a councillor if:
- a) the information is not necessary for the performance of the councillor's civic functions, or
 - b) if responding to the request would, in the General Manager's opinion, result in an unreasonable diversion of staff time and resources, or

- c) the councillor has previously declared a conflict of interest in the matter and removed themselves from decision-making on it, or
 - d) the General Manager is prevented by law from disclosing the information.
- 5.13 Where the General Manager refuses to provide information requested by a councillor, they must act reasonably. The General Manager must advise a councillor in writing of their reasons for refusing access to the information requested.
- 5.14 Where a councillor's request for information is refused by the General Manager on the grounds referred to under clause 5.12 (a) or (b), the councillor may instead request the information through a resolution of Council by way of a notice of motion. This clause does not apply where the General Manager refuses a councillor's request for information under clause 5.12 (c) or (d).
- 5.15 Nothing in clauses 5.12, 5.13, and 5.14 prevents a councillor from requesting the information in accordance with the *Government Information (Public Access) Act 2009*.
- 5.16 Where a councillor persistently makes requests for information which, in the General Manager's opinion, result in a significant and unreasonable diversion of staff time and resources, Council may, on the advice of the General Manager, resolve to limit the number of requests the councillor may make.
- 5.17 Councillor requests are state records and must be managed in accordance with the *State Records Act 1998*.
- 5.18 A report will be provided to Council annually regarding the performance and efficiency of the councillor requests system against established key performance indicators.
- 6. ACCESS TO COUNCIL STAFF**
- 6.1 Councillors may directly contact members of staff that are listed in Schedule 1 of this Policy. The General Manager may amend this list at any time and will advise councillors promptly of any changes.
- 6.2 Councillors can contact staff listed in Schedule 1 about matters that relate to the staff member's area of responsibility.
- 6.3 Councillors should, as far as practicable, only contact staff during normal business hours.

- 6.4 If councillors would like to contact a member of staff not listed in Schedule 1, they must receive permission from the General Manager.
- 6.5 If a councillor is unsure which authorised staff member can help with their enquiry, they can contact the General Manager or the Executive Support Officer who will provide advice about which authorised staff member to contact.
- 6.6 The General Manager or a member of Council's executive leadership team (MANEX) may direct any staff member to contact councillors to provide specific information or clarification relating to a specific matter.
- 6.7 A councillor or member of staff must not take advantage of their official position to improperly influence other councillors or members of staff in the performance of their civic or professional duties for the purposes of securing a private benefit for themselves or another person. Such conduct should be immediately reported to the General Manager or Mayor in the first instance, or alternatively to the Office of Local Government, NSW Ombudsman, or the NSW Independent Commission Against Corruption.

7. COUNCILLOR ACCESS TO COUNCIL BUILDINGS

- 7.1 Councillors are entitled to have access to the council chamber, committee room, mayor's office (subject to availability), and public areas of Council's buildings during normal business hours for meetings. Councillors needing access to these facilities at other times must obtain approval from the General Manager.
- 7.2 Councillors must not enter staff-only areas of Council buildings without the approval of the General Manager.

8. APPROPRIATE AND INAPPROPRIATE INTERACTIONS

- 8.1 Examples of appropriate interactions between councillors and staff include, but are not limited to, the following:
- a) councillors and Council staff are courteous and display a positive and professional attitude towards one another
 - b) Council staff ensure that information necessary for councillors to exercise their civic functions is made equally available to all councillors, in accordance with this Policy and any other relevant Council policies
 - c) Council staff record the advice they give to councillors in the same way they would if it was provided to members of the public

- d) Council staff, including MANEX members, document councillor requests via the councillor requests system
- e) Council meetings and councillor briefings are used to establish positive working relationships and help councillors to gain an understanding of the complex issues related to their civic duties
- f) councillors and Council staff feel supported when seeking and providing clarification about Council related business
- g) councillors forward requests through the councillor requests system and staff respond in accordance with the timeframes stipulated in this Policy

8.2 Examples of inappropriate interactions between councillors and staff include, but are not limited to, the following:

- a) councillors and Council staff conducting themselves in a manner which:
 - i) is contrary to their duties under the *Work Health and Safety Act 2011* and their responsibilities under any policies or procedures adopted by Council to ensure workplace health and safety
 - ii) constitutes harassment and/or bullying within the meaning of the Code of Conduct, or is unlawfully discriminatory
- b) councillors approaching staff and staff organisations to discuss individual or operational staff matters (other than matters relating to broader workforce policy such as, but not limited to, organisational restructures or outsourcing decisions), grievances, workplace investigations and disciplinary matters
- c) staff approaching councillors to discuss individual or operational staff matters (other than matters relating to broader workplace policy such as, but not limited to, organisational restructures or outsourcing decisions), grievances, workplace investigations and disciplinary matters
- d) subject to clause 5.12, staff refusing to give information that is available to other councillors to a particular councillor
- e) councillors who have lodged an application with Council, discussing the matter with staff in staff-only areas of Council
- f) councillors being overbearing or threatening to staff
- g) staff being overbearing or threatening to councillors

- h) councillors making personal attacks on staff or engaging in conduct towards staff that would be contrary to the general conduct provisions in Part 3 of the Code of Conduct in public forums including social media
 - i) councillors directing or pressuring staff in the performance of their work, or recommendations they should make
 - j) staff providing ad hoc advice to councillors without recording or documenting the interaction as they would if the advice was provided to a member of the community
- 8.3 Where a councillor engages in conduct that, in the opinion of the General Manager, puts the health, safety or welfare of staff at risk, the General Manager may restrict the councillor's access to staff.
- 8.4 Any concerns relating to the conduct of staff under this Policy should be raised with the General Manager.

9. Complaints

- 9.1 Complaints about a breach of this Policy should be made to the General Manager (if the complaint is about a councillor or member of Council staff), or the Mayor (if the complaint is about the General Manager).
- 9.2 Clause 9.1 does not operate to prevent matters being reported to the OLG, the NSW Ombudsman, the NSW Independent Commission Against Corruption or any other external agency.

10. VERSION CONTROL

Title: Councillor and Staff Interaction Policy		
Department: Governance		
Version	Date	Author
1 (Councillor Access to Staff and Premises Policy)	21 August 2019	General Manager
2	October 2024	J Maundrell
Review Date: 16 May 2024		
Amendments in the release:		
Amendment history	Date	Detail
Policy updated in line with OLG <i>Model Councillor and Staff Interaction Policy 2022.</i>	31 October 2024	
Annexure Attached:		
Nil		
Paul Gallagher General Manager		

Schedule 1 – Authorised staff contacts for councillors

1. Clause 6.1 of this Policy provides that councillors may directly contact member of staff that are listed below. The General Manager may amend this list at any time.
2. Councillors can contact staff listed below about matters that relate to the staff member’s area of responsibility.
3. Councillors should, as far as practicable, only contact staff during normal business hours.
4. If councillors would like to contact a member of staff not listed below, they must receive permission from the General Manager or their delegate.
5. If a councillor is unsure which authorised staff member can help with their enquiry, they can contact the General Manager or the Executive Support Officer who will provide advice about which authorised staff member to contact.
6. In some instances, the General Manager or a member of Council’s executive leadership team (MANEX) may direct a Council staff member to contact councillors to provide specific information or clarification relating to a specific matter.

Authorised staff member	Position
Paul Gallagher	General Manager
Barry Broe	Director Community, Planning, Development and Environment
Bruce Quarmby	Director Corporate Services
Kerrie Murphy	Director Infrastructure
Jenni Maundrell	Executive Manager Corporate Governance
Vacant	Executive Assistant (Executive Support Officer)



Councillor Expenses and Facilities Policy

Introductory Comments

The template for a Councillor Expenses and Facilities Policy, as provided by the NSW Office of Local Government as a suggested format for councils in response to requests for guidance on better practice, has been used to develop this policy. The template has been prepared to be consistent with the *Local Government Act 1993* and *Local Government (General) Regulations 2021*. If there are any inconsistencies, the Act and Regulations take precedence.

The template has been amended to suit local needs and circumstances.

Council, in using this template, has included maximum expenditure limits for specific expenses and facilities taking into consideration its own context and community expectations.

Once exhibited and adopted, the policy will be made publicly available on Council's website.

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- 1. Claim Form**
- 2. Prepayment Reconciliation Statement**
- 3. Lease Back with Annexure 1A attached**

Policy summary

This policy enables the reasonable and appropriate reimbursement of expenses and provision of facilities to councillors to help them undertake their civic duties.

It ensures accountability and transparency, and seeks to align councillor expenses and facilities with community expectations. Councillors must not obtain private or political benefit from any expense or facility provided under this policy.

The policy has been prepared in accordance with the *Local Government Act 1993* (the Act) and *Local Government (General) Regulation 2021* (the Regulation), and complies with the Office of Local Government’s Guidelines for the payment of expenses and provision of facilities to Mayors and Councillors in NSW.

The policy sets out the maximum amounts Council will pay for specific expenses and facilities. Expenses not explicitly addressed in this policy will not be paid or reimbursed.

The main expenses and facilities are summarised in the table below. All monetary amounts are exclusive of GST.

Expense or facility	Maximum amount	Frequency
General travel expenses	\$2,500 per councillor \$5,000 for the Mayor	Per year
Interstate, overseas and long distance intrastate travel expenses	\$5,000 total for all councillors	Per year
Accommodation and meals	As per the NSW Crown Employees (Public Service Conditions of Employment) Reviewed Award 2009, adjusted annually	Per meal/night
Professional development	\$2,500 per councillor	Per year
Conferences and seminars	\$10,000 total for all councillors	Per year
ICT expenses	\$50 per councillor for mobile phone calls and 3GB of data	Per month
Carer expenses	\$75 per councillor	Per year
Home office expenses	\$20 per councillor	Per month
Access to facilities in the Council administration building (refer to Clause 9.1)	Provided to all councillors	Not relevant
Council vehicle and fuel card [refer to Clause 10]	Available to the Mayor	Not relevant
Reserved parking space at Council offices	Available to the Mayor	Not relevant

Additional costs incurred by a councillor in excess of these limits are considered a personal expense that is the responsibility of the councillor.

Councillors must provide claims for reimbursement within three months of an expense being incurred. Claims made after this time cannot be approved.

Detailed reports on the provision of expenses and facilities to councillors will be publicly tabled at a Council meeting every six months and published in full on Council’s website. These reports will include expenditure summarised by individual councillor and as a total for all councillors.

Part A – Introduction

1. Introduction

- 1.1. The provision of expenses and facilities enables councillors to fulfil their civic duties as the elected representatives of Coonamble Shire Council.
- 1.2. The community is entitled to know the extent of expenses paid to councillors, as well as the facilities provided.
- 1.3. The purpose of this policy is to clearly state the facilities and support that are available to councillors to assist them in fulfilling their civic duties.
- 1.4. Council staff are empowered to question or refuse a request for payment from a councillor when it does not accord with this policy.
- 1.5. Expenses and facilities provided by this policy are in addition to fees paid to councillors. The minimum and maximum fees a council may pay each councillor are set by the Local Government Remuneration Tribunal as per Section 241 of the Act and reviewed annually. Council must adopt its annual fees within this set range.

2. Policy objectives

- 2.1. The objectives of this policy are to:
 - enable the reasonable and appropriate reimbursement of expenses incurred by councillors while undertaking their civic duties,
 - enable facilities of a reasonable and appropriate standard to be provided to councillors to support them in undertaking their civic duties,
 - ensure accountability and transparency in reimbursement of expenses and provision of facilities to councillors,
 - ensure facilities and expenses provided to councillors meet community expectations,
 - support a diversity of representation, and
 - fulfil Council's statutory responsibilities.

3. Principles

- 3.1. Council commits to the following principles:
 - **Proper conduct:** councillors and staff acting lawfully and honestly, exercising care and diligence in carrying out their functions.
 - **Reasonable expenses:** providing for councillors to be reimbursed for expenses reasonably incurred as part of their role as councillor.
 - **Participation and access:** enabling people from diverse backgrounds, underrepresented groups, those in carer roles and those with special needs to serve as a councillor.
 - **Equity:** there must be equitable access to expenses and facilities for all councillors.
 - **Appropriate use of resources:** providing clear direction on the appropriate use of Council resources in accordance with legal requirements and community expectations.
 - **Accountability and transparency:** clearly stating and reporting on the expenses and facilities provided to councillors.

4. Private or political benefit

- 4.1. Councillors must not obtain private or political benefit from any expense or facility provided under this policy.
- 4.2. Private use of Council equipment and facilities by councillors may occur from time to time. For example, telephoning home to advise that a Council meeting will run later than expected.
- 4.3. Such incidental private use does not require a compensatory payment back to Council.
- 4.4. Councillors should avoid obtaining any greater private benefit from Council than an incidental benefit. Where there are unavoidable circumstances and more substantial private use of Council facilities does occur, councillors must reimburse Council.
- 4.5. Campaigns for re-election are considered to be a political benefit. The following are examples of what is considered to be a political interest during a re-election campaign:
 - production of election material
 - use of Council resources and equipment for campaigning
 - use of official Council letterhead, publications, websites or services for political benefit
 - fundraising activities of political parties or individuals, including political fundraising events.

Part B – Expenses

5. General expenses

- 5.1. All expenses provided under this policy will be for a purpose specific to the functions of holding civic office. Allowances for general expenses are not permitted under this policy.
- 5.2. Expenses not explicitly addressed in this policy will not be paid or reimbursed.

6. Specific expenses

General travel arrangements and expenses

- 6.1. All travel by councillors should be undertaken using the most direct route and the most practicable and economical mode of transport.
- 6.2. Each councillor may be reimbursed up to a total of \$2,500 per year, and the Mayor may be reimbursed up to a total of \$5,000 per year, for travel expenses incurred while undertaking official business or professional development or attending approved conferences and seminars within NSW. This includes reimbursement:
 - for public transport fares,
 - for the use of a private vehicle or hire car,
 - for parking costs for Council and other meetings,
 - for tolls,
 - by Cabcharge card or equivalent, and
 - for documented ride-share programs, such as Uber, where tax invoices can be issued.
- 6.3. Allowances for the use of a private vehicle will be reimbursed by kilometre at the rate contained in the Local Government (State) Award.

- 6.4. Councillors seeking to be reimbursed for use of a private vehicle must keep a log book recording the date, distance and purpose of travel being claimed. Copies of the relevant log book contents must be provided with the claim.

Interstate, overseas and long distance intrastate travel expenses

- 6.5. In accordance with Section 4, Council will scrutinise the value and need for councillors to undertake overseas travel. Councils should avoid interstate, overseas and long distance intrastate trips unless direct and tangible benefits can be established for the council and the local community. This includes travel to sister and friendship cities.
- 6.6. Total interstate, overseas and long distance intrastate travel expenses for all councillors will be capped at a maximum of \$5,000 per year. This amount will be set aside in Council's annual budget.
- 6.7. Councillors seeking approval for any interstate and long distance intrastate travel must submit a case to, and obtain the approval of, the Mayor and General Manager prior to travel.
- 6.8. Councillors seeking approval for any overseas travel must submit a case to, and obtain the approval of, a full Council meeting prior to travel.
- 6.9. The case should include:
- objectives to be achieved in travel, including an explanation of how the travel aligns with current Council priorities and business, the community benefits which will accrue as a result, and its relevance to the exercise of the councillor's civic duties,
 - who is to take part in the travel,
 - duration and itinerary of travel, and
 - a detailed budget including a statement of any amounts expected to be reimbursed by the participant/s.
- 6.10. For interstate and long distance intrastate journeys by air of less than three hours, the class of air travel is to be economy class.
- 6.11. For interstate journeys by air of more than three hours, the class of air travel may be premium economy.
- 6.12. For international travel, the class of air travel is to be premium economy if available. Otherwise, the class of travel is to be economy.
- 6.13. Bookings for approved air travel are to be made through the General Manager's office.
- 6.14. For air travel that is reimbursed as Council business, councillors will not accrue points from the airline's frequent flyer program. This is considered a private benefit.

Travel expenses not paid by Council

- 6.15. Council will not pay any traffic or parking fines or administrative charges for road toll accounts.

Accommodation and meals

- 6.16. In circumstances where it would introduce undue risk for a councillor to travel to or from official business in the late evening or early morning, reimbursement of costs for accommodation and meals on the night before or after the meeting may be approved by the General Manager. This includes where a meeting finishes later than 9.00pm or starts earlier than 7.00am and the councillor lives more than 50 kilometres from the meeting location.
- 6.17. Council will reimburse costs for accommodation and meals while councillors are undertaking prior approved travel or professional development outside the Orana Region.

- 6.18. The daily limits for accommodation and meal expenses within Australia are to be consistent with those set out in Part B Monetary Rates of the NSW Crown Employees (Public Service Conditions of Employment) Reviewed Award 2009, as adjusted annually.
- 6.19. The daily limits for accommodation and meal expenses outside Australia are to be determined in advance by the General Manager, being mindful of Clause 6.18.
- 6.20. Councillors will not be reimbursed for alcoholic beverages.

Refreshments for council related meetings

- 6.21. Appropriate refreshments will be available for Council meetings, Council committee meetings, councillor briefings, approved meetings and engagements, and official Council functions as approved by the General Manager.
- 6.22. As an indicative guide for the standard of refreshments to be provided at Council related meetings, the General Manager must be mindful of Part B Monetary Rates of the NSW Crown Employees (Public Service Conditions of Employment) Reviewed Award 2009, as adjusted annually.

Professional development

- 6.23. Council will set aside \$2,500 per councillor annually in its budget to facilitate professional development of councillors through programs, training, education courses and membership of professional bodies.
- 6.24. In the first year of a new Council term, Council will provide a comprehensive induction program for all councillors which considers any guidelines issued by the Office of Local Government (OLG). The cost of the induction program will be in addition to the ongoing professional development funding.
- 6.25. Annual membership of professional bodies will only be covered where the membership is relevant to the exercise of the councillor's civic duties, the councillor actively participates in the body and the cost of membership is likely to be fully offset by savings from attending events as a member.
- 6.26. Approval for professional development activities is subject to a prior written request to the General Manager outlining the:
- details of the proposed professional development,
 - relevance to council priorities and business, and
 - relevance to the exercise of the councillor's civic duties.
- 6.27. In assessing a councillor request for a professional development activity, the General Manager must consider the factors set out in Clause 6.26, as well as the cost of the professional development in relation to the councillor's remaining budget.

Conferences and seminars

- 6.28. Council is committed to ensuring its councillors are up to date with contemporary issues facing Council and the community, and local government in NSW.
- 6.29. Council will set aside a total amount of \$10,000 annually in its budget to facilitate councillor attendance at conferences and seminars. This allocation is for all councillors. The General Manager will ensure that access to expenses relating to conferences and seminars is distributed equitably.
- 6.30. Approval to attend a conference or seminar is subject to a written request to the General Manager. In assessing a councillor request, the General Manager must consider factors including the:
- relevance of the topics and presenters to current Council priorities and business and the exercise of the councillor's civic duties, and
 - cost of the conference or seminar in relation to the total remaining budget.

- 6.31. Council will meet the reasonable cost of registration fees, transportation and accommodation associated with attendance at conferences approved by the General Manager. Council will also meet the reasonable cost of meals when they are not included in the conference fees. Reimbursement for accommodation and meals not included in the conference fees will be subject to Clauses 6.17-6.20.

Information and communications technology (ICT) expenses

Clauses 6.32-6.33 relate to the contemporary practice of providing a total expenses cap which each councillor can use flexibly to meet the ICT needs associated with his or her civic duties.

- 6.32. Council will reimburse councillors for expenses associated with appropriate ICT devices and services up to a limit of \$50 per month for each councillor for mobile phone calls and 3GB of data.
- 6.33. Councillors may seek reimbursement for applications on their mobile electronic communication device that are directly related to their duties as a councillor, within the maximum limit, and by furnishing a copy of the relevant invoice to the General Manager.

Special requirement and carer expenses

- 6.34. Council encourages wide participation and interest in civic office. It will seek to ensure Council premises and associated facilities are accessible, including provision for sight or hearing impaired councillors and those with other disabilities.
- 6.35. Transportation provisions outlined in this policy will also assist councillors who may be unable to drive a vehicle.
- 6.36. In addition to the provisions above, the General Manager may authorise the provision of reasonable additional facilities and expenses in order to allow a councillor with a disability to perform their civic duties.
- 6.37. Councillors who are the principal carer of a child or other elderly, disabled and/or sick immediate family member will be entitled to reimbursement of carer's expenses up to a maximum of \$75 per month for attendance at official business, plus reasonable travel from the principal place of residence.
- 6.38. Child care expenses may be claimed for children up to and including the age of 16 years where the carer is not a relative.
- 6.39. In the event of caring for an adult person, councillors will need to provide suitable evidence to the General Manager that reimbursement is applicable. This may take the form of advice from a medical practitioner.

Home office expenses

- 6.40. Each councillor may be reimbursed up to \$20 per month for costs associated with the maintenance of a home office, such as minor items of consumable stationery and printer ink cartridges.

7. Insurances

- 7.1. In accordance with Section 382 of the Local Government Act, Council is insured against public liability and professional indemnity claims. Councillors are included as a named insured on this Policy.
- 7.2. Insurance protection is only provided if a claim arises out of or in connection with the councillor's performance of his or her civic duties, or exercise of his or her functions as a councillor. All insurances are subject to any limitations or conditions set out in the policies of insurance.
- 7.3. Council shall pay the insurance policy excess in respect of any claim accepted by Council's insurers, whether defended or not.

7.4. Appropriate travel insurances will be provided for any councillors travelling on approved interstate and overseas travel on Council business.

8. Legal assistance

8.1. Council may, if requested, indemnify or reimburse the reasonable legal expenses of:

- a councillor defending an action arising from the performance in good faith of a function under the Local Government Act provided that the outcome of the legal proceedings is favourable to the councillor,
- a councillor defending an action in defamation, provided the statements complained of were made in good faith in the course of exercising a function under the Act and the outcome of the legal proceedings is favourable to the councillor, or
- a councillor for proceedings before an appropriate investigative or review body, provided the subject of the proceedings arises from the performance in good faith of a function under the Act and the matter has proceeded past any initial assessment phase to a formal investigation or review and the investigative or review body makes a finding substantially favourable to the councillor.

8.2. In the case of a Code of Conduct complaint made against a councillor, legal costs will only be made available where the matter has been referred by the General Manager to a conduct reviewer and the conduct reviewer has commenced a formal investigation of the matter and makes a finding substantially favourable to the councillor.

8.3. Legal expenses incurred in relation to proceedings arising out of the performance by a councillor of his or her functions under the Act are distinguished from expenses incurred in relation to proceedings arising merely from something that a councillor has done during his or her term in office. For example, expenses arising from an investigation as to whether a councillor acted corruptly would not be covered by this section.

8.4. Council will not meet the legal costs:

- of legal proceedings initiated by a councillor under any circumstances,
- of a councillor seeking advice in respect of possible defamation, or in seeking a non-litigious remedy for possible defamation, or
- for legal proceedings that do not involve a councillor performing their role as a councillor.

8.5. Reimbursement of expenses for reasonable legal expenses must have Council approval by way of a resolution at a Council meeting prior to costs being incurred.

Part C – Facilities

9. General facilities for all councillors

Facilities

9.1. Council will provide the following facilities to councillors to assist them to effectively discharge their civic duties:

- access to facilities in the Council administration building when required,
- access to shared car parking spaces while attending Council offices on official business,
- personal protective equipment for use during site visits, and
- a name badge which may be worn at official functions, indicating that the wearer holds the office of a councillor and/or Mayor or Deputy Mayor.

- 9.2. Councillors may book meeting rooms for official business in a specified Council building at no cost. Rooms may be booked through the Executive Support Officer or another specified staff member.
- 9.3. The provision of facilities will be of a standard deemed by the General Manager as appropriate for the purpose.

Stationery

- 9.4. Council will provide the following stationery to councillors each year:
- letterhead, to be used only for correspondence associated with civic duties, and
 - business cards,
- 9.5. As per Section 4, stamps shall only be used to support a councillor's civic duties. Councillor mail will only be posted using the stamps provided. Any stamps not used will not be carried over to the next year's allocation.

Administrative support

- 9.6. Council will provide administrative support to councillors to assist them with their civic duties only. Administrative support may be provided by a member of Council's administrative staff as arranged by the General Manager or their delegate.
- 9.7. As per Section 4, Council staff are expected to assist councillors with civic duties only, and not assist with matters of personal or political interest, including campaigning.

10. Additional facilities for the mayor

- 10.1. Council will provide to the Mayor a maintained vehicle to a similar standard of other Council vehicles, with a fuel card. The vehicle will be supplied for use on business, professional development and attendance at the Council office.
- 10.2. The Mayor must keep a log book setting out the date, distance and purpose of all travel. This must include any travel for private benefit. The log book must be submitted to Council on a monthly basis.
- 10.3. The Mayoral allowance will be reduced to cover the cost of any private travel recorded in the log book, calculated on a per kilometre basis by the rate set by the Local Government (State) Award.
- 10.4. Notwithstanding Clauses 10.1-10.3, the Mayor may opt to accept a Council-issued vehicle on a leaseback arrangement, subject to Council's *Motor Vehicle Leaseback Arrangement*. In this instance, the Mayoral allowance will be reduced by the amount specified in the allowance, in accordance with Council's annual Fees and Charges.
- 10.5. A parking space at Council's offices will be reserved for the Mayor's Council-issued vehicle for use on official business, professional development and attendance at the Council office.
- 10.6. In performing his or her civic duties, the Mayor will be assisted by a small number of staff providing administrative and secretarial support, as determined by the General Manager.
- 10.7. As per Section 4, staff providing administrative support are expected to work on official business only, and not for matters of personal or political interest, including campaigning.

Part D – Processes

11. Approval, payment and reimbursement arrangements

- 11.1. Expenses should only be incurred by councillors in accordance with the provisions of this policy.
- 11.2. Approval for incurring expenses, or for the reimbursement of such expenses, should be obtained before the expense is incurred.
- 11.3. Up to the maximum limits specified in this policy, approval for the following may be sought after the expense is incurred:
 - local travel relating to the conduct of official business,
 - carer costs, and
 - ICT expenditure.
- 11.4. Final approval for payments made under this policy will be granted by the General Manager or their delegate.

Direct payment

- 11.5. Council may approve and directly pay expenses. Requests for direct payment must be submitted to the Director Corporate Services for assessment against this policy using the prescribed form, with sufficient information and time to allow for the claim to be assessed and processed.

Reimbursement

- 11.6. All claims for reimbursement of expenses incurred must be made on the prescribed form, supported by appropriate receipts and/or tax invoices and be submitted to the Director Corporate Services.

Advance payment

- 11.7. Council may pay a cash advance for councillors attending approved conferences, seminars or professional development.
- 11.8. The maximum value of a cash advance is \$100 per day of the conference, seminar or professional development to a maximum of \$300.
- 11.9. Requests for advance payment must be submitted to the Director Corporate Services for assessment against this policy using the prescribed form with sufficient information and time to allow for the claim to be assessed and processed.
- 11.10. Councillors must fully reconcile all expenses against the cost of the advance within one month of incurring the cost and/or returning home. This includes providing to Council:
 - a full reconciliation of all expenses including appropriate receipts and/or tax invoices
 - reimbursement of any amount of the advance payment not spent in attending to official business or professional development.

Notification

- 11.11. If a claim is approved, Council will make payment directly or reimburse the councillor through accounts payable.
- 11.12. If a claim is refused, Council will inform the councillor in writing that the claim has been refused and the reason for the refusal.

Reimbursement to Council

- 11.13. If Council has incurred an expense on behalf of a councillor that exceeds a maximum limit, exceeds reasonable incidental private use or is not provided for in this policy:

- Council will invoice the councillor for the expense, and
- the councillor will reimburse Council for that expense within 14 days of the invoice date.

11.14. If the councillor cannot reimburse Council within 14 days of the invoice date, they are to submit a written explanation to the General Manager. The General Manager may elect to deduct the amount from the councillor's allowance.

Timeframe for reimbursement

11.15. Unless otherwise specified in this policy, councillors must provide all claims for reimbursement within three months of an expense being incurred. Claims made after this time cannot be approved.

12. Disputes

12.1. If a councillor disputes a determination under this policy, the councillor should discuss the matter with the General Manager.

12.2. If the councillor and the General Manager cannot resolve the dispute, the councillor may submit a notice of motion to a Council meeting seeking to have the dispute resolved.

13. Return or retention of facilities

13.1. All unexpended facilities or equipment supplied under this policy are to be relinquished immediately upon a councillor or mayor ceasing to hold office or at the cessation of their civic duties.

13.2. Should a councillor desire to keep any equipment allocated by Council, then this policy enables the councillor to make application to the General Manager to purchase any such equipment. The General Manager will determine an agreed fair market price or written down value for the item of equipment.

13.3. The prices for all equipment purchased by councillors under Clause 13.2 will be recorded in Council's annual report.

14. Publication

14.1. This policy will be published on Council's website.

15. Reporting

15.1. Council will report on the provision of expenses and facilities to councillors as required in the Act and Regulations.

15.2. Detailed reports on the provision of expenses and facilities to councillors will be publicly tabled at a Council meeting every six months and published in full on Council's website. These reports will include expenditure summarised by individual councillor and as a total for all councillors.

16. Auditing

16.1. The operation of this policy, including claims made under the policy, will be included in Council's audit program and an audit undertaken at least every two years.

17. Breaches

17.1. Suspected breaches of this policy are to be reported to the General Manager.

- 17.2. Alleged breaches of this policy shall be dealt with by following the processes outlined for breaches of the Code of Conduct, as detailed in the Code and in the Procedures for the Administration of the Code.

PART E – Appendices

Appendix I: Related legislation, guidance and policies

Relevant legislation and guidance:

- *Local Government Act 1993*, sections 252 and 253
- *Local Government (General) Regulation 2021*, sections 217 and 403
- Guidelines for the payment of expenses and the provision of facilities for Mayors and Councillors in NSW, 2009
- Local Government Circular 09-36 Guidelines for Payment of Expenses and Facilities
- Local Government Circular 05-08 legal assistance for Councillors and Council Employees.

Related Council policies:

- Code of Conduct

Appendix II: Definitions

The following definitions apply throughout this policy.

Term	Definition
accompanying person	Means a spouse, partner or de facto or other person who has a close personal relationship with or provides carer support to a councillor
appropriate refreshments	Means food and beverages, excluding alcohol, provided by Council to support councillors undertaking official business
Act	Means the <i>Local Government Act 1993</i> (NSW)
clause	Unless stated otherwise, a reference to a clause is a reference to a clause of this policy
Code of Conduct	Means the Code of Conduct adopted by Council or the Model Code if none is adopted
Councillor	Means a person elected or appointed to civic office as a member of the governing body of Council who is not suspended, including the Mayor
General Manager	Means the general manager of Council and includes their delegate or authorised representative
incidental personal use	Means use that is infrequent and brief and use that does not breach this policy or the Code of Conduct
long distance intrastate travel	Means travel to other parts of NSW of more than three hours duration by private vehicle
maximum limit	Means the maximum limit for an expense or facility provided in the text and summarised in Appendix 1
NSW	New South Wales
official business	Means functions that the Mayor or councillors are required or invited to attend to fulfil their legislated role and responsibilities for Council or result in a direct benefit for Council and/or for the local government area, and includes: <ul style="list-style-type: none"> • meetings of Council and committees of the whole • meetings of committees facilitated by Council • civic receptions hosted or sponsored by Council • meetings, functions, workshops and other events to which attendance by a councillor has been requested or approved by Council
professional development	Means a seminar, conference, training course or other development opportunity relevant to the role of a councillor or the mayor
Regulation	Means the <i>Local Government (General) Regulation 2021</i> (NSW)
year	Means the financial year, that is the 12 month period commencing on 1 July each year

**Coonamble Shire Council
Claim Form – Appendix III**

NAME: _____

I hereby submit the following claim for expenses incurred in attending:

<i>Date</i>	<i>Type of Meeting</i>	<i>Location</i>	<i>Km travelled (engine capacity 2.4L & less)</i>	<i>Km travelled (engine capacity 2.5L & above)</i>	<i>Date</i>	<i>Other expense details (receipts attached)</i>	<i>Amount claimed (\$)</i>
						Total other expenses	\$
Total Kms							
			@ 0.67/km	@ 0.76/km			

Councillor's signature: _____

Claim authorised by: _____

DRAFT Councillor Expenses and Facilities Policy

**Coonamble Shire Council
Prepayment Reconciliation Statement – Appendix IV**

Councillor: _____

Claim date: _____

Event: _____

Council Resolution: _____

Prepayment amount: _____

Claim details:

Cheque No	PREPAYMENT BY COUNCIL	\$	Less the following detailed expenses	
Date	Description of goods or services	Amount claimed	Tax invoice attached or Kms claimed	Job number (office use)

In cases a mileage allowance is claimed, please provide the following details:

Vehicle make/model: _____ Registration No: _____

Please tick: Vehicle engine capacity: Under 2.5 litre 2.5 litre & over

I certify that the expenses being claimed on this reimbursement form were legitimately incurred as part of my official civic duties as a councillor of Coonamble Shire Council and all receipts are attached.

Councillor: _____ Signed: _____ Date: _____

AUTHORISATION

Councillor: _____ Signed: _____ Date: _____

Title: Councillor Expenses and Facilities Policy		
Department: Governance		
Version	Date	Author
Updated	July 2019	
Updated	February 2022	Hein Basson
Updated	November 2024	Jenni Maundrell
Review Date: 2029		
Amendments in the release:		
Amendment History	Date	Detail
Adopted by Council	1 April 2022	Resolution 2022/38
Annexure Attached:		
<p>Paul Gallagher GENERAL MANAGER</p>		

Far North West Joint Organisation Regional Drought Resilience Plan

*Northwest NSW -
Coonamble Shire Council, Warren Shire
Council and Bogan Shire Council*

August 2024

Acknowledgement of Country

We acknowledge the traditional custodians of the lands we are on, including the Wailan,



Ngemba, and Wiradjuri People, and pay our respects to their Elders past, present, and emerging. We celebrate the strength, courage, and resilience of these communities, which inspire all generations to contribute towards a better New South Wales.

As individuals, communities, and governments, it is our collective responsibility to honour the culture and customs that have nurtured and continue to nurture this land. We endeavour to create a safe and inclusive environment for current and future generations, guided by wisdom of the traditional owners and aspirations of all who share this Country.

Foreword

This Regional Drought Resilience Plan (RDR Plan - 016) emerges from a collaborative effort across local government boundaries involving community consultation and with the Coonamble Shire Council, Warren Shire Council, Bogan Shire Council which together form the Northwest NSW Region.

This initiative embodies their collective ambition to significantly lessen the impacts of drought, enhance the viability of local businesses throughout these challenging periods, and sustain the economic productivity of the region. Together the Councils strive to enable their communities to emerge from period of drought more robust, adaptable and sustainable, with confidence of long-term liveability within the region.

The Northwest Region of NSW is an arid region of marginal rainfall and scarce water resources. The additional challenges posed by drought are not only a testament to the harsh realities faced by our communities, farmers, and landscapes but also reinforces resilience, innovation, and unity.

This plan is a proactive roadmap for our future, drawing upon the knowledge of our land, the ingenuity of our people, and the strength of our communities. It recognises that the wellbeing of our region is inextricably linked to our ability to anticipate, prepare for, and adapt to the changing environment and climatic events. By engaging with all sectors of the community, including Councils, businesses and farmers, the RDR Plan leverages local

knowledge, scientific research, and practical experience to forge a path forward.

Our region's history is marked by resilience in the face of adversity, and a constant awareness of water scarcity, driving the continual management of resources, whether in times of drought or relative abundance. The recent episodes of drought have underscored the necessity to enhance our proactive measures, focusing on strengthening our environmental, economic and social frameworks to mitigate these conditions.

This RDR Plan lays out strategic priorities and actions that will help us reduce the impact of drought, not only to support our communities during times of scarcity, but to improve the liveability of our communities to be more resilient in times of drought while ensuring the sustainability of our agriculture, local businesses and natural resources. By collectively enhancing these goals, we are setting a course for a resilient, economically vibrant, and sustainable future.

Our sincere gratitude goes to our people, partners and organisations who have contributed to the development of this plan. Your insights, expertise, and dedication have invaluable in forging a legacy of resilience for future generations.

Signed by Ross Earl
 Ross Earl
 Executive Officer
 Far North West Joint Organisation

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Introduction

The Regional Drought Resilience Planning Program (RDR Plan) ('The Program') is designed to enable local governments and their communities to better prepare for, respond to, endure and thrive during, and recover from drought.

The Far Northwest Joint Organisation (FNWJO) is a representative body for the three Shire Councils of Bourke, Cobar and Walgett. FNWJO lodged successful applications to develop a Regional Drought Resilience Plan on behalf of seven Councils of Bogan, Bourke, Brewarrina, Cobar, Coonamble, Walgett, and Warren Shire.

All seven councils are part of the Western Plains Functional Economic Region. The councils were grouped into two consortia based on their location within the Functional Economic Regions.

The first consortium, known as the Far Northwest Region, includes Bourke Shire, Brewarrina Shire, Cobar Shire, and Walgett Shire. The second consortium, known as

the Northwest Region, comprises Bogan, Coonamble, and Warren Shires.

This Regional Drought Resilience Plan (RDR Plan-016 or The Plan) relates to the Functional Economic Region of Bogan Shire, Coonamble Shire and Warren Shire. The Plan was codesigned with the Bogan, Coonamble and Warren Shire Councils and their respective communities, and for the purpose of RDR Plan-016 will be referred to as the **Northwest Region**.

The Plan included:

- A drought resilience literature review and an initial resilience assessment of the Northwest Region.
- Engagement with the community members, organisations, and local Councils.
- Development of initiatives and projects to improve the drought resilience of the region across four outcome areas:²

People, Culture, and Community	Enhance regional liveability, foster a robust and attractive community, and improve social resilience and wellbeing.
Economy	Expanding the business and agricultural sector's selfreliance and performance, ensuring stability and growth within the region's economy.
Landscape and Natural Environment	Improving the environmental resilience of the entire regional landscape, including agricultural lands and river systems.
Infrastructure and Built Environment	Strengthening infrastructure to support economic and environmental sustainability.

Figure 1 – Outcome Areas

¹ Far North West Joint Organisation (FNWJO) is a representative body for several local government organisations as proclaimed in the Local Government Amendment (Regional Joint Organisations) Act 2017 No 65. Joint organisations, by this proclamation, are formally included in the Local Government Act 1993.

² The outcome areas were derived from consultation with the communities and Councils of the Northwest Region.

The initiatives and projects form part of a Drought Resilience, Adaptation and Management model that has three pillars to prepare, respond and limit the impact of droughts. Those Pillars include³:

Pillar 1: Planning & Monitoring	Pillar 2: Responding to Drought Events	Pillar 2: Building Future Resilience
Implementing drought monitoring, early warning systems, and responsive planning.	Identifying vulnerable sectors and groups for targeted support during drought.	Undertaking measures to mitigate drought impacts and enhance long-term resilience, including initiatives across the outlined priority areas.

Figure 2 - Drought Resilience, Adaption and Management Model Pillars

The Northwest Region of New South Wales is confronted with a spectrum of challenges that are heavily influenced by shifts in demographics, economic dependencies, and vulnerabilities associated with extreme weather events.



Figure 3 - Drought impacts on social, environment and economy (Source: Adapted from Meridian Urban)

Demographic trends in the Northwest region show a concerning trajectory:

- an expected population decline of 11% over the next 15 years.
- a noticeable decrease of 1.8% in the population since 2018⁴.
- a dramatically ageing demographic, and
- the outward migration of younger generations, largely attributed to the pursuit of opportunities beyond the traditional agricultural sector and compounded by concerns regarding work-life balance and the uncertainties brought about by natural disasters.

These demographic shifts pose a considerable threat to the social and economic framework of the region, through reduced skilled workforce, ageing workforce and pressure on volunteers and business to do more with less. Strategies are essential to retain more young people in the region and to attract new, younger residents to contribute to the region’s long-term viability and prosperity.

Among the climatic concerns are anticipated increases in temperatures, modifications in rainfall patterns, and escalation of bushfire risks.

³Adapted from Crossman, 2018. Also see the United Nations Drought Resilience Adaptation and Management Policy Framework, (United Nations Convention to Combat Desertification) August 2019.

⁴NSW Government, Western Plains Regional Economic Development Strategy 2023 Update (February 2023), available at <https://www.nsw.gov.au/sites/default/files/2023-02/Western-Plains-REDS-2023-Update.pdf>.

These factors collectively underscore the necessity to implement robust adaptation and mitigation strategies. Such strategies will help protect and sustain the region’s agricultural productivity, biodiversity, and the overall health of the community.

To provide a geographical context for the Northwest Region, RDR Plan-016:

- Bogan Shire is situated at the junction of the Mitchell and Barrier Highways and located around the geographical centre of NSW. The Shire has an abundance of productive agricultural land for wool, cattle and cropping enterprises. Mining is also expanding. Bogan Shire Council has a population of 2467 people (ABS 2021), an area of 14,611 square kilometres and includes the town of Nyngan and the villages of Girilambone, Hermidale and Coolabah.
- Coonamble Shire is on the Castlereagh Highway between Dubbo and Lightning

Ridge and is bounded on one side by the Warrumbungle National Park and on the other by the Western Plains and Macquarie Marshes. The district’s broadacre dryland cropping and livestock grazing is highly productive. Coonamble Shire has a population of 3732 people (ABS 2021) an area of 9926 square kilometres and includes the villages of Gulargambone and Quambone.

- Warren Shire is located off the Mitchell Highway, 120 kilometres north west of Dubbo. The district has a highly productive agricultural industry, excelling in the production of sheep, wool, cattle, grain and cotton. Irrigation for farming is sourced from the Macquarie River. The Shire is known for the Macquarie Marshes and internationally renowned Merino Studs. Warren Shire Council has a population of 2550 people (ABS 2021), an area of 10753 square kilometres and includes the villages of Nevertire and Collie.

Coonamble, Warren and Bogan Shire Councils map

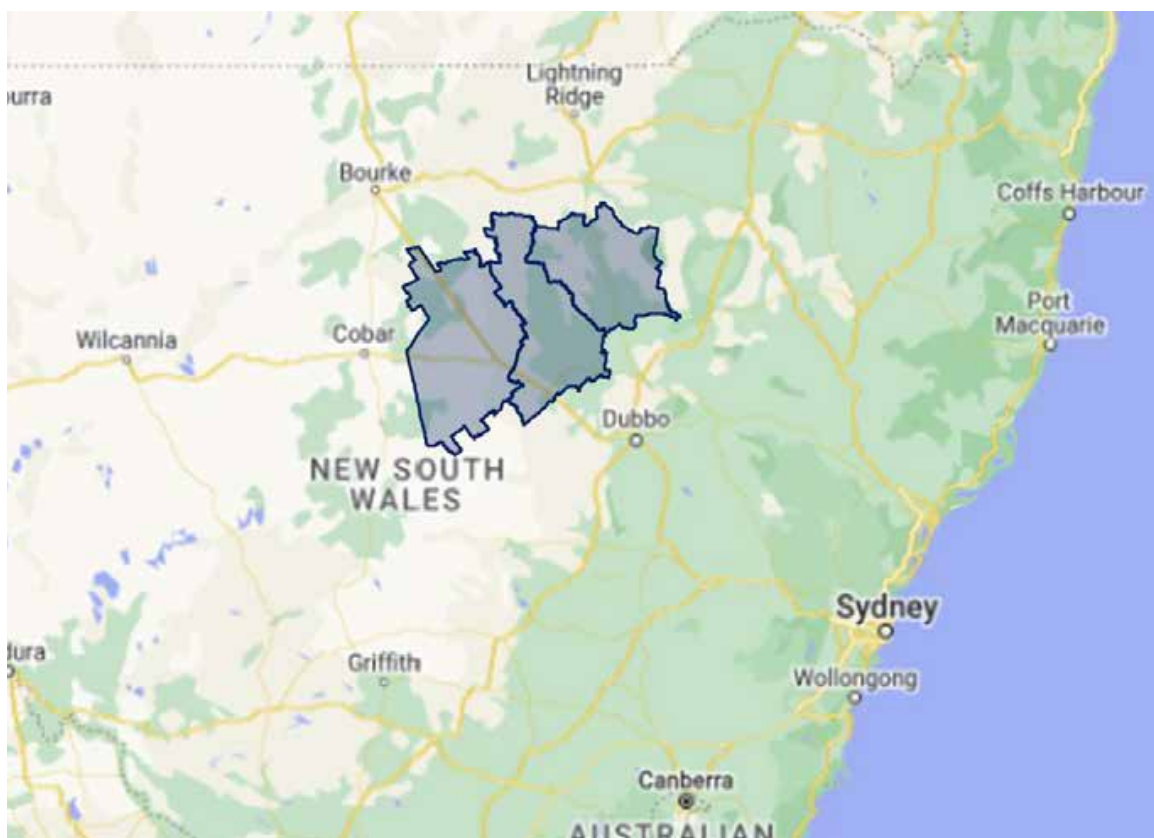


Figure 4 – Map of NSW with Coonamble, Warren and Bogan Shire Councils highlighted. (Google Maps, 2024)

Vision

In the Northwest Region, our resilience against drought is forged through collaboration and co-design with our communities and councils. This vision is built on a foundation of innovative practices, nurtured by strong local networks, and shaped by the diverse voices of our region. It acknowledges the inherently arid and harsh landscape of our regions.

Our vision is to:

- Cultivate a well-prepared and robust community, where every sector works together to sustain our way of life and enhance regional well-being.
- Focus on actions that protect our natural environment, strengthen our local economy, and enrich the social fabric of our community.
- Through collective effort, convert challenges into opportunities for growth and adaptation.
- Emerge from each drought more connected and resilient than before.

To underpin the vision, our strategy is to be dynamic and inclusive, continuously refined through dialogue with our community and adaptive to changing climatic conditions.

Our plan integrates adaptive strategies to respond to changing conditions. This includes continuous monitoring of water resources, flexible infrastructure projects, and community driven initiatives that can be adjusted as new information and technology becomes available.

Strategic investments in water infrastructure, connectivity and sustainable practices are designed to enhance capacity to adapt to future climatic variability.

This plan was developed from extensive stakeholder engagement, involving local government, community members and groups, and various industry sectors. Initial consultations included diverse representation from local Councillors, farmers, businesses and residents. Feedback was gathered through workshops, surveys and follow-up meetings, ensuring that the plan reflects the community's needs and priorities.

⁵ Investment logic mapping is an early-stage technique that assists in developing and documenting the logic that underpins a potential investment decision, before specific solutions are identified, and before a decision is made. Note: The program 'Logic Map' does not represent a theory of change.

By moving forward together, the intent is that we safeguard our region's vitality, preserve our natural resources, and build enduring resilience to drought. Through ongoing dialogue and collaboration, we ensure that the plan remains relevant and effective, with a strong emphasis on local leadership and community engagement.

Through this collective effort, we aim to convert challenges into opportunities for growth and adaptation, ensuring we emerge from each drought more connected and resilient than before.

Drought Resilience at a Glance

Drought resilience in our region is defined as the capacity of communities, local governments and other stakeholders to anticipate, prepare for, respond to and recover from drought conditions. This resilience is rooted in our ability to adapt, transition and transform our economic, social, and environmental systems in the face of changing climatic conditions. It reflects our commitment to maintaining and enhancing the vitality of our region through collaborative efforts and innovative practices.

Bogan, Coonamble and Warren Shires emphasise that resilience within the region should not just encompass the capacity to withstand drought, but also the ability to transition and transform their systems when maintaining the status quo is no longer viable. This includes exploring new economic opportunities, adopting sustainable agricultural practices, and fostering social cohesion and connectivity.

The Drought Resilience Program 'Logic Map'⁵ is a tool that solidifies our resilience plan into a clear, actionable sequence. It provides stakeholders with an immediate understanding of the steps we are taking to strengthen the region's ability to manage drought conditions.

The 'Logic Map' serves as a focused overview, ensuring that every element of the plan is

aligned with key objectives of preserving regional vitality and managing resources sustainably. It operates as both a planning guide and a communication framework.

By presenting this at-a-glance summary, the Logic Map becomes a foundation of the plan's

implementation, facilitating co-design across all levels of involvement. This plan recognises that resilience is not just about returning to pre-drought conditions but about evolving and strengthening our systems to better withstand future challenges.



Figure 5 – Drought Resilience Logic Map (The Stable Group, 2024)

A Plan for Drought Resilience

The Regional Drought Resilience Planning Program (RDRPP) is one of the five focus areas of the Commonwealth Government's Future Drought Fund. The NSW RDRPP is jointly funded through the Australian Government's Future Drought Fund and the NSW Government, supporting local governments to work together regionally to plan for drought resilience proactively and pragmatically. The resulting plans focus on innovative ways to build regional drought resilience, taking steps to plan now to stem the impact of future drought on our region.

Objectives

Consistent with the strategic priorities and objectives of the Future Drought Fund Agreement, the objectives of the RDR Plan for Bogan, Coonamble and Warren are to:

Develop the agricultural sector's self-reliance and economic performance:

- Promote diversification within the agricultural sector to reduce dependence on traditional farming.
- Strengthen local supply chains and improve infrastructure to support agricultural productivity and resilience.

Develop the environmental resilience and natural capital of agricultural landscapes:

- Promote sustainable land management practices that protect and enhance natural ecosystems, such as the Macquarie Marshes and other critical habitats.
- Enhance groundwater resources for agricultural and domestic use, ensuring equitable access to water across the region.

Strengthen the social capital and wellbeing of the communities:

- Foster social cohesion to mitigate the impacts of isolation and mental health challenges.
- Improve telecommunications and digital connectivity to reduce social isolation and support community and economic activities, particularly in remote areas.

- Support volunteer networks and reduce volunteer fatigue by providing resources and recognition for community contributions.

Understand and plan for the region's current and future drought resilience by identifying actions, pathways, and opportunities for mitigation, adaptation and improvement:

- Engage with diverse community groups, including First Nations people, young families, and youth to co-develop and continuously refine resilience strategies.
- Ensure ongoing consultation and engagement with stakeholders to adapt strategies to changing climatic conditions and emerging challenges.

The objectives of this plan were derived from the initial extensive in-person consultation, with workshops held across four locations – Coonamble, Marra, Warren and Nyngan, attended by 58 community representatives (~12% under 40). Participation by representatives from NSW Farmers, Progress Associations, Chambers of Commerce, environmental groups, the mining industry and agricultural industry, as well as active community members, meant that the objectives that guided the project reflect the wider community needs, rather than being constrained to a particular group.

This plan identifies priority projects and an implementation pathway to achieve the outcomes and objectives of the RDR Plan. It integrates insights and contributions from stakeholders, so identified projects are practical and impactful align with local conditions, resource capacity and capabilities.

Strategic Alignment

The Northwest RDR Plan is consistent with National Framework for Drought Policy (National Drought Agreement) and Australian Government Drought Response, Resilience and Preparedness Plan. The Plan has a focus on long term resilience and preparedness.

The Plan also has strong alignment with national, state, regional and local plans, strategies and policies⁶ including the:

⁶ Refer to Appendix 3 – Background Contexts and Key Inputs for the alignment and relevance of studies, Global academic and government derived strategies to the Plan.

- NSW State Infrastructure strategy - guiding principles:
 - **Strengthen service reliability and resilience** – investments in existing assets should focus on lifting the reliability of those assets and resilience of communities most at risk of disruptive events.
 - **Optimise existing assets and networks** – opportunities to fully utilise existing assets should be prioritised, including through augmentation of existing networks, maintenance and upgrades.
 - **Partner with local governments and communities** – engagement and involvement of local governments, communities and other stakeholder groups should be embedded throughout planning, design, delivery and operation.
- NSW Water Regions priorities and objectives.
- Regional Economic Development Strategies (REDS) for the applicable Functional Economic Region (FER).
- Local Government Area Integrated Water Cycle Management / Regulatory and assurance framework for the local government councils / water supply authorities exercising water supply and sewerage functions and the Local Government Act 1993 or the NSW Water Management Act 2000.
- Regional Water Strategy for the Local Government Area.

Further, the development of the plan also included consideration of:

- Investment logic mapping.
- CSIRO Regional Drought Resilience Plans, Independent Review Guide.
- NSW Department of Planning and Environment – Water guidance notes for options assessments.
- Regional NSW – Business Case and Strategy Development Fund Regional Infrastructure Business Case Template.
- Alignment to the competency of the local water authority (ability to fund and operate).
- Consideration of the Objectives of the Australian Government Future Drought Fund.

About this Regional Drought Resilience Plan

Purpose of the Plan

The Northwest RDR Plan has been developed in accordance with the guidelines set within the NSW Government Regional Drought Resilience Program. Through co-design, knowledge sharing, and strategic action, with key stakeholders and the voices and experiences of the region's people, the RDR Plan seeks to:

- Build strong, resilience social and community networks that are essential for thriving in an uncontrollable and often harsh climate, through fostering the ability of the communities to adapt and transform in response to social, environmental, and economic shocks and uncertainties, ensuring continuity and support during times of crisis.
- Foster connectivity within and across the communities in the region, contributing to great social capital, well-being, and security.
- Empower the communities to implement transformative activities that enhance their resilience to drought and support sustainable natural resource management, through measures to adapt to changing conditions and mitigate the impacts of drought on industries beyond agriculture, such as tourism, local business, and services, thereby sustaining overall economic vitality of the region.
- Mitigate the economic, social, and environmental impacts of drought, ensuring the long-term productivity and sustainability of the region.
- Improve the region's effective adaptability and maintain economic vitality through sustainable practices and careful stewardship of both human and commodity resources.

The RDR Plan process is intended to be practical, implementable and ongoing. As the region undertakes the specified actions, this plan will assist with monitoring progress and future learning.

The Process for RDR Plan Development

The planning process for the Northwest region: incorporating Bogan, Coonamble and Warren Shire Councils involved a four-stage process (Figure 4).

1. A broad governance structure.
2. A Regional Drought Assessment to provide a robust evidence base using wide consultation.
 - o Consultation with the Bogan, Coonamble and Warren communities.⁷
 - Engaged with 58 community members through 4 community consultations, capturing the voices of stakeholders ranging from Local Shire Councillors to carbon farmers and mining industry representatives.
 - Considered contributions from across the region, with varied participants like health workers, educators, and NSW Office of Regional Youth.
 - Media outlets were utilised to invite the community to consultations, resulting in additional post-consultation interactions, including 2 written submissions and 2 telephone calls, enriching the understanding of the community's needs and concerns.
 - o Initial identification of the Council's priorities.
 - o Review of related Federal and NSW Government policies, initiatives and potential assessment criteria related to potential projects under the program.
 - o Review of over 40 community strategic plans, economic development strategies, drought management plans, and regional water strategies, etc; to determine past and future impacts of drought and identify existing commitments. These included:
 - Council Community Strategic Plans.
 - NSW Government's Regional Economic Development Strategies (REDS) for each of the Functional Economic Regions (FER).
 - Barwon – Darling Valley Annual Surface Water Quality Report.
 - Far West Enabling Regional Adaptation Report.
 - Far West Regional Plan.
 - Western Regional Water Strategy.
 - Macquarie – Castlereagh Water Strategy.
3. The RDR Plan, which provides a high-level summary of the findings. The Plan includes actions and interventions to mitigate drought impacts in the region.
 - o Further engagement and visits to the Bogan, Coonamble and Warren regions.
 - o Development of Technology Report, listing the Priority Drought Resilience Projects and information developed for each Project.
4. An Investment Framework
 - o Development of a pathway for each of the priority projects to be taken forward.
 - o Provision of the draft plan for comment by the FNWJO and Councils.
 - o Provision of the final plan to the FNWJO.

Background Contexts & Key Inputs

This plan draws from, complements, and builds upon previous work in developing a regional profile and identifying the impacts of past and future droughts. (**Refer to Appendix 3**).

⁷ Refer to the Stakeholder Engagement Plan and Consultation Report at Appendix 5.

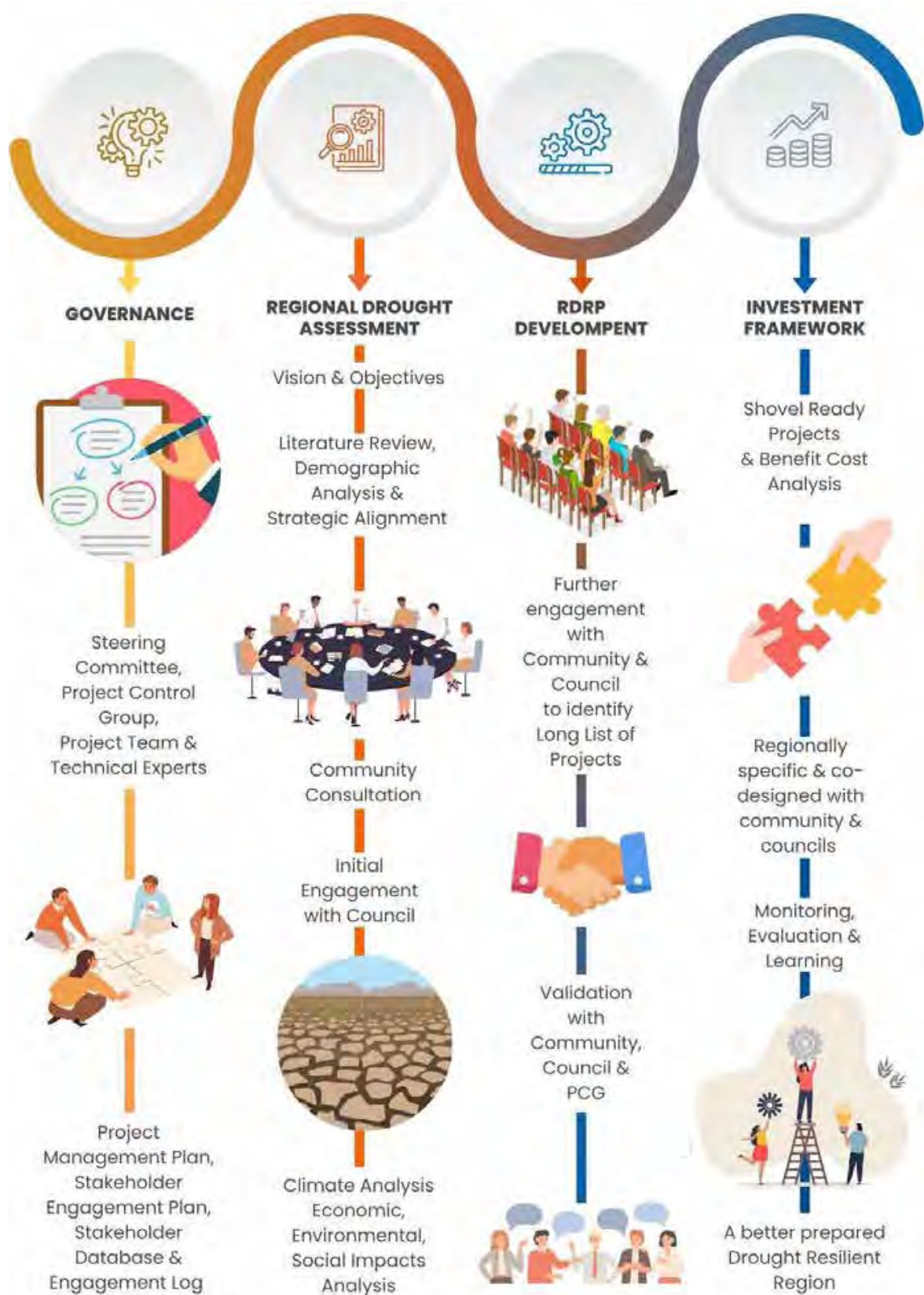


Figure 6 – Process for RDR Plan Development. (The Stable Group, 2024)

Other Important Linkages

It is the intention of this Plan that it is considered and factored into a range of other strategies and plans – including (but not limited to) the following list.

- regional plans
- regional economic development strategies
- regional transport and infrastructure plans
- natural resource management plans
- water resource plans
- local and district disaster management plans
- local asset management and capital works plans
- local corporate and community development plans
- land use planning schemes
- local and regional health strategies

The intention is also, that this plan will be closely considered by charities; non-government organisations; not-for-profits; businesses; and government agencies with an interest in the region.

Our Partners

Broad stakeholder engagement was conducted in developing the RDR Plan, including contributions from the Stable Group and the Far Northwest Joint Organisation. The Project Reference Group⁸ provided essential local insights, helping to refine strategies and define drought resilience actions.

Initial consultations with communities took place from 10 to 14 February 2024 in Coonamble Shire, on 14 February in two locations in Warren Shire, and on 15 February in Bogan Shire, leading to the development of a long list of projects (Appendix 4).

Projects were further refined through a second round of consultations conducted via Microsoft Teams, engaging representatives from all four Shires, despite lower attendance compared to earlier meetings. A survey was circulated to gather additional input on project prioritisation, receiving feedback from 18 community members.

Community consultations were coordinated closely with local councils and regional management bodies and adhered to strategic priorities of economic, environmental, and social resilience. Sessions used the Drought Resilience Logic Map to focus discussions on understanding community perceptions, drought-related risks, and potential resilience actions.

Stakeholder engagement was complemented by a commissioned review of drought innovation, identifying potential transformative projects across multiple resilience research areas such as water management, digital technology, and community development. (Refer to Appendix 5).

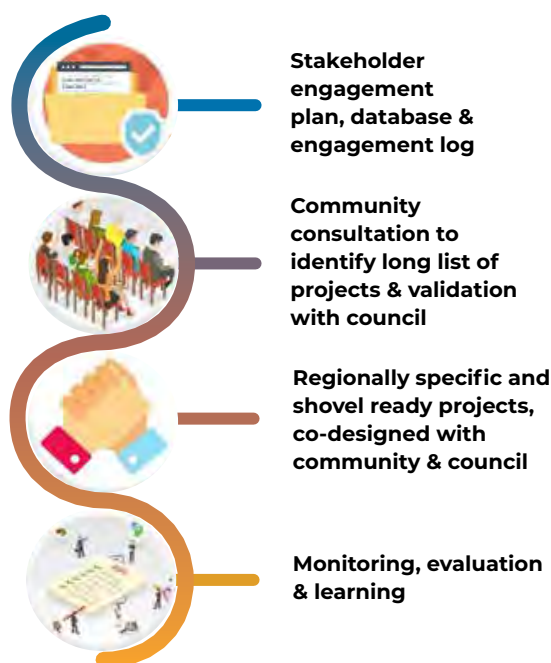


Figure 7 – Stakeholder Engagement Process for RDR Plan Development. (The Stable Group, 2024)

This early engagement facilitated the integration of diverse regional knowledge and expertise, culminating in a collectively owned, region-specific plan. This process not only identified key regional priorities but also ensured the plan was co-designed with the community and council to address the unique challenges and opportunities in Northwest NSW.

⁸ SRG members include participating council representatives and NSW Government representatives. The SRG is co-ordinated by the Far North West JO

Regional Profile

The portion of the Northwest region, which is covered by this plan, covers an area of 35,297 km², and includes the Coonamble, Warren and Bogan Shire Councils (Figure 5). It is home to over 8,749 people. The majority of the population, services and administration of the Region are centred in Dubbo.

The region spans country of the Wiradjuri, Wongaibon, Weilwan, Ngemba, and Kamilaray Nations.



Figure 8 – Map of Region that the RDR Plan covers with Coonamble, Warren and Bogan Shire Councils labelled. (Google Maps, 2024)

The key-socio-economic statistics for the Northwest regions and each of the three LGAs are:

Bogan		Coonamble		Warren	
Population			Australian Digital Inclusion Index		
2,467	3,732	2,550	2,467	3,732	2,550
Projected Population (2041)			Unemployment Rate		
1,581	2,965	1,755	3.2	6.7	3.2
Median Age			SEIFA 2016 Socio-Economic Index of Social Disadvantage		
41	39	37	948	893	952
Aboriginal & Torres Strait Islander Peoples			Number of Local Businesses		
440	1,267	392	449	589	449
% of Aboriginal & Torres Strait Islander Peoples			Population that Need Assistance due to Disability		
17.8	33.9	14.3	153	257	180
% People who speak a language other than English at home			Decline in Population 2001 - 2021 (%)		
440	1,267	392	-20.1	-18.9	-19.2
Median Total Personal Income (\$/yr)			Decline in Aboriginal & Torres Strait Islander People 2001 - 2021 (%)		
41	39	37	+34.9	+32.9	+5.6

Figure 9: Socioeconomic Profile of Individual Local Government Areas (Source: ABS, REMPLAN, NEMA (2024))

The Natural Landscape of the Region

The Northwest region of New South Wales encapsulates a rich tapestry of natural landscapes, from the sprawling plains to riverine ecosystems and significant conservation areas. These landscapes not only define the physical character of the regions but also underpin their ecological, cultural, and economic vitality.

Geographical Overview and Biodiversity

The geographical diversity of these regions supports a wide range of ecosystems, each with unique biodiversity, as follows:

- Nyngan, the main town in the Bogan Shire is situated along the Bogan River and features expansive plains that support a mix of natural bushlands and Bogan River weir pools supporting birdlife and threatened species as well as agricultural lands.
- Coonamble Shire is renowned for its highly productive fertile floodplains along the

Castlereagh River and natural grasslands.

- The Macquarie Marshes, within the Warren Shire, represent one of Australia’s most significant wetlands, offering vital habitats for myriad bird species, including migratory birds and waterbirds.

Agricultural Land Use

Agriculture forms the backbone of the Northwest Region economies with land use typically a balance between cropping, grazing, and conservation. Bogan Shire and Coonamble Shire focus on broadacre, dryland farming and livestock grazing reflecting the adaptation to the semi-arid climate. Warren benefits from the Macquarie River and the Albert Priest Channel, enabling diversification into irrigated agriculture, especially cotton, which contributes to its economic profile.

There has been a significant increase in land values which have doubled in some areas in the past 10 years. Agricultural land is seen as a viable investment and developed land is attracting a premium.

The following tables outline the primary agricultural activities, along with the key crops or livestock associated with each Shire.

Bogan Shire	
Total area of LGA (ha)	1,461,100
Primary Agricultural Activity	Grazing sheep and cattle, Broadacre dryland farming, wheat, barley
Total area of broadacre crops (ha)	167,377
Total gross value agricultural production	\$232,690,000

Coonamble Shire	
Total area of LGA (ha)	992,600
Primary Agricultural Activity	Grazing sheep and cattle, Broadacre dryland farming, wheat, barley & chickpeas.
Total area of broadacre crops (ha)	226,948
Total gross value agricultural production	\$266,170,000

Warren Shire	
Total area of LGA (ha)	1,076,000
Primary Agricultural Activity	Grazing sheep and cattle, Broadacre dryland farming & Irrigated Cropping
Total area of broadacre crops (ha)	194,479
Total gross value agricultural production	\$249,260,000

Figure 10: Primary Agricultural Activities of each Local Government Area. (Source: REMPLAN, NEMA, Warren Shire Council (2024))

Natural Water Resources and Management

During the most recent drought, from January 2018 – January 2020, the Barwon-Darling Valley experienced extreme hot and dry conditions, which led to substantial reductions in river flow and water quality, as well as impacted community water supplies and aquatic habitats.

Availability of, and access to water from both groundwater and surface water resources is an essential enabler of diversity and prosperity of communities, agriculture and industry in the Northwest Region. Given the variability of rainfall and historic droughts, current efficient water uses and sustainable management practices are an essential part of the lived experience.

Existing strategic planning efforts and recent community consultations have endorsed water efficiency and water management as a critical concern across the Northwest Region. The Northwest Region supports strategic planning efforts which address the challenges of water security not only for communities, but for environmental, agricultural and industrial sustainability of their communities.

Water is a highly valued and emotive resource, and the Northwest Region is under continuous threat from inaction; high costs and slow processes; perverse outcomes of water policy or aspirations of industry. Community have expressed a frustration caused by inactivity on water management during RDR Plan consultation. Examples include:

- **Inaction:** The Albert Priest Channel carries water from the Macquarie River at Warren to Nyngan where it meets the Bogan River. Evaporation rates are high and recommendations of the Water and Drought Security Report to line the channel or pipe the channel have not proceeded.

As demonstrated by the very effective Cap and Pipe the Bores Scheme, more efficient movement of water and conservation of water would give industry security into the future enabling investment and creating employment opportunities.

Bogan Shire Council has a counter rational to community with concerns that the costs associated with piping the Albert Priest Channel is not a priority due to costs; and lining of the APC has never been a recommendation by Bogan Shire Council due to the impossibility of protecting the lining from stock and wildlife damage and associated renewal costs. Water Security for the Bogan Shire is a contentious issue, with no easy fix.

- **High costs and slow processes:** Despite the Burrendong Dam reaching 145% capacity during the last flood without structural implications, advocacy to upgrade the Burrendong Dam to provide resilience against future droughts through increased water storage, is not being actioned quickly enough. Increasing the capacity of Burrendong Dam by 20% alone, will enable an extra 200 GL of water storage, the total consumption of water for agricultural and residential purposes in one year. The Federal and NSW Labor Governments are investing \$9.35 million to develop a Final Business Case for the Macquarie-Wambuul Water Security Scheme including changes to Burrendong Dam to increase water supply in the flood mitigation zone of the dam. This is the next step in a thorough and rigorous process and will be subject to further analysis before any decisions are made.

- **Perverse outcomes of government Water Buyback Policy as part of the Murray Darling Basin Plan (MDBP):** Under legislation that was updated in 2023, another 450 gegalitres of water must be bought back from Murray Darling irrigators by the government by

2027. To date, under the Basin Plan, 83GL have been recovered from the Macquarie Valley, above and beyond the legislated target of 65GL, and dramatically higher than the 20GL originally proposed by the Murray Darling Basin Authority (MDBA) in 2010. The over recovery of environmental water has perversely impacted the economic and social structure of Warren Shire with

downturn in the local economy, loss of jobs and population.

• **Aspirations of industry:** Access to the Great Artesian Basin in Coonamble Shire and the northern parts of Warren Shire for stock and domestic water supply is crucial and a highly valued resource Coonamble Rallied against the fracking of underground water reserves in the Great Artesian Basin.

Below is a table that provides an insight into the key natural water resources within each Shire:

Shire	Key Natural Water Resource	Use
Bogan	Bogan River and Albert Priest Channel	Agriculture, Town Water Supply
Coonamble	Castlereagh River and Great Artesian Basin	Agriculture, Biodiversity Conservation, Town Water Supply
Warren	Macquarie River and Albert Priest Channel, Great Artesian Basin in the north of the LGA	Irrigated Agriculture, Agriculture, Biodiversity Conservation, Town Water Supply, pipeline to Cobar

Figure 11: Key Natural Water Resources of each Local Government Area

Regional Weather and Climate Characteristics

The Northwest Region, exhibits variability of climatic conditions, profoundly influenced by water availability and extreme temperature.

North-west Regional Weather and Climate Characteristics include:

- Average maximum temperatures during summer ~ 34°C.
- In winter, the average minimum temperature ranges from 4–6°C.

- Over 50 hot days are experienced Northwest of Nyngan.

- The number of cold nights (< 2°C) experienced < 20°C northwest of Nyngan.

Rainfall across the Northwest Region demonstrates a gradient from east to west. Coonamble mean rainfall is 499mm annually, transitioning to approximately 442mm in Nyngan. This gradient is mirrored and exacerbated by evaporation rates, underscoring the challenges of water management in areas where evaporation outpaces rainfall.

The following table describes the climate characteristics for different periods and their impacts on the Northwest Region:

Period	Characteristic	Impact on Macquarie - Castlereagh Region
1900s - 1940s	Dry Period	Marked by short to decadal droughts, setting a precedent for dry conditions.
1950s - 1990s	Wet Period	A relatively moist interval, providing relief and replenishing water sources.
Post-Millennium Drought	Return to Dry Period	Illustrated by extreme variability, significant droughts and flooding events.

Figure 12: Climate impacts on the Northwest Region

Society, Population and Demographics

The social fabric of the Northwest Region is marked by a strong sense of community, resilience, and adaptability. These characteristics are crucial in facing the socio-economic challenges and leveraging the opportunities that arise from demographic shifts and economic transitions. Residents of the North West Region have long established generational ties to the land - both First Nations and non-Indigenous families and have a strong

sense of the region being “home”.

The population of the Northwest Region has witnessed a continual decline over many years due to a range of factors including economic opportunities, lifestyle preferences, and access to essential services. Drought and prolonged dry periods have been a trigger for families and younger people to move out of the region to fulfil educational, business and career aspirations resulting in a sustained and significant loss of population over many years. This is a concerning trend as Australia and NSW’s populations continue to increase.

The following demonstrates loss of approximately 20% of the population in the 20 years from the 2001 census to the 2021 census.

Census Information	Population of Bogan LGA	Population of Coonamble LGA	Population of Warren LGA
2001 Census Year	3083	4567	3150
2021 Census Year	2467	3732	2550
Total population loss	- 616	- 835	- 600
Average change per annum	- 30.8	- 41.75	- 30
% loss over 20 years	20%	18%	19%

Figure 13: Population decline of the Northwest Region 2001-2021. (Source: ABS 2024)

A key characteristic of the population in the Northwest Region is the aging population, placing additional pressure on aged care service delivery, healthcare, and community support structures. The Northwest Region is also challenged by the outmigration of younger people to regional centres such as Dubbo or to larger cities in search of education and employment opportunities.

Despite the obvious trend, each Council remains optimistic and embraces opportunities to improve the liveability of their community and attract skilled workers. For example:

- **Bogan and Nyngan:** These areas have witnessed fluctuating population trends, largely influenced by employment opportunities in agriculture and mining sectors. Efforts to diversify the economy and improve local infrastructure are aimed at stabilising and potentially increasing the resident populations.

- **Coonamble:** Faced with a declining population over the years, Coonamble has been focusing on revitalising the community through enhancing local services, supporting agricultural innovation, and promoting cultural and eco-tourism as means to attract new residents and retain existing ones.

- **Warren:** Warren has experienced demographic shifts driven by changes in the agricultural sector and water resource challenges. Community resilience and adaptability are evident in efforts to attract investment and develop sustainable practices.

Built Form and Infrastructure

The Northwest Region exhibits a diverse array of built environments, from historic town centres with heritage buildings to modern agricultural and mining infrastructures that underscore the regions’ economic foundations.

Urban areas typically feature a mix of residential, commercial, and public buildings that cater to the local community's needs, whereas rural areas are characterised by extensive agricultural lands, supported by infrastructure such as homes, fencing, silos, sheds, and irrigation systems.

An observation to note across the region is the increase in vacant buildings in the CBD of each of these towns. Many buildings are owned by older people who are relying on the capital asset for superannuation and have unrealistic expectations for re-sale value. The buildings are often left vacant, in need of repairs and maintenance and no longer "fit for purpose" for new and emerging businesses. Younger businesspeople are opting to work from home, co-share workspaces or have on-line business. This change to business models is reducing the need for traditional "shop fronts" and are leaving our empty spaces in our CBD's.

Despite significant advancements, the Northwest Region's councils face challenges related to aging infrastructure, water security, and the need for change to sustainable energy and digital connectivity solutions. Addressing these challenges is crucial for future-proofing the regions against economic and environmental pressures.

- **Bogan Shire Council:** Infrastructure development has been geared towards supporting the mining and agricultural sectors, with significant investments in road and rail upgrades to improve logistics and transport efficiency. The Nyngan Solar Power Plant represents a milestone in the regions' move towards renewable energy. Bogan Shire Council is improving off-river storage with \$20 Million in recent years spent on water security infrastructure.
- **Coonamble Shire Council:** Coonamble's focus has been on enhancing water management systems and upgrading local roads and bridges to support its agricultural base. Efforts to improve flood mitigation and water storage capabilities are ongoing.
- **Warren Shire Council:** Infrastructure in Warren includes the development of water conservation and management projects to support both the town's needs and the surrounding agricultural lands. The town also benefits from investments in community facilities and recreational spaces to improve residents' quality of life.

Significant investments in infrastructure such as mines, feedlots, grain storage facilities and cotton gins underscore the region's role as both an importer and exporter of freight, supporting a diverse range of industries from agribusiness and mining to manufacturing.

Future investment projects shaping the Northwest Region

Current planned or ongoing investment projects of note that will have a significant investment and disruptive effect in the Northwest Region are:

- **Inland Rail:** A transformative infrastructure project enhancing freight efficiency, supporting over 21,500 jobs at peak construction, and providing long-term economic development opportunities.
- **Renewable Energy transition and Resource Sectors:** The region's transition towards renewable energy, including solar, wind, and bioenergy projects, is pivotal in driving economic diversification and reducing carbon emissions. With 75% of the state's coal-powered electricity generation expected to reach the end of its technical life within 15 years, the transition to renewable energy sources is underway. This transition will require significant infrastructure development to connect new energy sources.
- **Digital Connectivity:** Improvements in digital infrastructure to improve NBN and mobile services are vital for economic and social participation, particularly for smaller centres leveraging their locational advantages. "Black spots" are quite obvious to landowners and travellers between towns and villages.

Further water and energy security projects are critical for sustaining regional development, with projects aimed at ensuring reliable access to these essential resources.

A coordinated approach to planning and infrastructure development is essential to maximise investment benefits for the region and minimising the disruptive impacts. Strategic land use planning, lifestyle blocks and housing development, and infrastructure is essential to support the needs of the changing demographic and economic opportunities. Disruptive impacts may include:

- The increased reliance on a temporary workforce is impacting the economy of the Northwest Region towns. The proximity of some of the projects may provide drive-in-

drive out opportunities for residents in competition with local job opportunities.

- Extra competition may arise to provide suitable local housing choices and services that cater to both temporary and permanent residents. Housing reserves are often run down and efforts to provide housing that meets the diverse needs of the community are crucial in supporting the region’s growth and prosperity.

Economy

The Northwest Region is a complex and at times vibrant economic landscape, marked by a reliance on agriculture, alongside growing industry of mining and emerging industries such as tourism and renewable energy. Overall, Northwest Region has a Gross Regional Product of approx. \$715 M, with mining and agriculture being significant contributors.

	Bogan LGA (2024)	Coonamble LGA (2023)	Warren LGA (2018)
Gross Regional Product*	\$272 M	\$271.35 M	\$171.22 M
Value of Agriculture, Forestry and Fishing economic output	\$67 M	\$180.2 M	\$158.72 M
Value of Mining	\$66 M	\$0	\$0
Number of jobs in Agriculture, Forestry and Fishing	381	414	463
Number of jobs in mining	380	0	0
Total jobs	1280	1408	1113

Figure 14: Gross Regional Product (GRP) and the economy by Shire. (Source: REMPLAN, NEMA, Warren Shire Council (2024))

Natural Water Resources

Traditionally, agriculture stands as the cornerstone of employment across the Northwest Region. Employment levels and the nature of work have undergone significant changes over recent decades. A trend towards larger, more mechanised farms has reduced the demand for local unskilled and semi-skilled labour, exacerbating unemployment in small towns and communities which is compounded during periods of drought.

The employment landscape is diverse, with substantial roles played by the health care, social assistance, manufacturing, construction, and retail sectors. The Northwest Region faces challenges from external pressures like pandemics and climate variability, yet the promise of projects such as Inland Rail, renewable energy initiatives, and strategic infrastructure investments offer pathways to resilience and growth.

Bogan Shire's, mining and agriculture are the primary economic drivers, contributing significantly to the region's \$272 million GRP in 2024. The presence of minerals like copper, zinc, and lead has historical roots, yet the area's economy remains diversified, with health care, education, public administration, and retail trade also providing substantial employment. Nyngan, known as the Gateway to the Great Outback, has a strategic location on the on the junction of the Mitchell Highway and Barrier Highway offers a gateway to major freight networks, presenting opportunities for value-adding in agriculture and tapping into global markets for commodities.

Coonamble's economy, while robust, is heavily dependent on agriculture, which accounts for a substantial portion of Gross Regional Product which was \$271.35 M in 2023. The impact of recent droughts, overshadowing even the global pandemic, underscores the need for economic diversification. The Inland

Rail project which will be accessible from the railway junction at Curban presents an opportunity for local employment and industry benefits, with economic uplift projections indicating potential growth in jobs, GRP, and output over a decade.

Warren Shire's Gross Regional Product (GRP) is estimated at \$171.22 million, emphasising the economic significance of its agricultural base. This sector, along with retail trade, education, training, health care, and public administration, accounts for the majority of local employment. The strategic positioning of major freight routes, including the Oxley and Mitchell Highways, further enhances Warren Shire's economic activity, connecting it to broader markets and facilitating the movement of goods.

Tourism in Warren Shire, notably branded as the 'Gateway to the Marshes,' is on the rise, fuelled

by its natural attractions such as the Macquarie Marshes Nature Reserve, a site of international ecological importance. This natural asset not only contributes to the community's quality of life but also attracts visitors, making tourism an emerging sector. However, external factors such as the COVID-19 pandemic, drought, and flooding have left indelible marks on the region, particularly affecting agriculture and tourism.

The economic narratives of Warren, Bogan, and Coonamble highlight the regions' adaptability and potential for sustainable development. Significant challenges have continued to diminish the liveability of the Northwest Region and create uncertainties for investment, yet by leveraging natural assets, strategic location, and emerging opportunities, it may be possible to navigate the complexities of economic diversification, ensuring longterm prosperity and resilience in the face of challenges.

Our History of Drought Impacts

Of all the climate and weather-related conditions that affect Australia, drought is often the most challenging. New South Wales (NSW) in particular, is prone to periods of persistent drought.

Droughts are a natural and recurring feature of the Australian climatic cycle. As such, droughts will come again, and they are anticipated to get worse.

Droughts are challenging times, not just at the farm gate. Droughts do not appear suddenly like other natural disasters or events. They are incremental and start with a dry spell that becomes persistent.

(Regional Drought Resilience Planning: Project Narrative, NSW Government)

The history and impacts of drought in the Northwest Region are characterised by their extensive challenge to economic livelihoods, social structures, and environmental sustainability. Droughts are stressful for farmers, communities and those providing services in the region. Conversely, drought also highlights the resilience and adaptive measures being employed to mitigate these impacts.



Figure 15 - Farm in drought conditions in the Northwest of NSW (NSW Agriculture)

Drought Declaration

Australia has highly variable rainfall records and highly variable periods of low rainfall. Drought is difficult to predict, and difficult to determine a start point as the creeping reality of a “dry period” becomes more severe and pervasive. Droughts are difficult to compare with differences in seasonality, extent, duration, severity, among other variables all contributing to the drought experience⁹. The end of a drought is also difficult to declare with the distressing economic and social impacts being felt long after the landscape has recovered.

Drought in Australia, redefined in policy approaches since the 1990s from a ‘natural disaster’ to a ‘manageable risk’, places farmers in the role of risk managers tasked with planning for recurring drought events rather than as victims of unforeseeable catastrophes. This shift underscores the complexity of drought as not just a meteorological event but a socioeconomic crisis that requires a proactive and informed response from all sectors of society.

The Bureau of Meteorology has four definitions of drought¹⁰, which are meteorological, agricultural, hydrological and socio-economic.

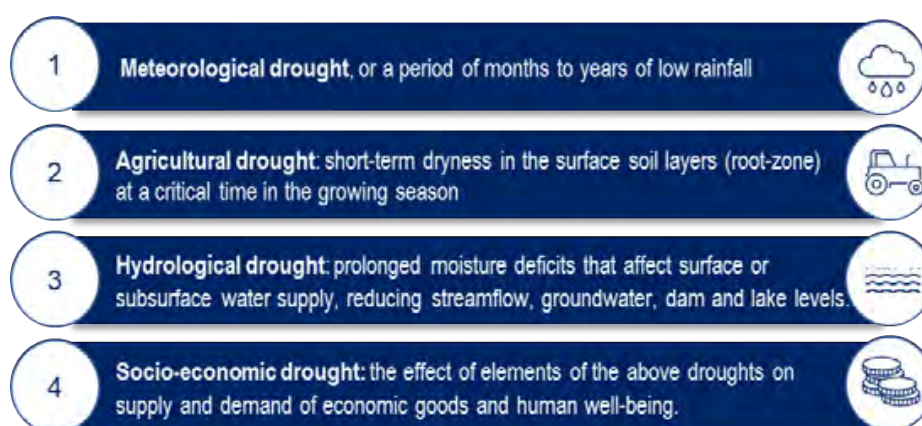


Figure 16 - Bureau of Meteorology Four Definitions of Drought (BoM)

A key feature of the Enhanced Drought Information System (EDIS) is the development of the NSW DPI Combined Drought Indicator (CDI). The CDI integrates a range of data and model outputs in a framework that is useful for decision makers. It combines meteorological, hydrological and agronomic definitions of drought using indexes for rainfall, soil and water and plant growth. From these, a fourth index, drought direction (DDI), is developed¹¹.

Used together, the indices classify six stages of drought. The six stages progress from a non-drought stage where all indicators suggest good conditions for production to recovery, drought affected and improving, drought affected and worsening to fully drought affected.

^{9 & 10} Bureau of Meteorology Drought Knowledge Centre on-line <http://www.bom.gov.au/climate/drought/knowledge-centre/>

¹¹ Enhanced Drought Information System on-line <https://edis.dpi.nsw.gov.au/cdi-drought-phases>

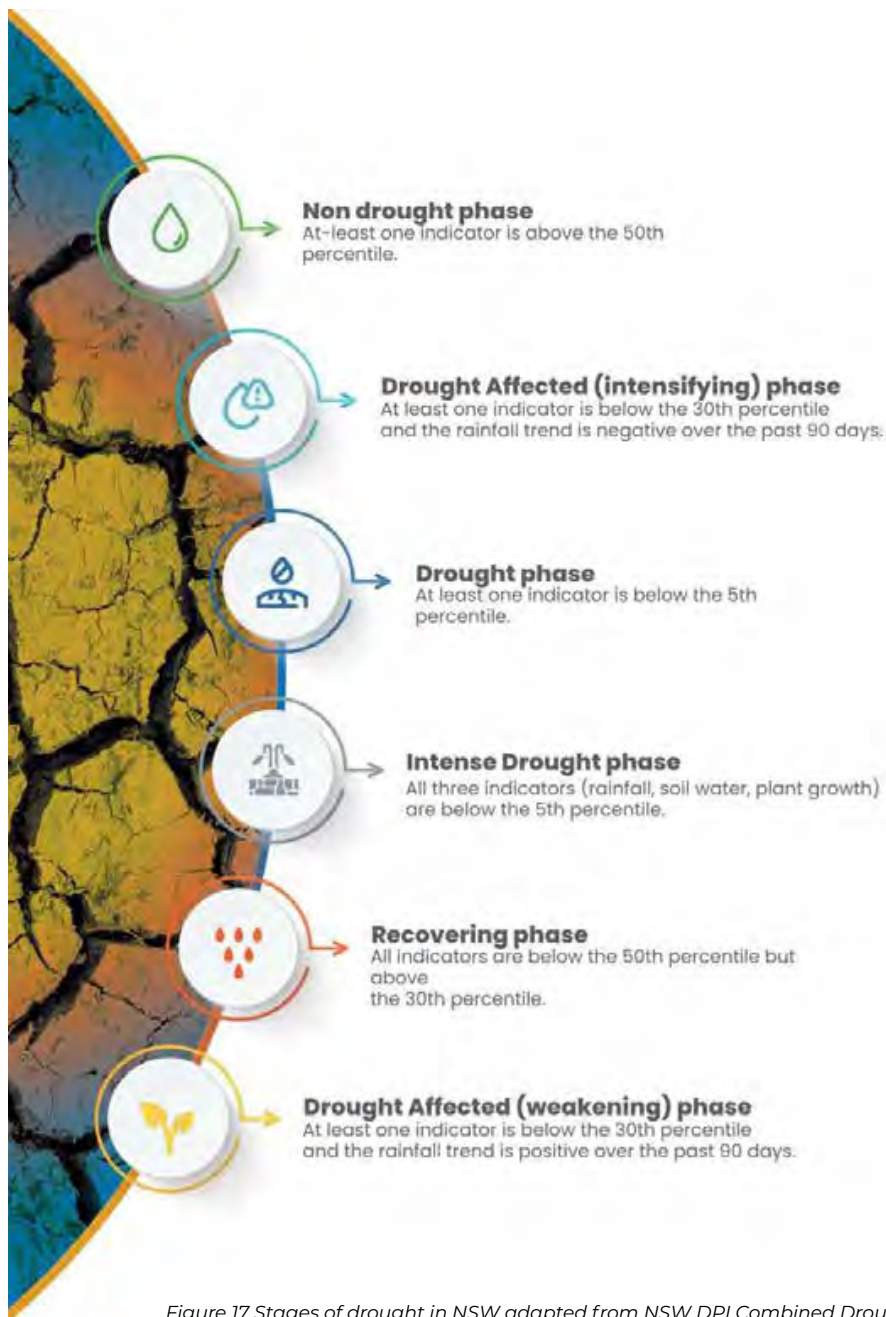


Figure 17 Stages of drought in NSW adapted from NSW DPI Combined Drought Indicator Drought Stages (Adaptation of source: Enhanced Drought Information System (EDIS))

Drought Impacts on Agriculture

The onset of the drought in 2017, less than 10 years after the Millennium Drought, left little time for primary producers to recover and protect themselves against future crises, exacerbating the social and economic impacts of the current drought.

(Regional Drought Resilience Planning: Project Narrative, NSW Government)

The agricultural industry, vital to the Northwest Region, is deeply affected during drought.

Initially in a “dry time” or Drought Affected (Intensifying) Phase, conditions are deteriorating; production is beginning to get tighter. Ground

cover may be modest, but growth is moderate to low for the time of year. This phase is met with changes in productivity such as:

- weaning and destocking, (selling livestock before they reach their potential),

- purchasing fodder (to sustain the core herd),
- changes in farming plans (e.g. choosing not to plant, spray, fertilise), or
- reduced yields.

During Drought Phase conditions become very dry and there is low soil moisture or plant growth. As Intense Drought Phase becomes apparent ground cover is low and soil moisture stores are exhausted, ongoing decisions are required to sustain the farming business such as:

- Economic decisions to reduce spending on investment items, to renegotiate loan arrangements, or to seek off farm income. Flow on effects spending cutbacks are felt in the local towns with less money being spent on agricultural supplies and reduced employment opportunities for farm workers. The 2008 report by the Australian Government highlighted the severe reduction in employment within the agriculture, forestry, and fishing industries due to ongoing drought, predicting a gradual recovery but also an unprecedented skills and labour shortage.
- Social decisions to reduce spending on discretionary items, to avoid social interactions and volunteer activities The framework of Social Impact Assessment (SIA) identifies key areas affected by drought, including people’s way of life, culture, community cohesion, political systems, environmental quality, health and wellbeing, personal and property rights, and fears and aspirations.
- Environmental sustainability decisions such as destocking to preserve groundcover, are brought forward as growth low for the time of the year. Maintaining fodder and water supply becomes a daily chore and thoughts turn to improving water access options.

The Recovering Phase is characterised by a sense of disbelief and uncertainty. Questions are raised as to whether the drought is over or there will be follow up rain to fill the soil profile and top up dams and rivers. Production is occurring but would be considered ‘below average’. Full production recovery will not have occurred if this area has experienced drought conditions over the past six months. This recovery phase may take years given the need to scale up to full production and rebuild reserves such as stock on hand and financial reserves.

Understanding Drought Resilience in Northwest NSW

Drought cannot be prevented nor avoided in our Australian environment, only managed.

Effective Drought Resilience ensures maximising production, creating strong and cohesive communities and ensuring reliant and robust service delivery networks in good seasons, so there is a level of established preparedness when drought occurs.

Waiting to take action and implement strategies of resilience in the midst of a drought is not effective and reflects ineffective crisis management. Putting strategies in place to reduce the depth and severity of the trough will ensure greater sustainability in the long term.

Drought Management through Created Resilience

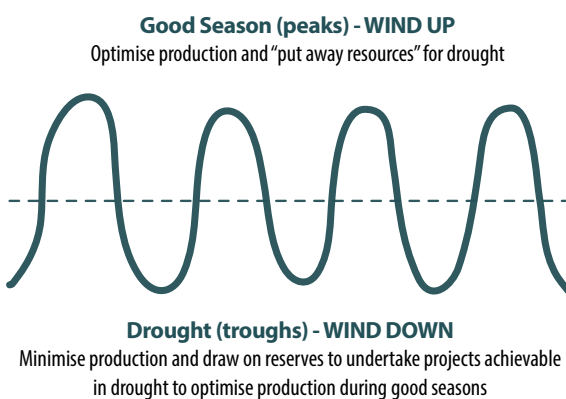


Figure 18 Drought management through created resilience

Drought Impacts on regional communities

In Coonamble, the economic stress induced by the 2017-19 drought was palpable, with families grappling with reduced incomes while continuing to meet financial and familial obligations. This scenario was compounded by visible signs of decline, such as empty shop fronts, which served as stark reminders of the town’s dwindling business activity and population. Unemployment rates rose as businesses closed, further exacerbating the cycle of poverty.

Amidst these difficulties, the implementation of water access schemes, such as the Cap and Pipe the Bore Scheme, had alleviated some of the drought’s immediate impacts and underscored the critical role of effective water management strategies in sustaining agricultural productivity and, by extension, community resilience.

Warren's struggle mirrored that of Coonamble, with the added complexity of water security being a significant concern. The community's heavy reliance on agriculture made it particularly vulnerable to the drought's impacts, leading to a decrease in population as people left in search of better opportunities elsewhere. Drought not only has environmental effects, but repercussions on the fragile economic and social fabric of North Western Communities.

The narrative from Nyngan added another layer to the understanding of drought impacts, emphasising environmental degradation and the psychological toll of enduring "dust storms". The lack of specialised services and the challenge of maintaining a stable population amidst declining natural and economic resources underscored the need for comprehensive support and planning.

Drought impacts on the Northwest Region

Quantitatively, the regional impact of drought was stark, with 80% of businesses reporting a negative impact on their cash flow. This economic strain was further illustrated by the agricultural sector, where 97.8% of businesses reported being affected by the drought. The downturn in business activity was mirrored by a reported average profit loss of 36% in the Far West and Orana Region, the highest across all New South Wales regions. This data underscored the extensive economic fallout from drought conditions, highlighting the urgent need for targeted support and interventions.

The resulting economic contraction was further exacerbated by volunteer fatigue, as the dwindling number of residents available to support community functions and emergency responses grew increasingly stretched.

The questioning of why droughts were not considered "natural disasters" reflected a broader call for policy recognition and support, highlighting the need for a more robust framework to address the complexities of drought management and assistance.

A concerning 18.7% of businesses admitted to feeling ill-equipped to mitigate risks associated with drought, highlighting a vulnerability to such climatic adversities. The longterm sustainability of businesses was a significant concern, with 59.6% worried about the enduring impacts of the

drought on their operations. In response to these challenging conditions, 85.5% of businesses were compelled to scale back on capital spending, deviating from earlier plans.

This comprehensive data paints a vivid picture of the economic devastation wrought by the drought on the Far West and Orana businesses, underlining the critical need for strategies aimed at resilience and recovery in the face of environmental challenges.

The overall reduction in staffing levels by an average of 1.5 employees among affected businesses spoke to the broader social impacts of drought, affecting employment opportunities and community cohesion. The fact that 69% of businesses considered themselves moderately well-prepared to mitigate drought risks, yet 63.5% reported that the impacts of the 2018 drought were more severe than previous droughts, pointed to an escalating challenge that required more than just preparedness—it demanded proactive and comprehensive management strategies.

The Drought Impact Survey 2020, completed by the Royal Far West, reflected on the experiences of 36 rural families in NSW, starkly illustrates the multifaceted toll of prolonged drought. It reports a nearly 50% rise in the number of individuals struggling with housing costs and a significant 40% of adults indicating poor or fair health, a figure that has doubled, exacerbating the financial and mental health strain on rural families. Lindsay Cane, CEO of Royal Far West, emphasised the compounded adverse effects of drought on the well-being of rural families, which are further intensified by concurrent crises such as bushfires and the COVID-19 pandemic.

The survey quantitatively highlights the escalation in financial stress, with more than a third of families facing challenges in affording food, over half unable to meet health costs, and a notable deterioration in the ability to pay for health services and dental care. Transportation affordability has also suffered, affecting half of the respondents. This financial hardship contributes to job losses, elevated living costs, strained relationships, and heightened mental health needs among families and communities. The expressed need for enhanced access to health services, including mental health counselling, underscores the critical necessity for targeted support and services in rural areas.

Future Drought Projections and Impacts

Overview

Assessment of the impact of drought and drought patterns observed during the Millennium Drought (2006 – 2010) and the recent drought (2017 – 2020) provide insights into potential future drought impacts.

The future impacts of drought in the Northwest Region of New South Wales are closely tied to the compound effects of various shocks and ‘megatrends’ that not only exacerbate the challenges posed by drought, but also present opportunities for action and improved resilience.

Climate projections and impacts

Factors such as climate change, with a predicted increase in temperature and variability in rainfall, have significant implications for the region.

Temperature Projections

Historical records indicate a warming trend, with average, maximum, and minimum temperatures rising. Specifically, the last 30 years have seen an increase in hot days and consecutive days above 38°C, reflecting broader trends of climate change impacting the regions. The following outlines the temperature projections for future periods in the Northwest Region:

Period	Increase
Near Future (2020 - 2039)	+0.7 °C to +1.5 °C
Far Future (2060 - 2079)	+1.8 °C to +2.7 °C

Figure 19: Temperature Projections (Source: CSIRO, 2024)

A map representation of the mean surface temperature projections for the Northwest Region Local Government areas of Bogan, Coonamble and Warren – 2030 to 2090 follows.¹²

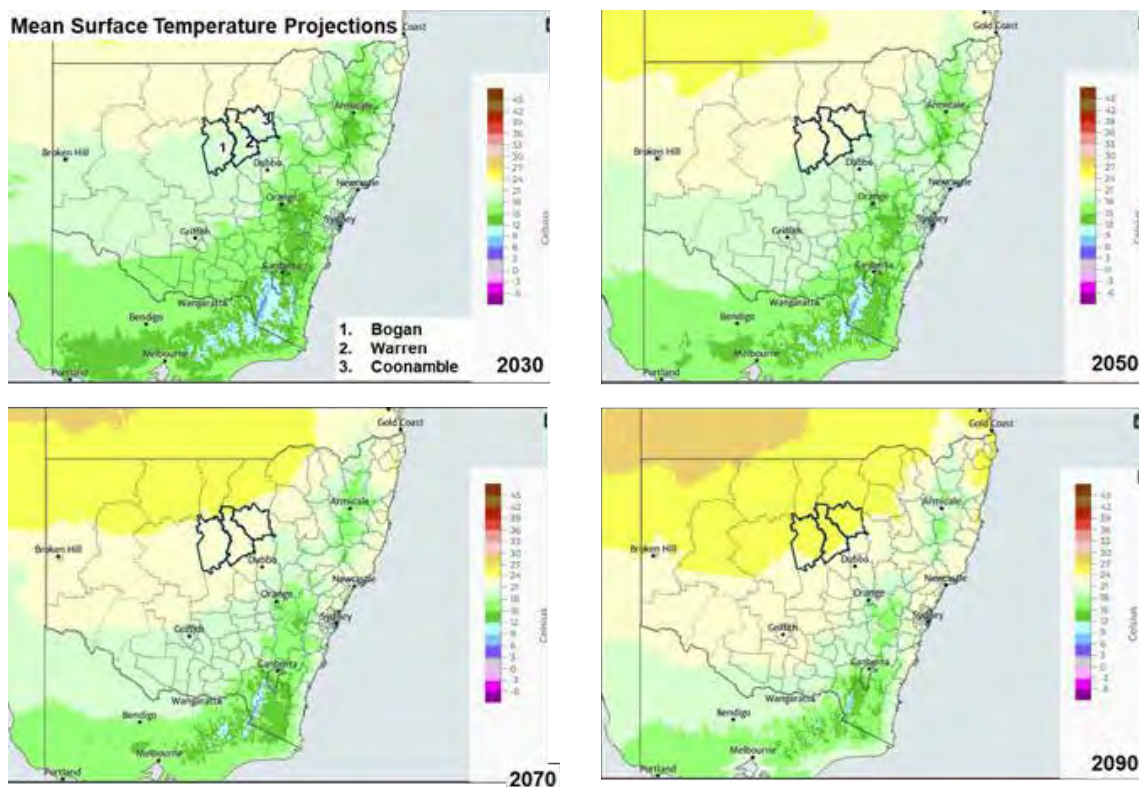


Figure 20 Mean Surface Temperature Projections (Source: CSIRO, 2024)

¹² <https://www.climatechangeinaustralia.gov.au/en/projections-tools/>

Rainfall Projections

The rainfall climate science projections and modelling scenarios for the Northwest are:

Factor	Projection
Rainfall Decrease	Up to 12% reduction in average annual rainfall by 2070.
Seasonal Shifts	Decrease in Spring rainfall, increase in Autumn rainfall.

Figure 21: Rainfall and evaporation Projections

A map representation of the climate science rainfall projections for the Northwest Region Local Government areas of Bogan, Coonamble and Warren – 2030 to 2090 follows.

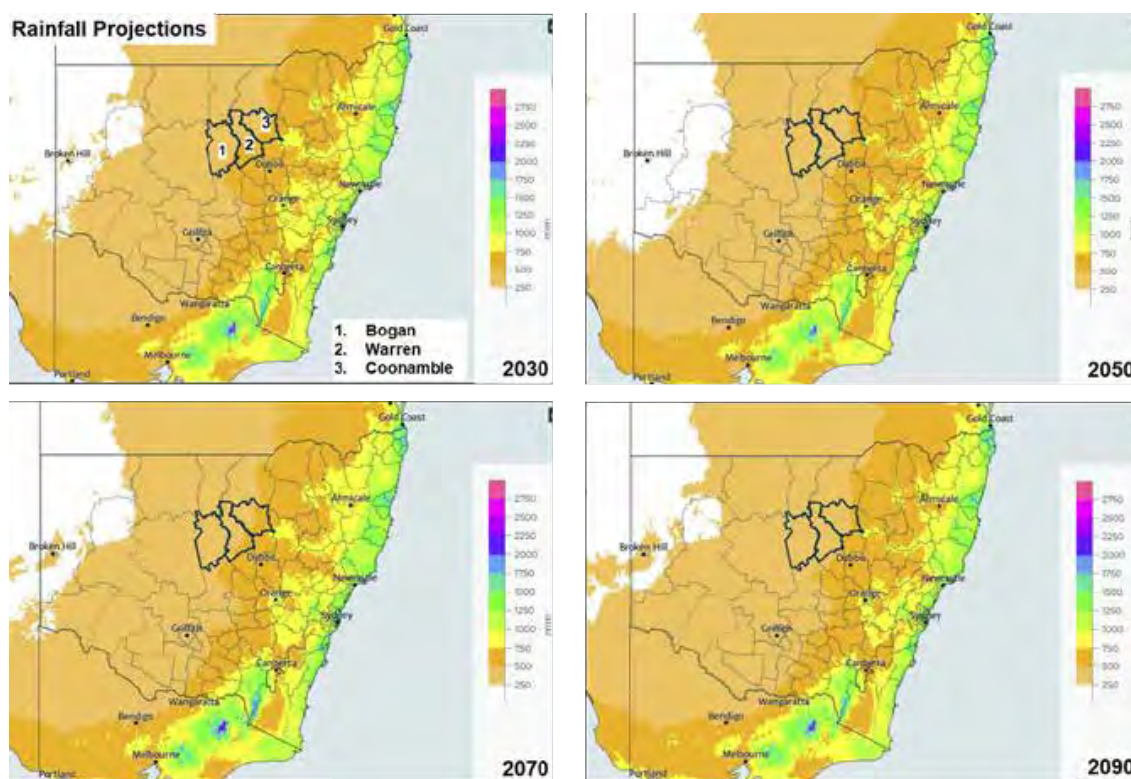


Figure 22: Rainfall projections. (Source: CSIRO, 2024)

The reduction in average rainfall will have significant impact for many farmers and landholders, particularly in crop varieties reliant on irrigated agricultural land. The data below represents the irrigation requirements per crop type (ABS, 2022)¹³.

¹³ Water Use on Australian Farms, ABS, 2022.

Crop	ML	Ha	ML/Ha
Rice	538,365	45,084	11.94
Cotton	1,326,321	197,401	6.72
Fruit and Nut (excluding grapes)	1,127,108	196,906	5.72
Sugar Cane	795,440	157,521	5.05
Grapevines	516,550	130,534	3.96
Vegetables	382,626	98,785	3.87
Pastures and Cereal for Hay and Silage	664,712	210,391	3.16
Pastures and Cereal for Grazing	1,429,495	495,779	2.88
Cereals Crops (excluding rice)	718,870	320,093	2.25

Figure 23 - Irrigation requirements by Crop Variety (Source: ABS, 2022)

Natural Water Resources

Significant quantities of irrigated cotton are grown in Warren and Bogan LGAs, with groundwater an important water source for this irrigation. Multiple large cotton gins are located within the region, including Queensland Cotton, Namoi Cotton and Auscott, all with facilities in Warren¹⁴. Broadacre irrigated crops, specifically cotton lint, were valued at \$54.6 M and \$33.7 M in Bogan and Warren respectively. Irrigated cotton covers a land area of 6,291 ha in the Bogan Shire, ranked 7 for land coverage in NSW¹⁵. In 2021 cotton growing accounted for 4.4% of jobs in Warren Shire.

Dryland cropping, wool and livestock (cattle, sheep, goats) production also contributes significantly to the economy across Bogan,

Warren and Coonamble LGAs. Production data is not readily available however in 2023 employment in agriculture represented 39.8% of the workforce in Warren shire, 26.5% in Coonamble shire, and 22.7% in Bogan shire.

A future scenario involving a reduction in the average annual rainfall will have significant impacts on the value of agricultural production in the region, with the likelihood of cotton gin increasing due to a lack of water resources to maintain production and operation.

Hot Days and Drought Frequency Projections

The projections for the frequency of hot days and drought conditions for the Northwest Region are:

Condition	Projection
Hot Days Increase	More hot days and consecutive days above 38°C.
Drought Severity	2 – 3% probability of severe droughts (similar conditions to 2017 – 2020).

Figure 24: Frequency of hot days and drought conditions

¹⁴ Agriculture Industry Snapshot for Planning – Central West Slopes and Plains Sub Region, Department of Primary Industries, 2020

¹⁵ AgTrack – Agricultural and Land Use Dashboard, NSW Government, 2020

The NSW Government's advanced climate data has unveiled the natural climatic variability extending beyond the observed records. This data suggests that the region has historically experienced more severe wet and dry periods

than recorded in the last 130 years.

*Given the combination of changes in temperature and rainfall, the evapotranspiration projections for 2030 to 2090 are:*¹⁶

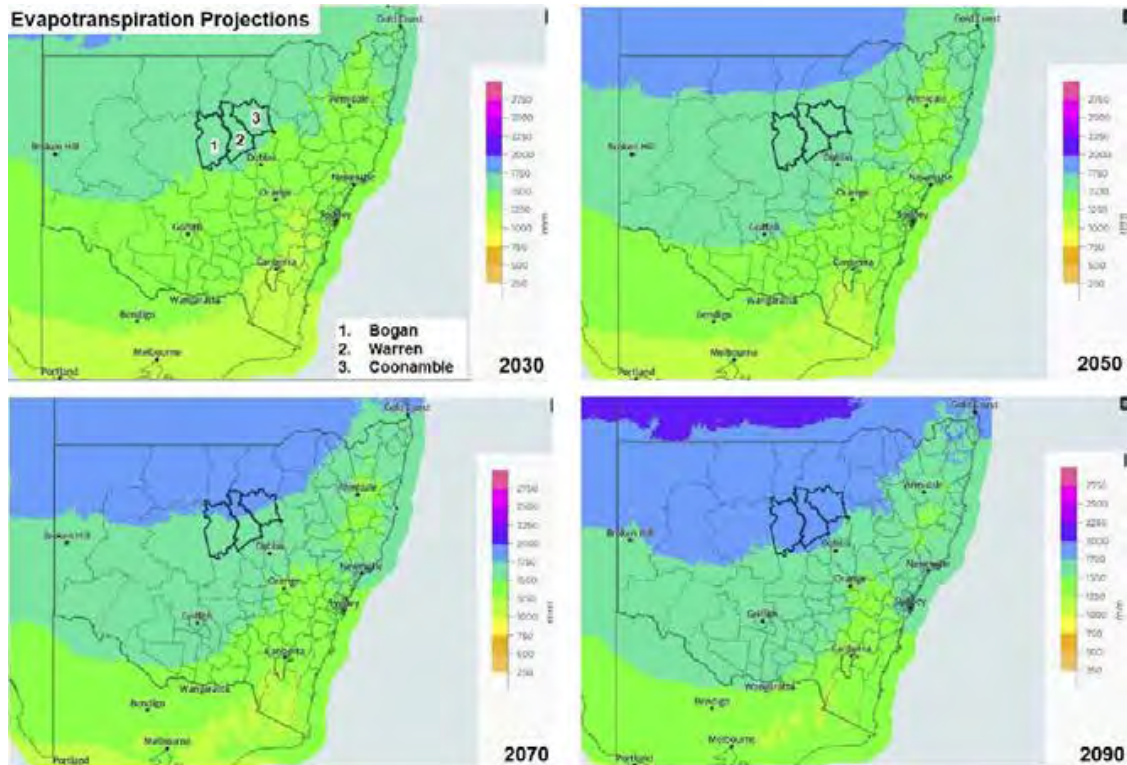


Figure 25: Evapotranspiration Projections (Source: CSIRO, 2024)

Prolonged drought conditions result in increased pressure on water resources, adversely affecting agricultural productivity and leading to a cyclical pattern of economic hardship and population decline.

Impact of Climate Projections on the Region and Project Priority

The future drought scenarios in the North West will significantly influence the delivery of key projects related to water security, telecommunications, community strengthening, and sustainable tourism. As temperatures rise and rainfall decreases, the prioritisation of water security projects such as the development of new bores and increased water storage will become paramount. However, the increased frequency and severity of droughts may stretch financial and logistical resources, potentially leading to delays and higher costs. These projects will likely become the top priority, but

securing the necessary funding and materials may be challenging as the region competes with other drought-affected areas. This increases the significance of forward planning and proactive implementation of water security infrastructure, to ensure that the region is prepared for future scenarios.

Telecommunications infrastructure improvements, essential for maintaining connectivity and supporting remote work and education, will become increasingly vital. However, these projects may face lower prioritisation compared to immediate water security needs. The scarcity of resources may necessitate phased implementation or scaling down of such projects, impacting the region's ability to stay connected and resilient.

The harsh climatic conditions may also deter visitors, as the region's natural attractions could suffer. The scarcity and restrictions on water also

¹⁶ <https://www.climatechangeinaustralia.gov.au/en/projections-tools/>

decrease accessibility to the region, with road maintenance delayed due to its reliance on water in the project delivery. However, simultaneously, the deprivation of tourism and sparsity of visitation and spending within the region, will have significant economic consequences for residents, due to many farmers and land-owners often recommended to diversify their income through farm stays, etc, that rely on visitation. As a result, the significant infrastructure and tourism promotion will be required to maintain visitation during these periods.

Population Impacts

The population rate in the Northwest region has declined from 2006 to 2021, with the most substantial declines occurring during drought periods (see the following Population and unemployment trends in the region between 2006 – 2021 graphic). In the Bogan, Coonamble, and Warren Shires, the overall population trends are characterised by a declining and aging demographic, particularly in agricultural sectors.

Drought exacerbates these trends, leading to increased migration to urban centres as younger residents seek more stable employment opportunities, better housing and access to childcare. This out-migration contributes to an aging population, workforce reductions, and challenges in maintaining economic stability and community services.

Future droughts are likely to intensify these population impacts and create further economic challenges. The aging population may lead to a further decline in the size and capability of the workforce, especially in agriculture, which is heavily dependent on physical labour. Continued

drought could accelerate population decline as residents, especially the younger demographic, seek more stable living conditions and employment opportunities elsewhere. This out-migration will have long-term implications for the region's demographic structure, reinforcing the trend to an aging population and a shrinking labour force, further constraining economic growth and community vitality.

This trend suggests that droughts are a critical factor driving population decline, likely due to the associated economic and environmental hardships. The ongoing challenge for these regions is to develop strategies that enhance liveability, drought resilience and economic diversity to mitigate the impact of future droughts on population trends.

Outmigration also undermines the confidence needed to invest in and revitalise shrinking communities. This lack of confidence stifles local entrepreneurship and discourages new businesses from setting up, further accelerating economic decline. Decisions to invest in the community are often driven by emotional rather than economic motivations, as residents strive to improve their 'home' and attract like-minded people.

“There are opportunities but its difficult to weight up the investment potential versus financial returns. There is not a lot of confidence to ‘grow’ small communities when they have been experiencing a ‘shrinkage’ of population, services and business growth over the past 20 years.”

– Emily (Nyngan)

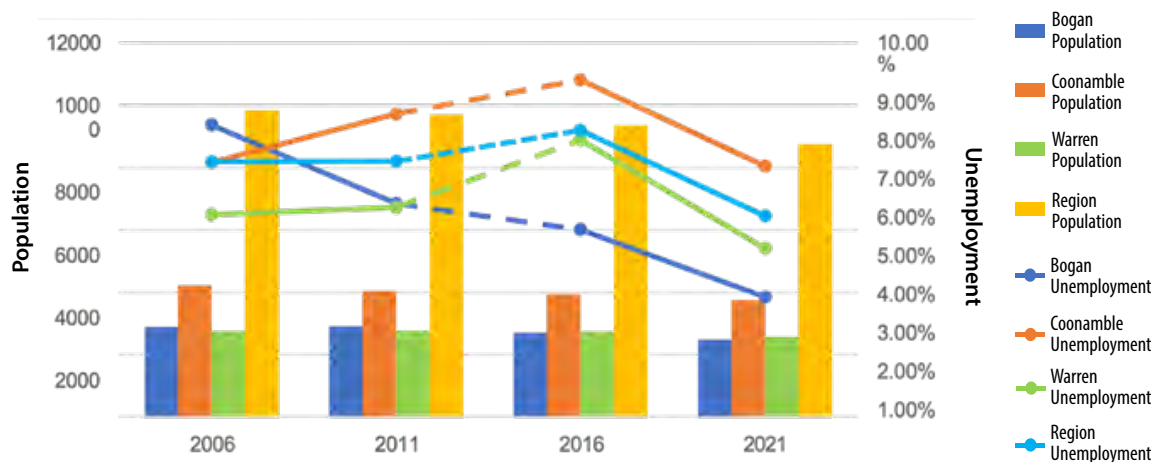


Figure 26 – Population and unemployment trends in the region between 2006 - 2021 (ABS).

Economic Impacts

Economic impacts of future droughts on employment complex and influenced by several factors including government policy and funding, structural changes in agriculture, economic diversification and resource management and sustainability.

• Economic impacts - Government Policy and funding

The economic resilience of the region during drought periods has historically depended on emergency relief efforts, government subsidies, and temporary employment packages.

While these measures can provide short-term relief, they are not sustainable options for long-term drought resilience and may not sustain long-term employment stability, with this impact likely exacerbated in future droughts, particularly because of tightened lending due to reduced national economic activity.

Farmers can now access low interest loans to help prepare for, manage and recover from drought through the:

- i. Regional Investment Corporation (RIC) Farm Investment Loan and RIC Drought Loan, to make the farm business stronger, more resilient and more profitable.
- ii. Drought Ready and Resilient Fund, a loan facility of up to \$250 000 can be used for products, activities and services relating to animal welfare, farm preparedness, income diversification, environmental improvements as well as training and business development.
- iii. Drought Infrastructure Fund (previously known as the Farm Innovation Fund) the loan product can be used for drought preparedness and mitigation by investing in permanent on-farm infrastructure that will:
 - **manage adverse seasonal conditions** - improve water efficiencies with irrigation systems, cap and piping of bores, new dams, install water tanks and desilting of ground tanks
 - **ensure long term sustainability** - increase the viability of a farm business and improve pasture and soil health, plant trees for shade and wildlife corridors, eradicate weeds, flood proof property and fence riverbanks.
 - **improve farm productivity** - reduce risks and improve efficiencies by building fodder and grain storage facilities, sheds, fencing, roadworks and solar power conversions.

These initiatives were designed to bolster the resilience of NSW farmers to future adverse weather events and climatic conditions, such as drought. The absence of low interest loans like these during subsequent droughts would limit a farmers' ability to adapt to drought conditions, to invest in necessary improvements or maintain operations. This could potentially lead to business closures and a significant reduction in the agricultural workforce.

The downside of low interest loans is that repayment of the loan is contingent on return to more profitable outcomes which may be delayed in an extended drought. Low interest loans in addition to any pre-existing loans will put added pressure on the farming business especially in times of rising interest rates and inflation.

A further drought would likely exacerbate economic vulnerabilities, leading to more significant reliance on external financial support and emergency relief measures. This dependency could strain regional and national resources, especially if drought conditions become more prolonged and severe due to climate change.

• Economic impacts - structural changes in agriculture

Evident in the Northwest Region, employment in the agricultural sector shows a more consistent decline over the entire period, with the most significant drops occurring between drought periods. This trend suggests that the sector's downturn is not solely due to drought conditions but also to broader structural changes within the industry, such as increased mechanization, increased use of external contractors versus local employees, shifts towards less labour-intensive farming practices, and farm consolidation. These changes are often aimed at increasing efficiency and reducing reliance on variable human labour, but they also lead to a reduced agricultural workforce over time.

This is a common trend in drought scenarios globally, where prolonged drought conditions catalyse farm consolidation and the adoption of farming practices that are less dependent on human labour, thus leading to a persistent decline in agricultural employment outside of active drought periods.

• Economic impacts – diversification

Employment in the administration and public services sector often increases during drought periods due to heightened demand for public assistance and the implementation of drought relief programs. These programs, typically

funded by government initiatives, aim to mitigate the immediate effects of drought on communities, leading to temporary job creation in local government and support services.

This rise in administration and public services roles may occur, but is more likely centralised in regional centres such as Dubbo. Many drought relief programs are delivered out of Dubbo or other regional centres and access to the service is online or by travelling to Dubbo or by drive-in drive-out service. Remote delivery of services to the Northwest Region adds little to the community and puts extra pressure on the strained resources of the Northwest Region, especially when travel to a regional centre to access a service is required.

Once these drought-specific programs conclude, employment in this sector declines substantially, reflecting the temporary nature of such interventions. The observed decline in employment between drought periods in administration and public services can be attributed to the cessation of temporary drought relief programs and a return to pre-drought

governmental operations.

This cycle indicates a reactive rather than proactive approach to drought management, where employment opportunities are directly tied to immediate drought response efforts rather than long-term resilience planning.

“Short-term government employment contracts don’t offer financial security for residents in small communities to “settle” and become a part of the community - they can’t buy a home, can’t plan for the future. This also has implications for alternate off-farm incomes.”

- Lee (Coonamble)

This pattern may not be sustainable in future droughts. While temporary employment opportunities might arise from relief efforts, these jobs are not a replacement for the lost permanent positions in agriculture and related industries. Over time, repeated droughts could lead to a permanent shift in the job market, with an increased number of short-term, low-security jobs, further destabilising the region’s economy.

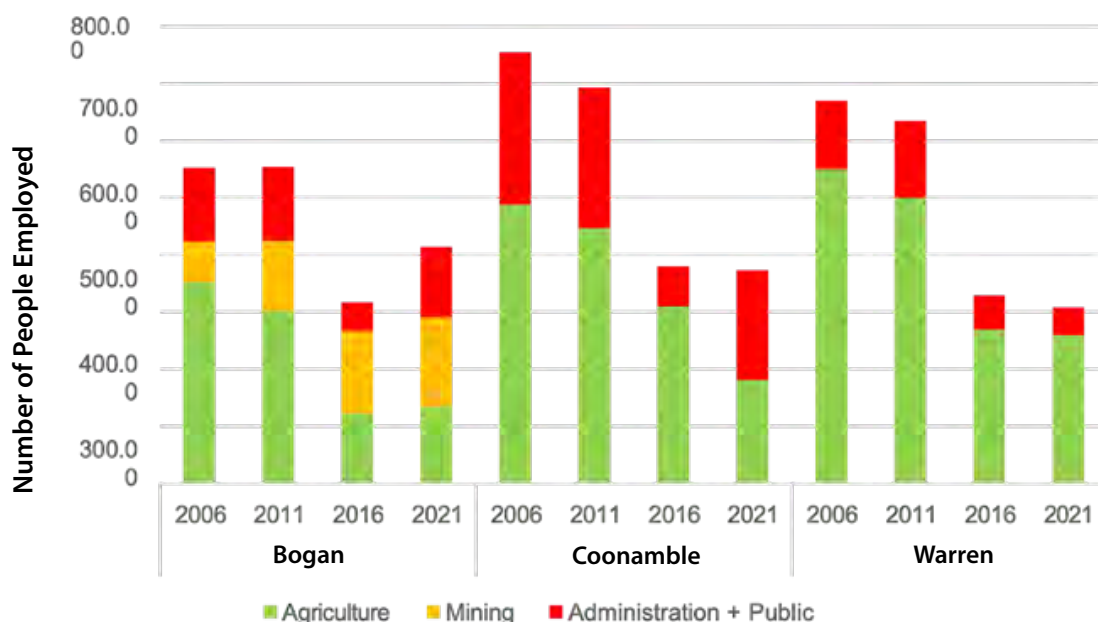


Figure 27 – Industry employment trends from 2006 - 2021 (ABS - Top 5 Industries).

A trend which started in the 2017-2020 drought and gained momentum during the Covid Pandemic was the rise in prominence of remote working and home-based business. Digital connectivity has enabled the people of Northwest Region to connect with education, business and customers like never before.

An off-farm income is an extremely valued defence for farming families against the boom-and-bust cycle of drought and recovery. For example, the incredibly successful “Buy from the Bush” social media campaign promoted regional businesses was launched from a kitchen table on a property near Warren. It

leveraged the enormous opportunity to connect city customers who really cared about the bush with over 250 bush retailers. It is estimated Buy from the Bush provided \$14 million in revenue to regional businesses during its operation.

Regions with economies heavily dependent on agriculture will face increased vulnerability from drought, requiring improvements in digital connectivity to facilitate training opportunities for business diversification and sustainable farming practices. Also, the future success of small businesses in the Northwest Region is contingent on access to a larger market.

Buy from the Bush founder Grace Brennan: "Often you get a very one- dimensional perspective, with rural issues only trending in times of crisis," she said.

"But we want to be able to provide a nuance beyond farmers in paddocks when times get tough ... we have this incredible untapped resource in the way rural Australia works to solve problems. For me, it's like a secret sauce. We need to mine in and leverage it."

Sydney morning Herald 10/09/2023

Expansion of digital connectivity is vital for economic and social participation, particularly for smaller centres where "off-farm" income is a significant strategy in drought preparedness and drought resilience.

• Economic Impacts - resource management

Efficient management of resources including human resources, reserves of fodder and water are directly linked to productivity and profitability. When a business is thriving, more money can be spent on resource management and confidence is high.

Conversely, droughts result in reduced capacity to earn an income and result in a rundown of reserves or resources. Not only reserves of pasture, fodder and water are depleted: human reserves of energy and confidence are also depleted giving rise to physical and mental health issues. As the Northwest Region relies on the goodwill of volunteers to run events such as school carnivals, sporting fixtures and agricultural shows, social activities are curtailed further compounding the issue. Suicide or mental illness deeply affects the community whose lives are deeply entwined through business or social activities.

Unemployment and loss of income not only

affects those directly involved in agriculture, but also ripples through the local economy, impacting sectors like retail, services, and manufacturing that rely on the spending power of these primary sector employees. The impacts on local business were exemplified in the most recent 2017 – 2020 drought, where the inability of non-primary producers to access subsidies resulted in significant business closures, many of which have not reopened since.

• Economic impacts - employment

The economic impacts of future droughts on employment in regions like Bogan, Coonamble, and Warren can be significant, affecting various sectors differently based on their reliance on natural resources and government interventions. The fluctuating employment trends in these regions, particularly in the administration, public services, and agriculture sectors, reflect the broader economic vulnerabilities and structural adjustments that occur in response to drought conditions.

During drought, the changes in agricultural employment are minimal, possibly due to the necessity to maintain operations despite reduced water availability and productivity. Government subsidies and support during these periods can help sustain agricultural employment temporarily, but they do not address the underlying trend of workforce reduction in the sector.

Following the 2017 - 2020 drought farmers have demonstrated a propensity to de-stock based on Bureau of Meteorology seasonal forecasts, thereby reducing the workload to feed stock and reducing constraints on their time possibly freeing up time to pursue an off-farm income.

Addressing these challenges will require integrated-long term strategies that enhance regional resilience to drought while supporting sustainable employment and economic growth.

The economic impacts of future droughts on employment in Bogan, Coonamble and Warren regions, will likely continue to reflect the complex interplay between temporary government interventions, structural changes in agriculture, and the need for greater economic diversification and sustainable resource management.

Social Impacts

The Drought Impact Survey 2020¹⁷ conducted

¹⁷ West, R. F. (2020). Cumulative effects of drought show sustained hardship – survey.

by Royal Far West on rural families in NSW paints (responses recorded by 36 rural families staying at Royal Far West in February and March of 2020) a distressing picture of the broad-reaching consequences of prolonged drought, which has severe implications for predicting the social impacts of future droughts.

The survey's findings on financial stress, where over a third of families struggled to afford food, and more than half faced difficulties meeting health costs, suggest a significant decline in living standards and access to basic needs. The deterioration in the ability to afford essential services like health and dental care, coupled with transportation challenges affected half of the respondents, reflecting the extensive economic strain and social isolation experienced by these communities.

Studies have shown that droughts exert long-term psychological and social effects, leading to increased rates of depression, anxiety, and other mental health disorders in affected populations. The loss of livelihoods, uncertainty about the future, and the degradation of the natural environment can lead to a sense of hopelessness and helplessness among community members.

Predicting the social impacts of future droughts based on these findings suggests a continuing and possibly worsening trend of financial hardship, health issues, and social disintegration in rural areas. The compounded stress of successive droughts and other overlapping crises can erode community resilience, weaken social bonds, and lead to a breakdown in social cohesion.

The expressed need for better access to health services, including mental health counselling, highlights the urgent requirement for comprehensive support systems that address the multifaceted challenges posed by drought.

Impacts on Indigenous Communities

The future drought impacts on Indigenous communities in the Bogan, Coonamble, and Warren regions, as evidenced during the 2017 - 2020 drought, are profound and multifaceted. These impacts go beyond the immediate environmental and economic effects, touching the very core of cultural identity and community well-being.

• Environmental impacts

The decline in native flora and fauna during drought, alongside the loss of breeding grounds for birds and fish, signifies a broader ecological

crisis affecting the entire ecosystem's health and sustainability.

The ongoing struggle for water rights and the impact of large-scale agricultural and mining operations, underscore the challenges of managing water resources in a way that respects both the environmental needs and the rights of Indigenous communities. The upstream water extraction for irrigation highlights a critical need for equitable water management policies that consider the cultural, ecological, and economic needs of all communities along these river systems.

• Economic impacts

The drought's economic impact on these communities, particularly those engaged in traditional land and water-based activities, is severe. With rivers drying up, activities like fishing, swimming, and hunting, which are not only cultural practices but also vital sources of sustenance and income, are no longer feasible.

Drought also reduces casual and seasonal employment opportunities such as harvest or planting operations.

• Cultural impacts

Water sources in these regions are not merely physical resources but hold cultural significance for Indigenous communities. They are places of cultural practices, storytelling, and spiritual solace. Severe drought leads to dry rivers and disappearing wetlands, disrupts cultural practices and connections that these communities have with their land and water.

The distress expressed by community members the Gamilaraay and Yuwalaray elders and residents like Rhonda Ashby and Brenda McBride speaks to a profound sense of loss, not only of water but of culture, heritage, economic stability, and environmental health. The ongoing challenges faced by these communities call for urgent and inclusive water management strategies that recognise and integrate the cultural, spiritual, and ecological significance of water to Indigenous Australians.

• Community impacts

Their communities, which are deeply connected to the land and water for cultural practices, livelihood, and identity, will face increasing challenges as droughts become more frequent and severe.

Access to water is a critical concern, with drought conditions reducing river flows and water levels,

thereby affecting not only daily life but also the health of sacred and culturally significant sites such as the Macquarie Marshes. This situation threatens to disrupt traditional activities and cultural heritage.

Environmental Impacts

The diverse impacts of drought on ecosystems, as noted by Bond et al. (2008), underscore the multifaceted nature of drought effects on environmental and ecological systems.

The Murray Darling Basin has experienced significant ecological stress due to drought conditions, with notable events such as toxicity in the lakes in the lower Basin and large-scale mortality of floodplain forests. These incidents, driven by low river inflows and the absence of flooding, highlight the critical link between water flow and ecosystem health.

For the Northwest Region, the insights gained from studies and modelling of changing conditions within the Murray Darling Basin can be used to predict the impact of future droughts.

Prolonged and future droughts will likely have significant impacts on aquatic ecosystems, which are particularly vulnerable to reduced river flows and lower water levels in natural bodies. As a result, fish populations and other aquatic life forms may face decline due to the reduced availability of habitat and water quality issues.

Similarly, terrestrial ecosystems will suffer from decreased moisture availability, causing vegetation stress, higher mortality rates in plant species, and adverse effects on wildlife dependent on these habitats.

Soil erosion and land degradation are additional concerns during drought periods. The absence of vegetation cover can lead to increased erosion by wind and water, leading to the loss of fertile land, which is detrimental to agricultural productivity and natural ecosystems. Dust storms are a typical feature of extended drought in the Northwest Region.

Drought conditions also exacerbate climate change feedback loops. For example, stressed vegetation due to drought captures less carbon, and soil erosion can release the carbon stored in the soil, thus contributing to increased greenhouse gas emissions.

These interconnected impacts of drought highlight the need for strategies to mitigate environmental degradation and promote sustainability in Northwest NSW.

Unpredictable Factors that may Affect Future Drought Response

The Economic, Environmental and Social scenarios that may arise and affect responses to future Droughts are summarised as follows.

Future Scenario	Factors Contributing	Effects	References
Economic			
Economic Recession	Global market dynamics, changes in commodity prices, trade policies, economic policies.	<ul style="list-style-type: none"> • Reduced consumer spending and investment in the region, leading to business closures and higher unemployment. • Increased financial strain on local governments, limiting their ability to fund drought response and resilience projects. • Higher levels of poverty and reduced economic stability – inability for farmers to manage finance in ‘non-drought periods’ to prepare for drought. 	NSW Business Chamber Drought Survey Warren Shire Economic Development Strategy and Action Plan
Policy and Governance Changes	Government decisions (local, state and federal), changes to funding allocation, changes in water management policies, regulatory adjustments, political shifts.	<ul style="list-style-type: none"> • Uncertainty in water allocations, complicating drought response efforts. • Change to funding priorities, effecting delivery of projects. • Delays in implementing drought resilience projects due to policy changes and variation in regulatory paperwork. • Inconsistent support and resources from government agencies. 	Regional Water Strategy

Future Scenario	Factors Contributing	Effects	References
Technological Advancements	Pace of technological innovation, funding for research and development, acceptance by the community.	<ul style="list-style-type: none"> • Variability in the effectiveness of new technologies for drought management. • Dependence on government and community support for successful implementation. • Potential for increased disparities between those with access to new technologies and those without. • Change in network coverage type, and redundancy of existing on- farm and off-farm technological investments. 	Regional Water Strategy Warren Shire Economic Development Strategy and Action Plan
Environmental			
Climate Variability	Climate change, variability in precipitation and temperature, changing atmospheric conditions.	<ul style="list-style-type: none"> • Difficulty in predicting weather patterns, complicating water usage and agricultural planning. • Increased frequency of extreme weather events, stressing infrastructure and resources. • Greater unpredictability in water availability, affecting long-term planning and investments. 	Central West and Orana Climate Change Snapshot Western Enabling Regional Adaptation – Central West and Orana Report
Increased Fire Risk	Dry conditions, high temperatures, accumulation of dry vegetation, insufficient fire management resources.	<ul style="list-style-type: none"> • Widespread environmental damage and loss of property. • Significant resource allocation for firefighting and recovery, diverting resources from other drought response efforts. • Long-term degradation of natural habitats and ecosystems. 	Central West and Orana Climate Change Snapshot Western Enabling Regional Adaptation – Central West and Orana Report
Social			
Health Crises e.g. Viral Outbreak	Predicted increase of global pandemics and epidemics, decreased response to viral antibodies and antibiotics e.g. antibiotic resistance.	<ul style="list-style-type: none"> • Strain on healthcare resources, increased incidences of heat stress, respiratory problems and mental health issues. • Outmigration to increase access to healthcare facilities on demand. • Increased costs for healthcare and social services. • Less mobile workforce and decreased resource capacity. 	Central West and Orana Climate Change Snapshot Western Enabling Regional Adaptation – Central West and Orana Report Business Chamber Drought Survey
Outmigration	Mine closures, lack of employment opportunities, reduced agricultural viability, inadequate access to education and healthcare, and overall decline in economic prospects.	<ul style="list-style-type: none"> • Reduced labour force, impacting the local economy and capacity to deliver essential services and priority projects. • If amongst youth, increased demand for healthcare and social services, with a diminished workforce to support these services. • Social fragmentation and weakened community bonds due to reduced social support networks that are critical during crises. • Decreased availability of volunteers for essential community services. 	Central West and Orana Climate Change Snapshot Regional Water Strategy Warren Shire Economic Development Strategy and Action Plan

Figure 28 – Summary of potential Economic, Environmental and Social scenarios

The analysis of the future drought projections and impacts, demonstrates the interconnected nature of the natural, economic and social environments.



Figure 29 Viewing resilience as a system

The interconnected nature of those environments reinforces the requirement for initiatives and projects that contribute to improving the drought resilience of the region to be considered as a system, and not in isolation.

Our Drought Resilience Journey

The plan:

- o Recognises the proactivity of farmers and communities in regard to drought preparedness.
- o Highlights that further preparedness is required to continue to address the currently identified and future impacts of drought, and the associated climate trends.

Councils, community members, industry leaders and technical stakeholders have identified strategic initiatives and projects with corresponding actions for the Northwest Region which are required to improve the drought resilience of the region.

The projects and initiatives detailed were distilled from a 'long list of projects' arising from the initial stakeholder consultation processes.

The initiatives:

- o Form a pathway towards improving the resilience of the region to the impact of drought and its related stresses and shocks.
- o Contribute to maintaining, modifying and transforming existing systems and functions within the region.

It should also be considered that drought is dynamic in nature and there is no single point at which resilience of a region is attained. Therefore, it should be expected that as a project or an initiative progresses, further opportunities will

arise that might be pursued and incorporated into the plan to further improve the drought resilience of the region.

This plan incorporates a series of projects under four initiatives:

- **Long-Term Water Security Projects.** The initiatives include Groundwater, off-stream storage, and water reuse projects.
- **Telecommunication security.** The initiative is aimed at improving the telecommunications connectivity across the region.
- **Stronger Communities Program.** The initiative is aimed at improving the community cohesion, well-being and financial resilience in region.
- **Sustainable Recreation & Tourism Strategy.** The initiative is aimed at developing and implementing a tourism strategy across the region on a sustainable basis.

The project and initiatives in this Plan are aligned to the Key Outcome Areas to foster a more resilient, innovative and united region:

- People, Culture, and Community,
- Economy
- Landscape and Natural Environment
- Infrastructure and Built Environment

Project / Initiative	People, Culture, and Community	Economy	Landscape & Natural Environment	Infrastructure & Built Environment
	Enhance regional liveability, foster a robust and attractive community, and improve social resilience and wellbeing.	Expanding the business and agricultural sector's self-reliance and performance, ensuring stability and growth within the region's economy.	Improving the environmental resilience of the entire regional landscape, including agricultural lands and river systems.	Strengthening infrastructure to support economic and environmental sustainability.
Long-Term Water Security Projects	✓	✓	✓	✓
Telecommunication Security	✓	✓	✓	✓
Stronger Communities Program	✓	✓		
Sustainable Recreation & Tourism Strategy	✓	✓	✓	✓

Figure 30 – Alignment of Project / Initiatives by Outcome Area

As an outcome of future droughts, and implementation of drought resilience projects and the evaluation of the outcomes and impact over time, the plan across the four outcome areas will need to adapt, transform and change over time.

The plan for each initiative includes:

- A description of the initiative and project.
- Scope of the initiative and projects.
- Pathway to implementation.
- Analysis of how the initiative / projects supports 'Broader Drought Resilience.
- A Timeline for implementation.
- An economic analysis of the initiative.
- A governance structure to support the implementation of each initiative.
- An analysis of the responsiveness to potential future scenarios and uncertainties on the implementation and delivery of each project.
- An evaluation approach to the implementation, outcomes and impact of each project.

The program logic described in the following diagrams: v

- underpins the investment decisions for the initiatives, and
- reflects the linkage of the various components through the Plan responding to future uncertainty and change around:
 - Situation **(if)**.
 - Initiatives / Projects, Inputs and Planning, Outputs **(then)**.
 - Outcomes **(has the impact of)**.
 - Impact **(contributes to the vision of)**.

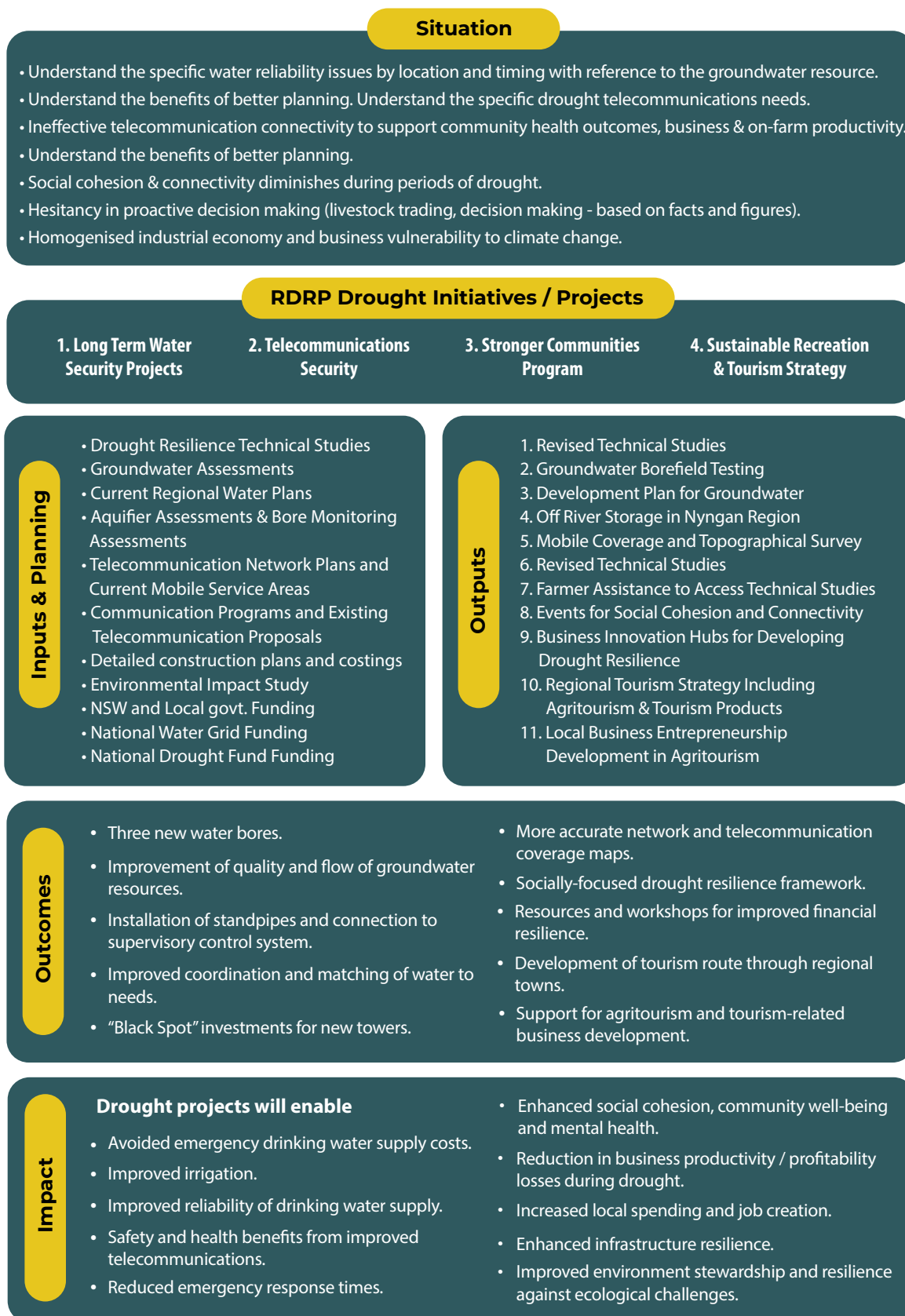


Figure 31 - Drought Resilience Program Logic Map at a Project Level (Bogan, Coonamble and Warren LGAs) (The Stable Group, 2024)

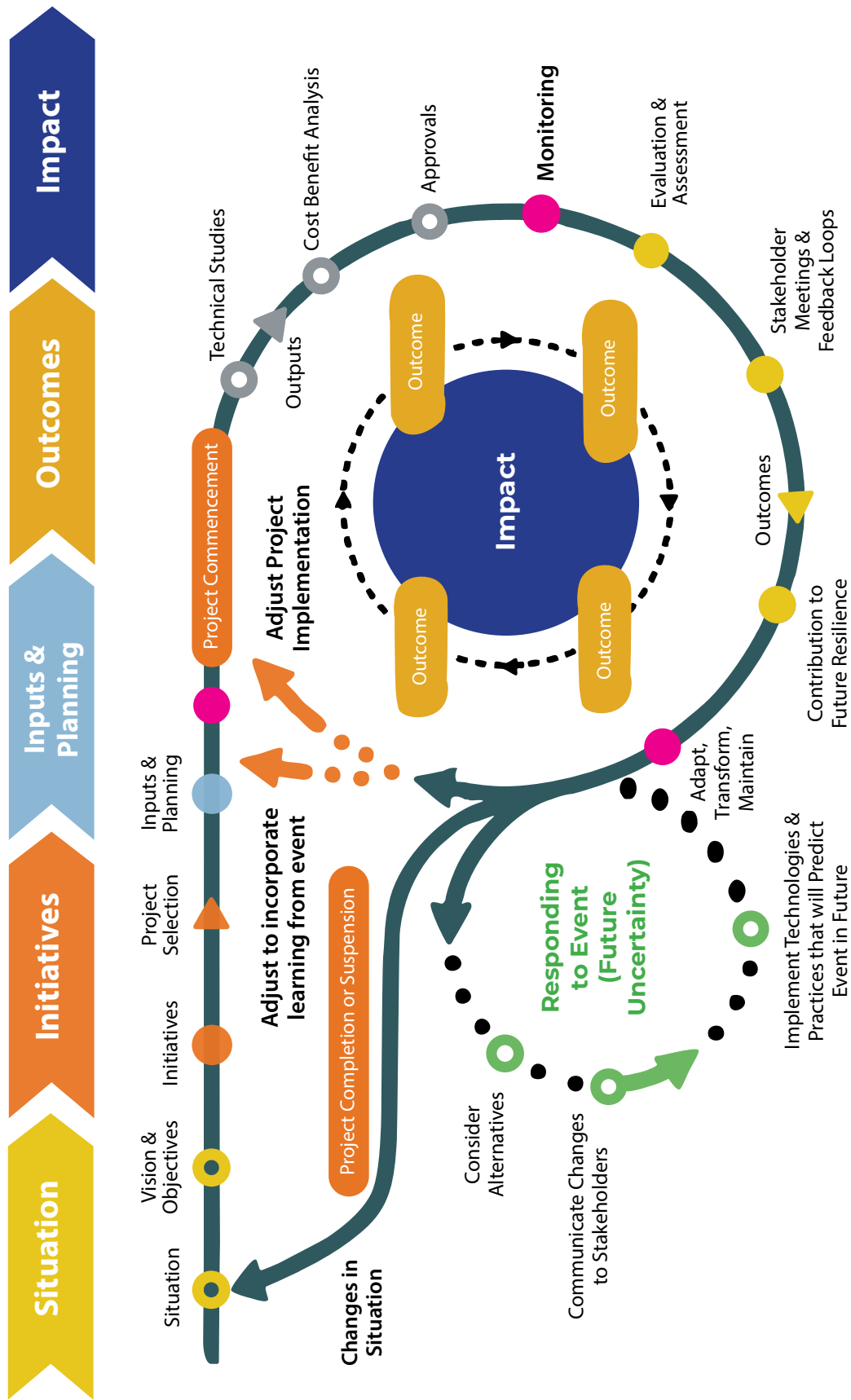


Figure 32 - Drought Resilience Program Responding to Future Uncertainty and Change (The Stable Group, 2024)

Long-Term Water Security Projects



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Project Description

The shortlisted long-term projects to improve water security include the provision of:

- Groundwater bores.
- Nyngan water security project including access to boar water an associated pipeline.
- Increased dam storage capacity at Burrendong Dam.

Scope

Water Security Groundwater in Warren Shire Council – Proving of Groundwater Resources (Quality and Flow) and Installation of Standpipes

The proving of groundwater resources (quality and flow) and installation of standpipes (connected to a supervisory control system to provide a capability for standpipes to be switched on/off, to cross level usage between locations to adjust for changes in quality and flow rates) in up to five locations, to provide greater resilience for the agriculture and town water supplies of local towns.

Water Security – Off River in Warren Shire Council

Establishing an off-river storage (circa 3,000 ML) at or before the Nyngan off-take to secure the water supply to the Warren Shire (industry, environment, irrigators, domestic supply).

Water Security – Raise the capacity of Burrendong Dam

Increase the capacity of the dam by circa 20% to reduce the risk of water shortages to the region.

Pathway to implementation

The pathway to the delivery of the projects includes (as required):

1. Conduct of feasibility and technical / geotechnical investigation and studies to assess the viability, sustainability, and environmental impact of proposed water projects.
2. Survey and Detailed design.
3. Environmental assessments.
4. Detailed cost estimate.
5. Complete full business case.
6. Funding applications & regulatory approvals.
7. Tender for construction.

Supporting Broader Resilience

The water security projects will contribute to improving drought resilience of the Northwest Region through:

- Modifying the existing system for the provision of water for stock, domestic use and dust suppression for road maintenance/ construction activities, by increasing the number of water bores.
- Modifying the existing water storage capacity of the region, through inclusion of an additional off-river storage with 3,00 ML capacity to reduce water risks to the region.
- Transforming the existing water storage capacity by increasing the capacity of the Burrendong Dam.

The projects support the pillars of drought resilience through:

Pillar 1 : Planning & Monitoring	Pillar 2 : Responding to Drought Events	Pillar 2 : Building Future Resilience
<ul style="list-style-type: none"> · Carry out feasibility studies to identify the most effective water security projects, such as new groundwater sources or reservoirs. · Implement monitoring systems for existing water sources to proactively manage water levels and quality. 	<ul style="list-style-type: none"> · Designate and support vulnerable sectors with alternative water supplies and conservation measures during drought. · Activate contingency plans based on monitoring data to mitigate the immediate impact on water availability. 	<ul style="list-style-type: none"> · Construct resilient water infrastructure projects that ensure long-term availability and quality of water for all sectors. · Launch initiatives that promote sustainable water use and educate the community on water conservation practices to protect this vital resource.

Figure 33 - Drought Resilience, Adaption and Management Model Pillars – Water Security Projects

Timeline



Figure 34 - Timeline – Water Security Projects

Economic Analysis

An economic analysis for the Water Security Projects follows. The analysis included identification of the Costs and Benefits of the projects, and the completion of a Cost Benefit Analysis.

This Cost Benefit Analysis methodology employed, was consistent with the real options methodology of the NSW Treasury Guidelines and remained within the cash flow framework of Treasury’s recommended rapid cost-benefit analysis technique.

Accordingly, the nature of the technique, is to assess benefits and costs at a high level, using readily available secondary data, but not undertaking primary research. Where primary research is lacking, the assessment proceeds by estimating through a decision tree the likely costs and benefits of each “known unknown” in the project logic and incorporating this assessment on a risk (probabilistic basis) in the analysis.

To deliver on this methodology economic data needs included:

- Available secondary data sources, including past assessments of proposals, or of related projects; and
- Rapid assessment, using those sources, of

the project logic as integrating within the plan logic.

Additional specific project-related data was also utilised:

- Water Security
 - Groundwater - assessments and water reliability studies for the region and its member Councils. This may include aquifer assessments, bore monitoring programs, or water supply assessments including groundwater. Key data sources were the respective Councils and the NSW State planning bodies (Regional Water Plans).
- Water Security Planning
 - Existing water planning for the wider region, including Western Regional Water Strategy, and identifying from Councils. The key sources were existing water plans.

The options considered for the economic analysis comprised:

- **Base Case** – Planning Without Projects. It is assumed for the sake of clarity, that considering a program with up to three projects will incorporate a base level of expenditure on water security planning. The analysis is focused on the water planning net benefit estimates on projects that might develop from that planning.

- **Option 1** – Water Security: Groundwater – Monitoring of existing ground water sources and if required investigation and development of additional bore fields in the region if required.
- **Option 2** – Water Security – Additional off-river storage in the region.

The option of raising the capacity of Burrendong Dam by 20% was not included in the economic analysis. A full cost benefit analysis will be required as part of a business case for the project.

Costs

	Capital Cost per Unit Capacity (\$/ML)	Benchmark (Location)	Capacity (ML)	Cost (\$)	Notes
Offstream Storage	\$37,000	Walcha (Apsley)	300	\$11,000,000	
Offstream Storage	\$43,000	Tuross River Study	3,000	\$130,000,000	Cost was revised as part of a variation

Figure 35 Capital Cost Benchmarks

Benefits

The impact charts illustrate the likely benefits of the major options:

- Groundwater
 - o Avoided emergency drinking water supply costs – typically valued in the literature at above \$7 per kL; and
 - o Irrigation benefits – typically valued at crop gross margins of \$3 per ML.

Groundwater

The costing for the groundwater project has been developed with a view to conduct a ground water resource study, drill three new water bores, prove quality and flow of groundwater resources, install standpipes and connect to a supervisory control system (to provide a capability for standpipes to be switched on/off, to cross level usage between locations to adjust for changes in quality and flow rates) across a three phase program at a total cost of \$0.81 M.

Water Security

The costs for the off-river storage at or near Nyngan have been benchmarked from Queensland and NSW studies.

- Water planning
 - o Improved reliability of drinking water supply from better matching of storage and transmission. Values in terms of emergency supply costs avoided at \$7 per kL.

In this section, these benefits are broken down in more detail for input to the cash flow analysis. It's important to first set down that many of the benefits are driven by the town, regional or state population.

The following table, adapted from the main reports, sets the key values for this region:

	Bourke	Brewarrina	Cobar	Walgett	Bogan	Coonamble	Warren
Population	2,340	1,356	4,059	5,253	2,467	3,732	2,550
Projected Population (2041)	1,556	931	2,555	3,732	1,581	2,965	1,755
Drought water consumption (kL pa 2023)	101,739	40,478	176,478	228,391	68,739	162,261	110,870

	Bourke	Brewarrina	Cobar	Walgett	Bogan	Coonamble	Warren
Drought water consumption (kL pa 2041)	67,652	58,957	111,087	162,261	107,261	128,913	76,304
Household water consumption (kL per household pa)	597	400	203	300	314	165	231
Portable water consumption (kL per household pa*)	100	100	100	100	100	100	100

Figure 36 Population and Water Demand. Source: NSW Department of Planning Population Projections & NSW Department of Local Government Water Supply Statistics. *Estimated using urban individual use metering studies.

Groundwater

Groundwater is a significant variable in managing water security in the councils in this plan. Groundwater is used in town water supplies to ensure volume in droughts by providing supplementary water when, for example, regulated releases cease from upstream storages during drought, or surface water quality declines with reduced flows in dry periods.

Borefields are described as one of the key system assets in delivering Water Security as: Groundwater accessed through borefields supplements surface water sources, particularly during periods of drought. The use of borefields requires careful management to prevent over-extraction, which can lead to declining water levels and quality.

Water Planning

The benefits of water planning include improved reliability of the drinking water supply through better matching of storage and transmission, with values in terms of emergency supply costs avoided estimated at \$7 per kilolitre.

Cost Benefit Analysis

The outcomes of the Cost Benefit Analysis, including a sensitivity analysis for each Water Security Option follows.

Results

The following tables show the results after costs are netted off from benefits.

Option	NPV	BCR	NPV Rank out of 2	BCR Rank out of 2
Base Case: Planning without projects	-\$170,915		-	-
Option 1: Water security: Groundwater	\$550,791	2.144	2	2
Option 2: Water security: Off river storage Nyngan	\$128,719,996	2.350	1	1

Figure 35 Capital Cost Benchmarks. Source: Analysis using NSW Treasury Rapid BCA Model

Options 1 and 2 have benefit cost ratios greater than 1 at 5% discount rate.

Sensitivity and Distributional Analysis

All options have positive Net Present Values at all discount rates considered.

Sensitivity	3% Discount Rate		7% Discount Rate		10% Discount Rate	
Option	NPV	BCR	NPV	BCR	NPV	BCR
Base Case	-\$170,729		-\$170,912		-\$170,632	0.106
Option 1	\$571,433	2.083	\$530,831	2.203	\$502,352	2.285
Option 2	\$210,584,491	2.959	\$75,745,210	1.891	\$28,613,666	1.397

Figure 38 Sensitivity Testing - Discount Rate

The results are insensitive to cost and benefit variance up to +/- 20%.

	Costs +20%		Costs -20%		Benefits +20%		Benefits -20%	
Option	NPV	BCR	NPV	BCR	NPV	BCR	NPV	BCR
Base Case	-\$209,962		-\$131,867		-\$166,050		-\$175,779	
Option 1	\$454,514	1.787	\$647,069	2.680	\$757,227	2.573	\$344,355	1.715
Option 2	\$109,643,314	1.958	\$147,796,678	2.937	\$173,540,677	2.819	\$83,899,315	1.880

Figure 39 Sensitivity to Cost and Benefit Variance

All options have positive Net Present Values for both Low case scenarios and High case scenarios.

Scenario	Low Case Scenario		High Case Scenario	
Option	NPV	BCR	NPV	BCR
Base Case	-\$214,827		-\$127,002	
Option 1	\$248,078	1.429	\$853,505	3.216
Option 2	\$64,822,633	1.566	\$192,617,358	3.524

Figure 40 Sensitivity to Negatively Correlated Benefit/Cost Variance

Governance Structure

The 'owner' of the initiative, and therefore the Chair of the Steering Committee for each project within the initiative will be at the discretion of the Far Northwest Joint Organisation and the respective Councils within the region.

Governance Structure for the project would comprise the following:

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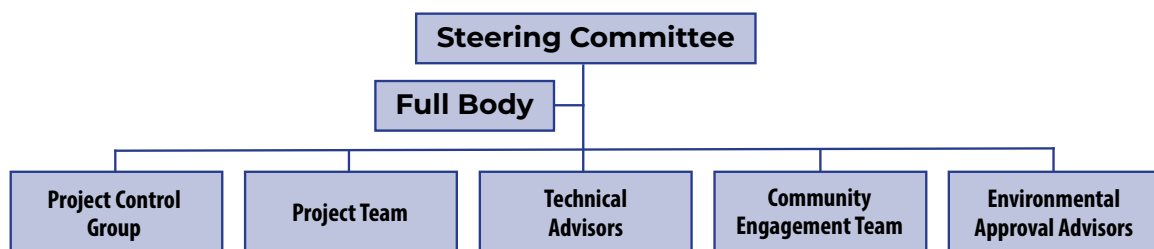


Figure 54 – Governance Structure – Telecommunications Security Projects

- Steering Committee: responsible for strategic direction, oversight, decision-making, and ensuring that the project aligns with the Regional Water Strategies. It could include representatives from the key stakeholders such as:
 - o Department of Climate Change, Energy, the Environment, and Water (DCCEE) – Water.
 - o Water NSW.
 - o Agriculture NSW.
 - o NSW Farmers Association
 - o Representatives of identified agriculture industries.
 - o Mayors and Council representatives
 - Funding Body: Representatives from the funding body such as
 - o Future Drought Fund
 - o Australian Government National Water Grid
 - o NSW Government Representatives from DCCEE - Water
 - Project Control Group (PCG): Responsible for monitoring progress, managing project risks, making decisions about day-to-day operational issues, and ensuring the project stays on schedule and within budget.
 - Project Team: Comprising of Project Manager, Technical Team Members and Administrative Support.
 - Technical Advisors: Experts in water management, agriculture, environmental science, and community engagement, would provide technical advice to feasibility studies.
 - Community Engagement Team: Manage stakeholder communications and engagement activities.
 - Environmental Approval Advisors: Oversee all environmental assessments, ensure compliance with regulations, and manage the environmental impact studies and development approvals process.
- A proposed adaptive framework for monitoring and updating the project / initiative follows.

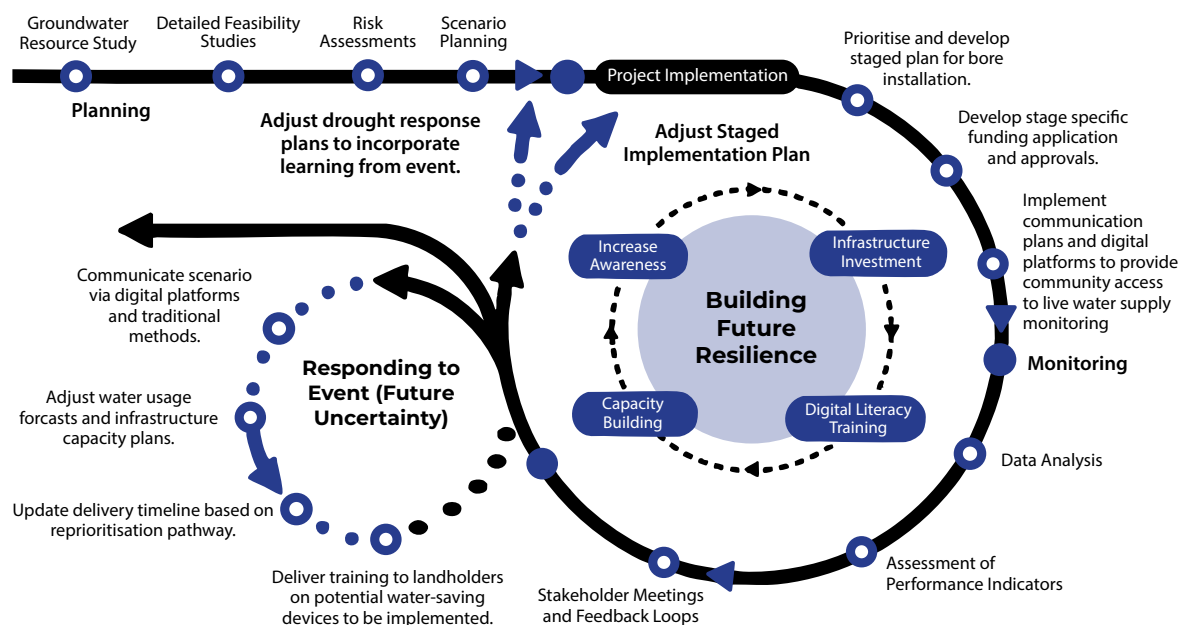


Figure 42: Framework for monitoring and updating the Long Term Water Security Project delivery (TSG 2024).

Responsiveness to Future Scenarios and Uncertainties

An analysis of the impact of potential future scenarios and uncertainties on the implementation and delivery of each project follows.

Future Scenario	Effect on Intended Project Outcomes	Changes to Project Implementation or Delivery for Prevention
Economic Recession	<ul style="list-style-type: none"> • Decreased funding availability for water security projects. • Lower community and stakeholder support due to economic hardships. • Reduced ability to invest in advanced water management technologies. • Altered water usage patterns, particularly for industry and manufacturing e.g. road construction. 	<ul style="list-style-type: none"> • Seek additional funding from state or federal grants. • Adjust project scope to align with reduced budgets, prioritising essential components like groundwater proving and standpipe installations. • Focus on cost-effective solutions and prioritise critical infrastructure upgrades. • Implement flexible pricing models to maintain water service affordability. • Complete a more detailed cost-benefit analysis to identify the most economically viable project.
Policy & Governance Changes	<ul style="list-style-type: none"> • Uncertainty in water management policies, affecting project planning and implementation. • Delays in approvals and funding due to regulatory changes. • Delays or modification to project delivery timeframe due to different project prioritisation. • Change in Federal budget affects funding allocation to water projects. • Inconsistent support for long-term water security initiatives. • Potential changes in water allocation and usage regulations affecting project feasibility. 	<ul style="list-style-type: none"> • Increased advocacy and engagement with policymakers to ensure supportive policies. • Flexibility in project timelines and milestones to accommodate policy changes. • Regular monitoring of policy developments and proactive adjustments to project plans. • Establish a project advisory group to guide the project and navigate regulatory changes. • Develop adaptable project frameworks to comply with evolving regulations, including possible modifications to groundwater extraction and off-river storage strategies.
Technological Advancements	<ul style="list-style-type: none"> • Variability in the adoption and effectiveness of new water management technologies. • Potential disparities in access to technology among community members. • Changes in water usage efficiency due to technological improvements and water saving device implementation. 	<ul style="list-style-type: none"> • Allocate budget for training and capacity building in new technologies/ • Incorporate the latest technologies for water management and monitoring systems, e.g. advanced groundwater sensors and automated control systems for standpipes. • Collaborate with technology providers and researchers to stay updated on advancements. • Ensure equitable access to new technologies by providing support and resources for all community members. • Adjust long-term water usage forecasts based on expected efficiency gains from new technologies.
Climate Variability	<ul style="list-style-type: none"> • Increased strain on water resources due to more frequent and severe droughts. • Potential damage to water infrastructure from extreme weather events. • Increased variability in water supply, complicating planning, management and delivery. • Altered precipitation patterns impacting groundwater recharge and surface water availability. 	<ul style="list-style-type: none"> • Increased budget for climate-resilient infrastructure and repair contingencies. • Contingency planning for extreme weather events, include rapid response protocols. • Incorporate infrastructure designed to withstand extreme weather conditions, such as reinforced storage facilities and resilient bore installations. • Regular monitoring and adaptive management to address changing conditions. • Implement advanced water management technologies to monitor and respond to variable water availability, such as automated standpipes and remote monitoring systems.

Future Scenario	Effect on Intended Project Outcomes	Changes to Project Implementation or Delivery for Prevention
Increased Fire Risk	<ul style="list-style-type: none"> • Damage to water infrastructure and storage facilities, reducing water availability. • Significant resources diverted to firefighting and recovery, affecting project funding. • Long-term degradation of water quality and water supply infrastructure. • Increased demand for water for firefighting, impacting overall availability. 	<ul style="list-style-type: none"> • Design and implement fire-resistant infrastructure, including fire-resistant bore casings and storage facility materials. • Increased budget for fire management and recovery efforts. • Development of emergency response plans specific to fire risks, ensuring rapid deployment of water resources for firefighting. • Potential delays and increased costs due to fire-related disruptions. • Implement water storage and distribution systems capable of supporting firefighting efforts, such as strategically located standpipes.
Health Crises	<ul style="list-style-type: none"> • Reduced community engagement and participation in water conservation and management programs. • Increased strain on local healthcare systems impacting project staff and community well-being. • Higher costs for ensuring health and safety standards in project implementation. • Potential shifts in water usage patterns due to increased hygiene and health needs. 	<ul style="list-style-type: none"> • Inclusion of health and wellness components in the project to address community needs. • Collaboration with healthcare providers to integrate services into project plans. • Allocation of additional resources for health-related infrastructure and programs. • Flexibility in project timelines to accommodate health crises and ensure community well-being. • Implement strict health and safety protocols for project activities and adjust water usage forecasts accordingly, ensuring adequate supply for hygiene needs.
Outmigration	<ul style="list-style-type: none"> • Reduced local workforce available for construction and maintenance of water infrastructure. • Decreased community engagement in water conservation programs. • Lower local economic activity, affecting funding and support for the projects. • Reduced water demand, altering usage patterns and affecting long-term water planning. • Potentially fewer bores needed if population declines significantly. • Variation to prioritisation of bore implementation due to change in specific region water demand. 	<ul style="list-style-type: none"> • Extend project timelines due to reduced workforce availability. • Increased costs for attracting and retaining skilled workers. • Implementation of community outreach programs to maintain engagement and participation. • Adjust water usage forecasts and infrastructure capacity plans based on changing population trends. • Reassess the number of bores and off-river storage facilities needed based on population changes. • Develop partnerships with regional organisations to support workforce needs.

Figure 43: Analysis of the impact of potential future scenarios and uncertainties

Monitoring, Evaluation and Learning - Pillar Implementation

Success measures and indicators that might be used by the Project Steering / Control Group for the project to measure the extent of progress towards the outcomes expressed in the program logic and delivery of the project follow.

Pillar 1 : Planning and Monitoring

- Risk Assessments and Scenario Planning:
 - Conduct detailed risk assessments to identify potential impacts on water security projects, including economic, social and environmental factors.

- Develop scenarios for various shocks, including climate events and economic shifts, to anticipate challenges and plan responses.
- Advanced Data Analytics:
 - Use geographical information systems (GIS) to monitor environmental conditions water resource availability, particularly focusing on groundwater levels and surface water storage.
 - Analyse data to assess the impact of climate variability on water infrastructure and supply.
- Regular Stakeholder Meetings and Feedback Loops:

- o Engage local businesses, community members, and government agencies in regular consultations.
- o Incorporate stakeholder feedback to adapt plans and improve project outcomes.
- Performance Indicators:
 - o Establish KPIs to track the success of water security initiatives and infrastructure resilience.
 - o Use real-time monitoring to adjust strategies as needed.

Pillar 2 : Responding to Drought Events

- Drought Response Plans:
 - o Develop clear actions and responsibilities for managing water resources during droughts, including the prioritisation of bore drilling and off-river storage utilisation.
 - o Ensure plans include maintaining water supply and supporting agricultural needs.
- Water-Efficient Technologies and Practices:
 - o Install advanced water-saving technologies in infrastructure projects, such as automated standpipes and efficient irrigation systems.
 - o Use drought-tolerant landscaping and irrigation systems to maintain green spaces with minimal water use.
- Alternative Community Activities:
 - o Promote the use of alternative water sources such as recycled water and desalination where possible.
 - o Enhance groundwater extraction and management to supplement surface water supplies.
- Emergency Communication Strategies:
 - o Implement communication plans and digital platforms to keep community members informed about drought conditions, water usage, infrastructure status and water availability.

Pillar 3 : Building Future Resilience

- Climate Resilient Infrastructure:
 - o Invest in flexible, adaptive water infrastructure that can operate under different environmental conditions, such as reinforced bore casings.
 - o Incorporate sustainable design principles to enhance durability and reduce environmental impact.
- Economic Diversification:

- o Support local businesses in adopting water-efficiencies to reduce their economic vulnerability.
- Community Education and Capacity Building:
 - o Provide training for local residents on water conservation and management practices, particularly focusing on the use of new technologies, water saving devices and water efficient systems.
 - o Promote awareness of water resilience and the importance of robust water infrastructure.

Monitoring Against Objectives

The applicable objectives of the Future Drought Fund Agreement, and relevant project level indicators to track outcomes and how the project is contributing to drought resilience outcomes follow.

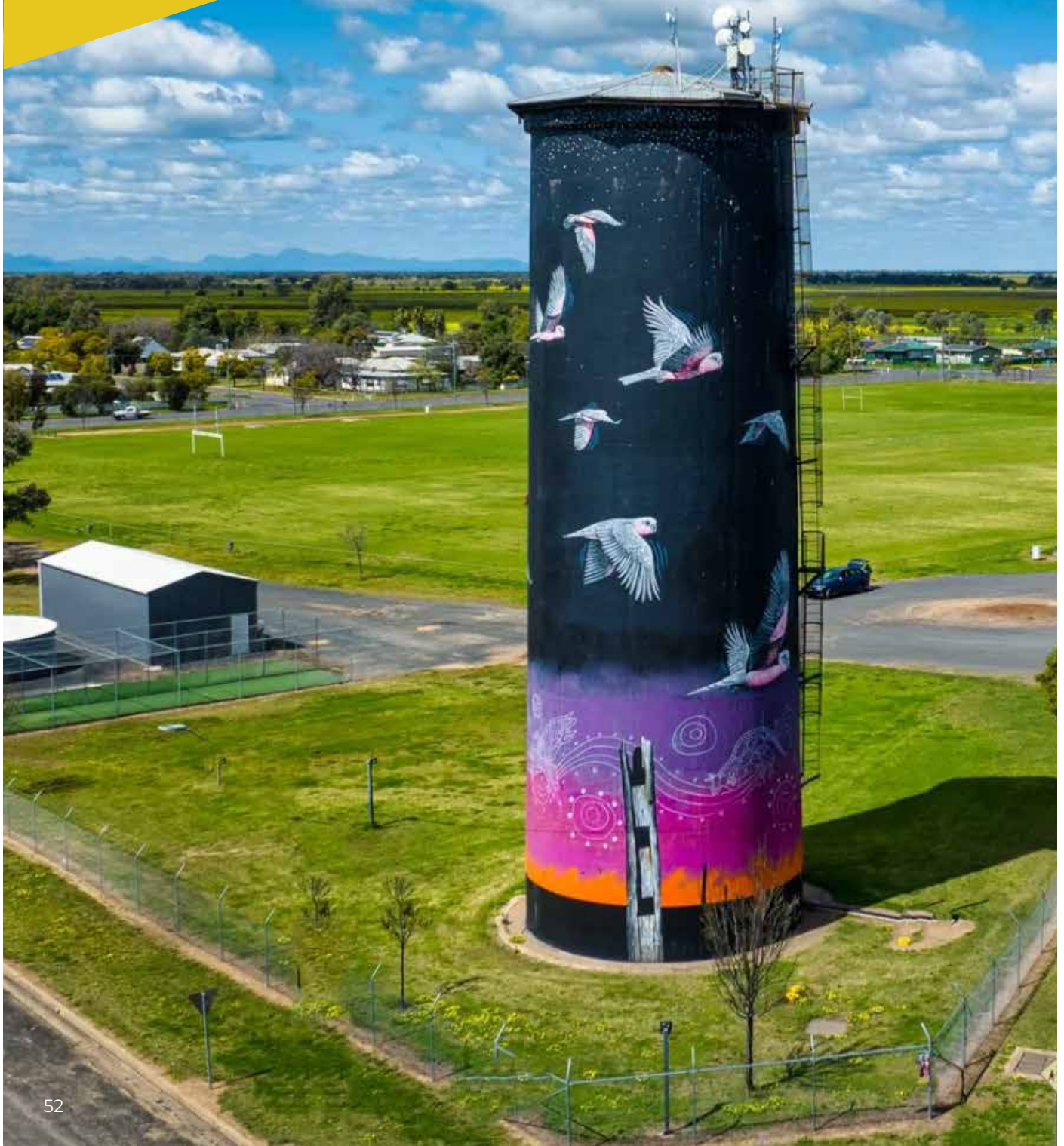
Objective 1: Develop the environmental resilience and natural capital of agricultural landscapes.

- Number of new water bores drilled and operational.
- Improvement in groundwater quality metrics (e.g. purity, chemical composition).
- Number of people with access to groundwater supply.
- Reduction in water wastage through effective use of standpipes and supervisory control systems.
- Volume of water distributed through standpipes for agricultural and domestic use.
- Increase in agricultural output (e.g. crop yields and livestock health) due to improved water availability. Drought-on-drought improvement in value of agricultural products.

Objective 2: Understand and plan for the region's current and future drought resilience by identifying actions, pathways, and opportunities for mitigation, adaptation and improvement.

- Number of water infrastructure projects initiated based on these outcomes.
- Increased time before surface water storage diminished (drought-on-drought comparison).
- Reduction in the number of days with water supply shortages during drought periods.

Telecommunications Security



Pathway to implementation

The pathway to the delivery of the initiative includes:

1. Conducting telecommunications assessments, feasibility and technical studies.
2. Identifying partner telecommunications providers.
3. Development of a telecommunications plan to address identified shortfalls in the telecommunications strategy.
4. Environmental assessments.
5. Detailed cost estimate.
6. Complete full business case.
7. Funding applications / arrangements and regulatory approvals.
8. Tender (as required) for construction of new and upgrade of existing infrastructure.
9. Establishment of the 'agtech' and solar programs (including associated education and training programs).

Supporting Broader Resilience

The telecommunications projects will contribute to improved drought resilience of the Northwest Region through:

- Transforming the 'agtech' communications infrastructure and capability.
- Modifying and enhance the existing and remote water monitoring capability of the agricultural sector (through tank level sensors, trough level sensors, remote pump control, pressure/flow sensors, remote cameras, weather stations, and vehicle Wi-Fi meshing).
- Maintaining sustainability of local businesses, tourism and agricultural operations, through the provision of a resilient telecommunications system.

Additionally, the relevance of the project to improving the resilience of the region to identified challenges follows.

Challenge	Telecommunications Security Relevance
Economic Hardship	Secure telecommunications allow families facing economic hardship to access financial services remotely, such as online banking, applying for aid, or seeking employment opportunities. It also enables e-commerce for businesses trying to reach wider markets outside drought-impacted areas, helping sustain local economies.
School Closures or Reduced Services	With schools and health facilities potentially closing (decreased demand, operational challenges or funding) or reducing services (due to downsize from families moving away), reliable telecommunications is required for continuing education through online platforms and accessing telehealth services. This ensures that education and healthcare services are uninterrupted, bridging the gap caused by physical service disruptions.
Labour Needs on Farms	As labour demands increase on farms, telecommunications can facilitate the use of smart farming techniques, which can be monitored remotely, reducing the need for constant physical presence. This allows families to balance educational and health priorities alongside agricultural responsibilities.
Health Issues	Secure telecommunications networks ensure that individuals facing health issues can continue to access health information and Telehealth services without needing to travel. This is important in managing both emergency and health conditions when local health resources are strained or inaccessible.
Transportation	When transportation is unreliable or inaccessible, telecommunications provide a link to the outside world. Secure networks ensure that virtual meetings, remote schooling, and digital healthcare consultations are possible, mitigating the impact of disrupted physical mobility.

Challenge	Telecommunications Security Relevance
Psychological Stress	Reliable telecommunications support mental health by enabling access to online counselling and support groups, which are more common during times of increased stress and isolation caused by drought. These services help maintain mental well-being and provide coping mechanisms for individuals and communities facing prolonged drought conditions.

Figure 45: Analysis of Resilience Challenges associated with the project

The projects support the pillars of drought resilience as follows:

Pillar 1 : Planning & Monitoring	Pillar 2 : Responding to Drought Events	Pillar 2 : Building Future Resilience
<ul style="list-style-type: none"> · Identify telecommunications blackspots of 4G and 5G networks. · Plan for the upgrade and expansion of 4G and 5G networks. · Monitor current network usage and predict future demands to inform infrastructure improvements. 	<ul style="list-style-type: none"> · Identify and prioritise network support for critical agricultural operations and essential businesses during drought conditions. Timely data about weather changes, soil moisture, and crop conditions can significantly mitigate the impact of drought on agricultural productivity. · Implement emergency communication protocols to maintain connectivity for critical services when standard infrastructure fails. For drought stricken areas, this means ensuring that critical updates regarding water availability, relief programs, and health advisories reach all community members reliably and quickly. 	<ul style="list-style-type: none"> · Invest in resilient telecommunications infrastructure capable of withstanding extreme weather events. · Foster innovative tech solutions to ensure uninterrupted connectivity and support the digital needs of businesses and agriculture.

Figure 46 - Drought Resilience, Adaption and Management Model Pillars – Telecommunications Projects

Timeline



Figure 47 – Timeline – Telecommunications Security Projects

Economic Analysis

An economic analysis for the Telecommunications Project follows. The analysis included identification of the Costs and Benefits of the projects, and the completion of a Cost Benefit Analysis.

The methodology employed was consistent with the real options methodology of the NSW Treasury Guidelines and remained within the cash flow framework of Treasury’s recommended rapid cost-benefit analysis technique.

Accordingly, the nature of the technique is to assess benefits and costs at a high level, using readily available secondary data, but not undertake primary research. Where primary research is lacking, the assessment proceeds by estimating through a decision tree the likely costs and benefits of each “known unknown” in the project logic and incorporating this assessment on a risk (probabilistic basis) in the analysis.

For the cost-benefit analysis, the telecommunications strategy was assessed against a base case:

- Base Case – Planning without projects – A base level of expenditure based on current planning for water security and telecommunications within the regions is assumed.
- Option 1 – Telecommunications Upgrade – Improve telecommunications connectivity (4G and 5G) in the region to support business and agricultural productivity.

The principal tasks involved in the Telecommunications Security project include investigating significant areas of non-connection to the mobile broadband network and subsequent implementation of “black spot” investments to locate new towers to support continuity of coverage. This will enable in-paddock and at-home phone service improvement and improve work-from-home capabilities.

Costs

The costs have been calculated on benchmark estimates by area and scope.

A number of similar programs, including Squadron Link, have been used to benchmark costs.

Description of work	Unit cost	Units	Total cost:
Mobile coverage and Topographical Survey	\$50,000	1	\$50,000
Towers	\$20,000	30	\$600,000
Fibre connectivity	\$200,000	1	\$200,000
Solar powered battery packs	\$50,000	1	\$50,000
Licensing & Subscription	\$50,000	1	\$50,000
Project Management	\$200,000	1	\$200,000
Escalation & Contingency	\$50,000	1	\$50,000
Total Cost			\$1,200,000

Figure 48: Mobile Phone Coverage Investment

Benefits

The impact charts illustrate the likely benefits of the major options:

- Improved telecommunications offer safety and health benefits to the region. As permanent infrastructure, benefits accrue both in and outside emergency situations like drought or flood.
- Safety: Emergency response time savings valued using risk and value of life.
- Health: Reduced transport cost to nearest health centre. Improved pre-care for emergency patients.
- Supporting operational continuity of local businesses, community and agricultural activities.
- Improving the community's confidence in their economic stability.

These benefits can be further broken down into:

- Local business and community operational continuity benefits;
- Benefits for non-local users, either as receivers of telecommunications in other regions, or as visitors to the region; and
- Health-related benefits for the local community.

To these can be added the technological benefits of the proposed device program being used by farmers to give a more efficient water use. Measuring these benefits includes calculating the time savings from better telecommunications and valuing them using average earnings.

Description of work	Total cost:	
Black spots addressed	5	
Population Impacted	100%	
Time saving (hours per annum per person)	0.1	Estimate
Value	\$1,958	Average Weekly Earning
Value per hour	\$56	35 hour week
Value of time saving per annum	\$5.59	
Total population impacted	2,550	Population of the Warren region

Figure 49 General Telecommunications Benefits

The total value in the Rapid Cost Benefit Analysis Model is calculated as the value of local time saving (\$5.59 per person) times the local population, plus the value to the population as a whole per person, \$0.06 times the state population.

Cost Benefit Analysis

The outcomes of the Cost Benefit Analysis, including a sensitivity analysis for the telecommunications security project follows with the tables showing the results after costs are netted off from benefits.

Option	NPV	BCR
Base Case: Planning without projects	-\$170,915	
Option 1: Telecommunications Security	\$2,483,237	3.471

Figure 50 Rapid Cost Benefit Analysis Results. Source: Analysis using NSW Treasury Rapid BCA Model

Option 1 has a benefit cost ratio greater than 1 at a 5% discount rate.

Sensitivity and Distributional Analysis

The Telecommunications Security project has a positive Net Present Value at all discount rates considered.

Sensitivity	3% Discount Rate		7% Discount Rate		10% Discount Rate	
Option	NPV	BCR	NPV	BCR	NPV	BCR
Base Case	-\$170,729		-\$170,912		-\$170,632	0.106
Option 1	\$3,418,118	4.408	\$1,821,703	4.408	\$1,149,572	2.139

Figure 51 Sensitivity Testing - Discount Rate

The results are insensitive to cost and benefits variance up to +/- 20%.

Option	Costs +20%		Costs -20%		Benefits +20%		Benefits -20%	
	NPV	BCR	NPV	BCR	NPV	BCR	NPV	BCR
Base Case	-\$209,962		-\$131,867		-\$166,050		-\$175,779	
Option 1	\$2,282,284	2.893	\$2,684,189	4.339	\$3,180,837	4.166	\$1,785,637	2.777

Figure 52 Sensitivity to Cost and Benefit Variance

The Telecommunications Security project has positive Net Present Values for both Low Case scenarios and High Case scenarios.

Option	Low Case Scenario		High Case Scenario	
	NPV	BCR	NPV	BCR
Base Case	-\$214,827		-\$127,002	
Option 1	\$1,584,685	2.314	\$3,381,789	5.207

Figure 53 Sensitivity to Negatively Correlated Benefit / Cost Variance

The Low Case Scenario assumes a cost increase of 20% and a benefit decrease of 20% with a social discount rate of 5%.

The High Case Scenario assumes a cost decrease of 20% and a benefit increase of 20% with a social discount rate of 5%.

Governance Structure

The 'owner' of the initiative, and the Chair of the Steering Committee for each project within the initiative will be at the discretion of the Far Northwest Joint Organisation and the respective Councils within the region.

Governance Structure for the project would comprise the following:

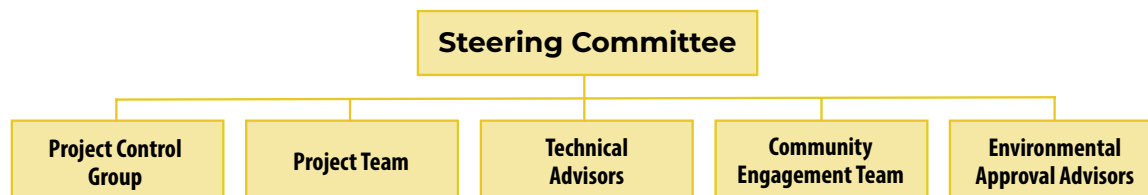


Figure 54 – Governance Structure – Telecommunications Security Projects

- Steering Committee: responsible for strategic direction, oversight, decision-making, and ensuring that the project aligns with funding program. It could include representatives from the key stakeholders such as:
 - o Federal/State Governments.
 - o Telecommunications Regulators.
 - o Mobile Network Operators.
 - o Mobile Network Infrastructure Providers.
- Project Control Group (PCG): Responsible for monitoring progress, managing project risks, making decisions about day-to-day operational issues, and ensuring the project stays on schedule and within budget.
- Project Team: Comprising of Project Manager, Technical Team Members and Administrative Support.
- Technical Advisors: Experts in telecommunications, environmental science, and community engagement, would provide technical advice to feasibility studies
- Community Engagement Team: Manage stakeholder communications and engagement activities
- Environmental Approval Advisors: Oversee all environmental assessments, ensure compliance with regulations, and manage the environmental impact studies and development approvals process.

A proposed adaptive framework for monitoring and updating the project / initiative follows.

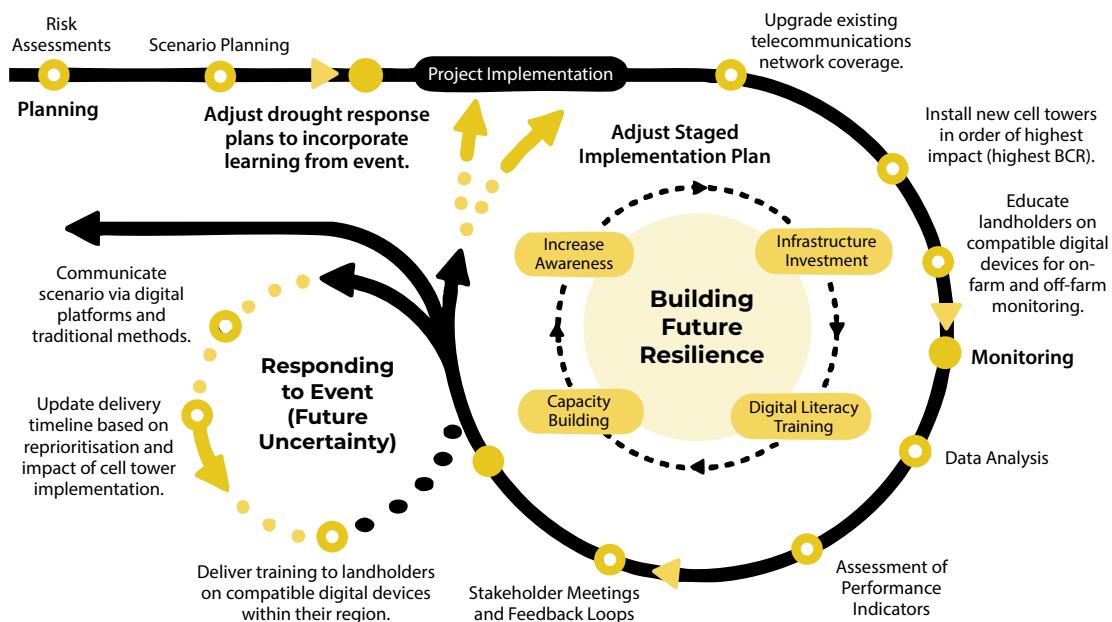


Figure 55: Framework for monitoring and updating Telecommunications Strategy delivery (TSG 2024).

Responsiveness to Future Scenarios and Uncertainties

An analysis of the impact of potential future scenarios and uncertainties on the implementation and delivery of the project follows.

Future Scenario	Effect on Intended Project Outcomes	Changes to Project Implementation or Delivery for Prevention
Economic Recession	<ul style="list-style-type: none"> Decreased funding for telecommunications upgrades and maintenance. Lower participation in digital literacy and economic stability programs due to financial hardships 	<ul style="list-style-type: none"> Seek additional funding from state or federal grants. Adjust project scope to align with reduced budgets. Focus on low-cost, high-impact infrastructure upgrades e.g. staged implementation of upgrades with most significant coverage.
Policy & Governance Changes	<ul style="list-style-type: none"> Uncertainty in policy direction, affecting strategic planning and resource allocation. Delays in funding and support for telecommunications programs due to regulatory changes. Inconsistent support for social and infrastructure development initiatives. 	<ul style="list-style-type: none"> Increased advocacy and engagement with policymakers to ensure supportive policies. Develop partnership with a private telecommunications company to reduce effect of government changes on delivery timeline. Establish a policy advisory group to guide the project and navigate regulatory changes. Provide community engagement sessions between telecommunications provider to ensure community members are aware of the effect of technological redundancies that may result from policy variation.
Technological Advancements	<ul style="list-style-type: none"> Variability in the adoption and effectiveness of new technologies for telecommunications. Potential disparities in access to technology among community members. 	<ul style="list-style-type: none"> Ensure that technology advancements are compatible with all network generations to prevent redundancy. Allocate budget for training and capacity building for landowners to implement advanced technology and utilise efficiently. Ensure that cell towers can be easily updated at a reduced cost when technology becomes available. Develop long-term partnerships and contracts with telecommunications providers that ensure updates to technology are conducted as they become available.

Future Scenario	Effect on Intended Project Outcomes	Changes to Project Implementation or Delivery for Prevention
Climate Variability	<ul style="list-style-type: none"> • Increased risk of damage to telecommunications infrastructure from extreme weather events. • Potential interruptions in service affecting business continuity and community communication. 	<ul style="list-style-type: none"> • Increased budget for climate-resilient infrastructure and repair contingencies. • Ensure that cell towers and installed technology is designed to withstand extreme weather conditions. • Complete regular maintenance and monitoring to ensure infrastructure resilience.
Increased Fire Risk	<ul style="list-style-type: none"> • Damage to telecommunications infrastructure, reducing service availability and impacting communication. • Significant resources diverted to firefighting and recovery, affecting project funding. • Long-term degradation of community connectivity. 	<ul style="list-style-type: none"> • Design and implement fire-resistant telecommunications infrastructure.
Health Crises	<ul style="list-style-type: none"> • Reduced community engagement and event attendance in digital literacy programs due to health concerns. • Increased strain on local healthcare systems impacting telehealth services. • Diversion of funding from telecommunication investment to the healthcare system. • Diminished ability for individuals to access healthcare services on-demand. 	<ul style="list-style-type: none"> • Collaboration with healthcare providers to integrate telehealth services. • Implementation of strict health and safety protocols for infrastructure installation and maintenance. • Digital health platform that connects residents with all healthcare providers in the region.
Outmigration	<ul style="list-style-type: none"> • Reduced participation in digital literacy programs. • Change in percentage coverage and proportional access from cell tower implementation in particular regions. • Lower volunteer numbers, impacting the implementation and maintenance of infrastructure. • Decreased economic activity and local business engagement. 	<ul style="list-style-type: none"> • Extended timeline for project delivery due to reduced workforce availability. • Re-prioritise cell tower implementation regularly following implementation of prior tower. • Increased costs for attracting and retaining volunteers and participants. • Implementation of incentives to encourage local participation and retention. • Develop targeted outreach programs to re-engage out-migrated community members.

Figure 56: - Analysis of the impact of potential future scenarios and uncertainties

Monitoring, Evaluation and Learning – Pillar Implementation

Success measures and indicators that might be used by the Project Steering / Control Group for the project to measure the extent of progress towards the outcomes expressed in the program logic and delivery of the project follow.

Pillar 1 : Planning and Monitoring

- Risk Assessments and Scenario Planning
 - Conduct detailed risk assessments to identify potential impacts on telecommunications infrastructure and digital services.
 - Develop scenarios for various shocks, including climate events and economic shifts, to anticipate challenges and plan responses.

- Advanced Data Analytics
 - Use geographical information systems (GIS) to monitor environmental conditions and infrastructure performance e.g. how has coverage and network connectivity varied due to implementation of cell towers.
 - Analyse data to assess the impact of climate variability on network reliability and coverage.
- Regular Stakeholder Meetings and Feedback Loops
 - Engage local businesses, community members, and government agencies in regular consultations.
 - Incorporate stakeholder feedback to adapt plans and improve project outcomes.

- Performance Indicators
 - Establish KPIs to track the success of telecommunications upgrades e.g. redundancy of on- and off-farm technologies is decreased with subsequent network updates. network coverage across the region is increased and maintained.
 - Use real-time monitoring to adjust strategies as needed

Pillar 2 : Responding to Drought Events

- Drought Response Plans
 - Develop clear actions and responsibilities for maintaining telecommunication services during droughts.
 - Ensure plans include supporting remote monitoring of agricultural equipment and community connectivity.
- Water-Efficient Technologies and Practices
 - Implement solar-powered stations to reduce dependency on water-intensive power generation.
 - Use drought-tolerant landscaping around cell towers to maintain access with minimal water use.
- Alternative Community Activities
 - Promote online and virtual community activities that do not rely on physical presence.
 - Enhance digital infrastructure to support remote work, education, and social engagement during drought conditions.
- Emergency Communication Strategies
 - Implement communication plans and digital platforms to keep community members informed about drought conditions, responses and resultant changes to the program schedule.

Pillar 3 : Building Future Resilience

- Climate Resilient Infrastructure
 - Invest in flexible, adaptive telecommunications infrastructure that can operate under different environmental conditions.
 - Incorporate sustainable design principles to enhance durability and reduce environmental impact.
- Economic Diversification
 - Support local businesses in adopting digital tools to expand their market reach, reduce economic vulnerability, reduce

reliance on human resources, and enable off- farm farm management.

- Community Education and Capacity Building
 - Provide training for local residents on digital literacy and the use of new telecommunications technologies.
 - Promote awareness of digital resilience and the importance of robust telecommunication infrastructure.

Monitoring Against Objectives

The applicable objectives of the Future Drought Fund Agreement, and relevant project level indicators to track outcomes and how the project is contributing to drought resilience outcomes follow.

Objective 1 : Develop the agricultural sector's self-reliance and economic performance.

- Percentage increase in 4G and 5G coverage across agricultural areas.
- Number of agricultural operations utilising enhanced telecommunications for remote monitoring and control of equipment, and decreased technology and device redundancy with implementation of new networks.
- Percentage reduction in operational downtime due to improved connectivity.
- Increase in productivity and efficiency metrics because of Agtech adoption (e.g. reduced water usage, optimised crop yields).

Objective 2 : Strengthen the social capital and wellbeing of the communities.

- Number of community facilities (e.g. schools, health centres), with improved telecommunications infrastructure.
- Number of telehealth services available and utilised within the community.
- Percentage increase in mental health support sessions conducted via telecommunication platforms.

Objective 3 : Understand and plan for the region's current and future drought resilience by identifying actions, pathways, and opportunities for mitigation, adaptation and improvement.

- Percentage of farmers and businesses utilising drought data from sensors and monitoring devices for real-time tracking of environmental conditions and decision making.

Stronger Communities Program



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Project Description

Residents of the Northwest region frequently experience increased stress during drought conditions. During Droughts the situation is worsened:

- by the departure of key services and community members, which puts additional strain on the remaining volunteers and community leaders.
- by a noticeable lack of support or awareness of the available aid during these times.
- when various social events are organised with a primary focus on drought-related themes. This approach often limits opportunities for community members to engage and interact without the constant overshadowing of drought conditions.
- by the sole reliance on farming for a large majority of businesses within the region, increasing vulnerability of businesses during periods of drought.

The community has expressed a significant need for better data on the social effects of drought and the effectiveness of mental health interventions to address these issues.

The Stronger Communities Program is designed to improve community cohesion, well-being and financial resilience in the Northwest Region through:

- A series of targeted activities and frameworks specifically designed to maintain and improve the social fabric of rural and regional communities, and the resilience of businesses, particularly during extended or intense periods of drought.
- Events held regularly (monthly), in different towns across the region, regardless of 'drought' periods, to foster and promote social connectivity and stronger communities. These events aim to provide opportunities for community members to engage with each other in a relaxed environment, with a focus on interaction rather than drought discussion.
- Events designed to coincide with existing regional events (shows, festivals, etc), and have some reliance on partnerships

with local businesses and services. While not intended to be a counselling service, counselling representatives will be in attendance to establish trust and connections for those experiencing mental health challenges.

- The incorporation of Rural Financial sessions and mentoring to improve the knowledge, skills and strategies of local farmers and businesses to better plan for, respond to, and recover from drought events.

“There is a reason for the decrease in population, especially in adult males, because historically we would have three or four people always working with us, but now technology is such that a lot of middle-aged males are out there on their own for extended periods. Our paranoia about being away from the farm is there. The big winner has been the regional sport for adults and kids. Kids sport brings families together. All of this also prevents children and teenagers from being at home bored, they are not acting as delinquents around our streets at 2 O'clock in the morning. It isn't a drought thing, but a social living thing.”

– *Greg Whiteley*

Scope

The scope of the 'Stronger Communities Program includes:

- Activities and events aimed at promoting social cohesion and connectivity, supported by council-led initiatives.
- Regular, targeted consultations with key demographic groups, (including First Nations people, young families, and the youth), to incorporate their insights into resilience planning
- Community sports activities and events designed to counter social isolation and bolster mental health, particularly among young men.

- Provision of administrative support roles to alleviate the workload on volunteers and community leaders during droughts.
- Content development for financial resilience sessions e.g. government assistance, debt mediation, risk management, business diversification, etc.
- Delivery of financial resilience sessions.
- Provision of community resources to serve as innovation hubs for developing drought resilience solutions.
- Development of a socially focused drought resilience framework to evaluate the impact of drought and the effectiveness of support programs.
- Development and delivery of educational programs, direct business mentoring, and the promotion of innovative practices that enhance drought resilience.

3. Development of a socially focused drought resilience framework to evaluate the impact of drought and the effectiveness of the support programs.
4. Detailed cost estimate (activities, (including the financial resilience sessions) and administrative support roles).
5. Design of the administrative support roles.
6. Funding applications and approvals.
7. Content development for financial resilience sessions.
8. Development of the detailed program of events / activities.
9. Scheduling and advertising of events / activities.
10. Conduct and evaluation of activities.

Pathway to implementation

The pathway to the delivery of the initiative includes:

1. Formation of a Steering and Project Control / Working Group under the respective Council.
2. Development of a plan (that includes stakeholder engagement) to underpin the implementation of activities and events aimed at promoting social cohesion and connectivity (targeted consultations, community events and activities).

Supporting Broader Resilience

The ‘stronger communities’ program projects will contribute to improving drought resilience of the Northwest Region through:

- Modifying the existing system for the provision of support during periods of drought.
- Maintaining the social cohesion and connectivity of the region.

Additionally, the relevance of the project to improving the resilience of the region to identified challenges follows.

Challenge	Stronger Communities Program Relevance
Social Isolation and Mental Health	Programs aimed at enhancing social cohesion and providing mental health support reduce the strain on community members, improving overall community well-being during drought periods.
Reduced Community Services	Increasing the capacity of local services and supporting volunteer leaders, the program helps maintain essential community functions during challenging times.
Reduced Community Knowledge Sharing Opportunities	Encourages connection among community members, enabling them to share effective coping strategies and support each other through the collective experiences of managing drought impacts.
Sports Facility Maintenance	Supports the maintenance of sports facilities which suffer during droughts, ensuring they remain operational. This maintains opportunities for physical activity and social interaction, important for mental and physical health during challenging periods.

Challenge	Stronger Communities Program Relevance
Decline in agricultural productivity	By providing educational programs and strategic management tools, the program helps farmers make informed decisions during critical phases of drought, such as destocking or modifying farming plans to preserve resources, thereby mitigating the severity of productivity losses.
Economic contraction and loss of employment	The program promotes diversified income sources, such as tourism and alternative agricultural practices, reducing the sole reliance on traditional farming. This diversification helps stabilise local economies and retain populations during droughts, thereby sustaining employment and economic activity.
Environmental degradation	Training and support in innovative farming practices and environmental management are central to the program, helping farmers adopt sustainable practices that maintain soil health and reduce environmental impact during drought conditions.

Figure 57: Analysis of Resilience Challenges associated with the project

The projects support the pillars of drought resilience as follows:

Pillar 1 : Planning & Monitoring	Pillar 2 : Responding to Drought Events	Pillar 2 : Building Future Resilience
<ul style="list-style-type: none"> Engage in data collection and regular community consultation to inform resilient planning and support system development. Support the development of regional drought resilience and management plans, ensuring they reflect the community's needs. Educate farmers and business owners on proactive decision-making through workshops and one-on-one mentoring. Incorporate responsive planning and agricultural practices. 	<ul style="list-style-type: none"> Launch community activities and support services quickly during drought periods to maintain social networks and well-being. Implement administrative support roles to alleviate pressures on community leaders and volunteers. Identify vulnerable sectors within agriculture and local businesses that require support during drought. Develop targeted support mechanisms for these groups. 	<ul style="list-style-type: none"> Develop enduring community facilities and infrastructure that contribute to long-term drought resilience and community wellbeing. Foster local leadership and entrepreneurship, particularly among the youth, to drive community initiatives that build resilience. Encourage the adoption of innovative farming practices and diversification strategies. Collaborate with stakeholders to develop infrastructure and business models that can withstand drought conditions. Undertake measures such as workshops and consultations to mitigate the impacts of drought and enhance long-term resilience.

Figure 58 - Drought Resilience, Adaption and Management Model Pillars – Stronger Communities Program

Timeline



Figure 59 - Timeline – Stronger Communities Program

Budget

Specific budgets to be allocated post-consultation phase for each activity, with considerations for infrastructure, personnel, and marketing.

Accordingly, an economic analysis for this program has not been able to be completed within this plan.

Governance Structure

The ‘owner’ of the initiative, and therefore the Chair of the Steering Committee for each project within the initiative will be at the discretion of the respective Council within the region.

Governance Structure for the project would comprise the following:

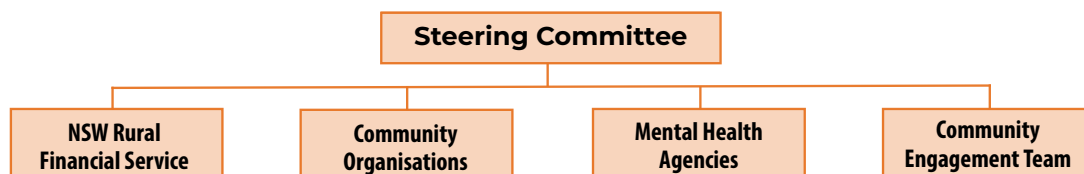


Figure 60 – Governance Structure – Stronger Communities Program

The Steering Committee is responsible for the strategic direction, oversight, decision-making, and ensuring that the project aligns with a funding program.

A proposed adaptive framework for monitoring and updating the project / initiative follows.

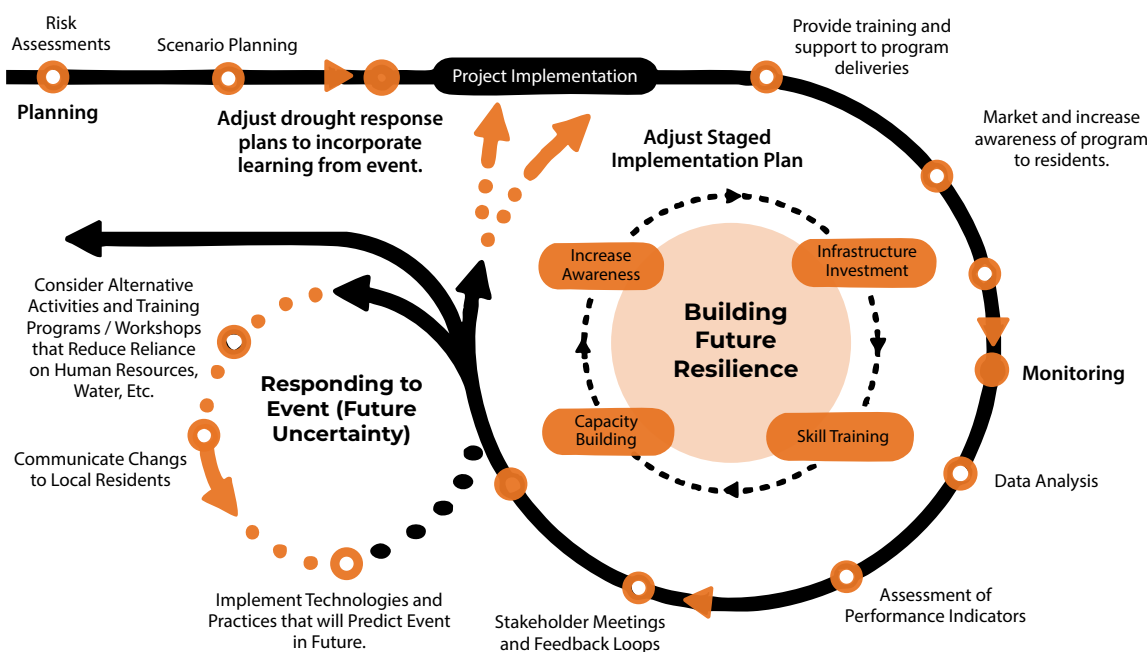


Figure 61: Framework for monitoring and updating the Stronger Communities Program (TSG 2024).

Events Schedule: Example of Events Schedule - Each community will develop their own Events Schedule with activities, dates and locations TBD by each Steering Committee.

Date	Location	Event Title	Event Description	Sponsor
October 10, 2024	Coonamble Showground Pavilion	Community BBQ & Games	A fun day with BBQ, games, and activities for all ages.	Coonamble Shire Council
October 20, 2024	Coonamble Community Hall	Financial Literacy for Rural Families	Workshop on financial literacy, budgeting, and savings tailored for rural families.	Rural Financial Counselling Service NSW

Date	Location	Event Title	Event Description	Sponsor
December 8, 2024	Warren Windows on the Wetland Precinct	Family Movie Night	An outdoor movie night for families with free popcorn.	Warren Shire Council
December 15, 2024	Online	Online Workshop on Drought Management	Webinar on managing finances during drought, including emergency funds.	Rural Financial Counselling Service NSW
February 12, 2025	Nyngan Showgrounds	Teen Sports Day	A day of sports competitions and activities for teenagers.	Bogan Shire Council
February 25, 2025	Warren Community Room	Tax Planning and Preparation	Detailed workshop on tax planning, preparation, and maximizing deductions.	Warren Shire Council
April 16, 2025	Coonamble Recreation Park	Family Picnic Day	A relaxed picnic with food, music, and family games.	Coonamble Local businesses
April 20, 2025	Online	Superannuation Essentials	Understanding superannuation and planning for the future.	Rural Financial Counselling Service NSW
June 10, 2025	Warren Sport & Cultural Centre	Adults' Trivia Night	A fun trivia night with prizes for adults.	Warren Local Businesses
June 15, 2025	Nyngan Community Centre	Managing Loans and Interest Rates	Workshop on managing loans, understanding interest rates, and financial planning.	Bogan Shire Council
August 12, 2025	Coonamble Park	Family Gardening Day	A day dedicated to community gardening and environmental activities.	Coonamble Environmental Club
August 25, 2025	Online	Children's Financial Literacy Program	Interactive program teaching children the basics of financial management	Local Schools
October 14, 2025	Coonamble Showgrounds	Family Fun Fair	A fair with rides, games, and food stalls for families.	Coonamble Community Groups
October 20, 2025	Coonamble Community Hall	Tracking Farm Finances Effectively	Workshop on effective tracking of farm finances, including income and expenses.	Coonamble Shire Council
December 9, 2025	Warren Sport & Cultural Centre	Adults' Comedy Night	A comedy night featuring local comedians for adults.	Warren Community Groups
December 15, 2025	Online	Understanding Depreciation	Webinar explaining depreciation and its application in farming.	Rural Financial Counselling Service NSW
February 10, 2026	Nyngan Civic Centre	Teen Disco	A disco night with music and dancing for teenagers.	Bogan Community Groups
February 20, 2026	Warren Community Room	End of Financial Year Planning	Workshop on preparing for the end of the financial year with practical tips.	Warren Shire Council
April 14, 2026	Coonamble Swimming Pool	Family Sports Day	A day of sports activities and games for families.	Coonamble Sports Clubs
April 25, 2026	Online	Investment Strategies	Strategies for investing wisely in rural communities.	Rural Financial Counselling Service NSW
June 9, 2026	Warren Museum & Art Gallery	Adults' Wine & Cheese Evening	A sophisticated evening of wine tasting and cheese for adults.	Warren Cultural Association

Date	Location	Event Title	Event Description	Sponsor
June 20, 2026	Nyngan Community Centre	Debt Management and Credit	Managing debt, understanding credit, and improving financial health.	Bogan Shire Council
August 11, 2026	Nyngan Recreation Reserve	Kids Art Workshop	An art workshop for kids to explore their creativity.	Bogan Arts Council
August 25, 2026	Online	Kids' Saving Strategies	Teaching kids about saving money and setting financial goals.	Local Schools
October 13, 2026	Coonamble Town Hall	Family Halloween Party	A Halloween party with costumes, games, and treats for families.	Coonamble Retailers
October 20, 2026	Coonamble Community Hall	Budgeting and Cash Flow Management	Creating effective budgets and managing cash flow in agricultural businesses.	Coonamble Shire Council
December 8, 2026	Warren Victoria Park & Oval	Adults' Live Music Night	A night of live music performances for adults.	Warren Music Society
December 15, 2026	Online	Building Financial Resilience	Building financial resilience in rural areas to withstand economic challenges.	Rural Financial Counselling Service NSW
February 9, 2027	Nyngan Community Centre	Teen Talent Show	A talent show for teenagers to showcase their skills.	Bogan Youth Centre
February 20, 2027	Warren Community Room	Long-Term Financial Planning	Planning for long-term financial stability and succession planning.	Warren Shire Council
April 13, 2027	Coonamble Park	Family Gardening Day	A day dedicated to community gardening and environmental activities.	Coonamble Environmental Club
April 25, 2027	Online	Using Financial Tools and Apps	Using modern financial tools and apps for better financial management.	Rural Financial Counselling Service NSW

Figure 62 – Stronger Communities Program - Events

Responsiveness to Future Scenarios and Uncertainties

An analysis of the impact of potential future scenarios and uncertainties on the implementation and delivery of each project follows.

Future Scenario	Effect on Intended Project Outcomes	Changes to Project Implementation or Delivery for Prevention
Economic Recession	<ul style="list-style-type: none"> Decreased funding for community events and programs. Lower participation in financial literacy and resilience sessions due to economic hardships. Reduced support from local businesses and sponsors. 	<ul style="list-style-type: none"> Seek additional funding from state or federal grants. Adjust project scope to align with reduced budgets. Focus on low-cost, high-impact activities and events. Strengthen partnerships with local businesses to share resources and costs. Introduce subsidised participation fees to encourage involvement.
Policy & Governance Changes	<ul style="list-style-type: none"> Uncertainty in policy direction, affecting strategic planning and resource allocation. Delays in funding and support for community programs due to regulatory changes. 	<ul style="list-style-type: none"> Establish a policy advisory group to guide the project and navigate regulatory changes. Flexibility in project timelines and milestones to accommodate policy changes.

Future Scenario	Effect on Intended Project Outcomes	Changes to Project Implementation or Delivery for Prevention
Policy & Governance Changes	<ul style="list-style-type: none"> • Inconsistent support for social and economic development initiatives. 	<ul style="list-style-type: none"> • Regular monitoring of policy developments and proactive adjustments to project plans. • Develop a comprehensive communication strategy to keep stakeholders involved.
Technological Advancements	<ul style="list-style-type: none"> • Variability in the adoption and effectiveness of new technologies for community engagement and financial literacy. • Potential disparities in access to technology among community members. 	<ul style="list-style-type: none"> • Allocate budget for training and capacity building in new technologies. • Incorporate the latest compatible technologies for community engagement and financial management tools. • Collaborate with technology providers and researchers to stay updated on how advancements can be implemented in region to reduce human resource reliance. • Develop user-friendly digital platforms to enhance community participation and access to information.
Climate Variability	<ul style="list-style-type: none"> • Cancellation or low attendance at outdoor events due to extreme weather conditions. • Damage to infrastructure like community centres and sports facilities, reducing venue availability. • Increased difficulty in maintaining green spaces and sports fields. 	<ul style="list-style-type: none"> • Increased budget for climate resilient infrastructure and event venues. • Contingency planning for extreme weather events, including alternative indoor venues. • Adjust event schedules to avoid extreme weather periods. • Incorporate flexible infrastructure that can be adapted quickly to changing conditions. • Regular maintenance and monitoring of community spaces to ensure safety and usability.
Increased Fire Risk	<ul style="list-style-type: none"> • Damage to community infrastructure and homes, reducing venue availability and participation. • Significant resources diverted to firefighting and recovery, affecting project funding. • Long-term degradation of community spaces and green areas. 	<ul style="list-style-type: none"> • Design and implement fire-resistant infrastructure and safe community spaces. • Deliver community activities that enable all residents to be involved in advocacy, awareness and prevention of fires.
Health Crises	<ul style="list-style-type: none"> • Reduced community engagement and event attendance due to health concerns. • Increased strain on local healthcare systems. • Higher costs for enduring health and safety standards at events. 	<ul style="list-style-type: none"> • Inclusion of health and wellness components that match the crisis at the time e.g. education and awareness. • Collaboration with healthcare providers to integrate health services. • Implementation of strict health and safety protocols at all events.
Outmigration	<ul style="list-style-type: none"> • Reduced participation in community events and financial literacy sessions. • Lower volunteer numbers, impacting event organisation and community support. • Decreased economic activity and local business engagement. 	<ul style="list-style-type: none"> • Extended timeline for project delivery due to reduced workforce availability. • Increased costs for attracting and retaining volunteers and participants. • Implementation of incentives to encourage local participation. • Adapt event schedules to ensure maximum attendance and engagement. • Develop targeted outreach programs to reengage out-migrated community members.

Figure 63: - Analysis of the impact of potential future scenarios and uncertainties

Monitoring, Evaluation and Learning – Pillar Implementation

Success measures and indicators that might be used by the Project Steering / Control Group for the project to measure the extent of progress towards the outcomes expressed in the program logic and delivery of the project follow.

Pillar 1 : Planning and Monitoring

- Risk Assessments and Scenario Planning
 - Conduct detailed risk assessments to identify potential impacts on community events and support services.
 - Develop scenarios for various drought conditions to anticipate challenges and plan responses.
- Advanced Data Analytics
 - Use geographical information systems (GIS) to monitor environmental conditions and community engagement/ participation patterns.
 - Analyse data to assess the impact of climate variability on event participation and involvement of community support services.
- Regular Stakeholder Meetings and Feedback Loops
 - Engage local businesses, community members, and government agencies in regular consultations.
 - Incorporate stakeholder feedback to adapt plans and improve project outcomes.
- Performance Indicators
 - Establish KPIs to track the success of community initiatives e.g. reduced mentalhealth related appointments with healthcare services, reduced feelings of isolation.
 - Use real-time monitoring to adjust strategies as needed.

Pillar 2 : Responding to Drought Events

- Drought Response Plans
 - Develop clear actions and responsibilities for managing community resources and supporting local businesses during droughts.
 - Ensure plans include maintaining social cohesion and supporting mental health services.
- Water-Efficient Technologies and Practices
 - Install water-saving devices in community facilities.

- Use drought-tolerant landscaping to maintain community spaces with minimal water use.
- Alternative Community Activities
 - Promote indoor and water-independent activities e.g. workshops, indoor sports and cultural events.
 - Create flexible infrastructure that can adapt to varying environmental conditions.
- Emergency Communication Strategies
 - Implement communication plans and digital platforms to keep community members informed about drought conditions, responses and resultant changes to the program schedule.

Pillar 3 : Building Future Resilience

- Climate Resilient Infrastructure
 - Invest in flexible, adaptive community facilities that can operate under different environmental conditions.
 - Incorporate sustainable design principles to enhance durability and reduce environmental impact.
- Economic Diversification
 - Support alternative income sources and business ventures to reduce dependence on traditional agriculture.
- Community Education and Capacity Building
 - Provide training for residents on drought-resilient practices and financial management.
 - Promote awareness of community resilience and mental health support among residents. Promote community cohesion, connectivity and ensure residents feel a purpose outside of their individual 'workplaces'.

Monitoring Against Objectives

The applicable objectives of the Future Drought Fund Agreement, and relevant project level indicators to track outcomes and how the project is contributing to drought resilience outcomes follow.

Objective 1 : Strengthen the social capital and wellbeing of the communities.

1. Number of community events held annually and attendance rates at community events.

2. Percentage decrease in reported mental health issues related to drought stress and social isolation.
3. Number of targeted consultations with key demographic groups (e.g. First Nations people, young families, youth).
4. Participation rates in sports activities, particularly among young men.
5. Percentage of youth and disadvantaged groups reporting reduced feelings of isolation and improved mental health.
6. Reduced crime rates in youth.
7. Percentage of programs adjusted based on evaluation feedback and incidence of future shock scenarios.
8. Reduction in workload reported by volunteers, and increased initiative of entire communities.
9. Decrease in the outmigration rate and the subsequent rate of population decline.

Objective 2 : Develop the agricultural sector's self-reliance and economic performance.

1. Number of financial resilience sessions conducted and the percentage of participants reporting improved financial knowledge and skills.
2. Percentage of farmers and businesses adopting risk management and diversification strategies.
3. Reduction in financial losses reported by businesses during drought periods.
4. Number of drought resilience solutions developed and implemented through innovation hubs.

Sustainable Recreation & Tourism Strategy



Project Description

Develop and implement a tourism strategy:

- That focuses on sustainable recreational access to regional destinations such as rivers and marshes, with a special emphasis on adapting to drought conditions.
- Tailored for the Three Rivers and Macquarie Marshes (inspired by successful models like the Darling River Run) regions.
- To implement infrastructure for the sustainable management of tourist facilities and explore agri-tourism to diversify economic opportunities.

The strategy will facilitate the creation of recreational infrastructure that can adjust to fluctuating water levels and promote activities suitable for dry seasons.

The initiative aims to boost local economies, particularly in areas where recreational access is limited due to variable climate conditions, such as frequent droughts.

It will support local entrepreneurship through tourism-related businesses such as Airbnbs and Farm Stays and include town planning strategies to enhance attractiveness to visitors.

“Buy from the Bush’ was a great initiative, but we need to transition to ‘Buy in the Bush’ as besides the dollars gained from the actual purchase, no other money is entering into the region’s economy from this initiative. ‘Buy in the Bush’ would mean people are in the bush, staying over, visiting coffee shops, taking part in activities, and overall contributing greater to the economy... The community want something that is lasting – a legacy. A Three Rivers and Macquarie Marshes Strategy would provide economic development and the ability to create a long-term fund that can be contribute towards water security projects.”

– Susan Balogh (Warren)

“If you set local residents up to develop and attract people to their Green Stays, Farms Stays and AirBnB accommodations..., that would be incredibly beneficial. This could be incorporated into a tourism strategy to prepare and teach the local residents how to prepare themselves and diversity their income streams.”

– Gary Woodman (Warren)

Scope

The scope of the ‘sustainable recreation and tourism strategy’ includes:

- Development of a tourism strategy.
- Development of a framework and mechanisms to support local entrepreneurship for tourism related businesses (such as Airbnbs and Farm Stays).
- Development of infrastructure (facilities / support arrangements) to support the management and sustainability of tourism and recreational facilities.

Pathway to implementation

The pathway to the delivery of the initiative includes:

1. Development of a draft tourism strategy.
2. Review of town planning strategies and identification of policy and regulatory constraints.
3. Development of a framework and support arrangements for local entrepreneurship in tourism-related businesses.
4. Amendments to regulatory and policy town planning Implementation of town planning strategies to enhance town attractiveness for visitors.
5. Detailed design and cost estimates for infrastructure projects for the sustainable management of tourist and recreational facilities.
6. Business Case development and regulatory approvals.
7. Tender for construction or implementation of support arrangements (as required).

Supporting Broader Resilience

The ‘sustainable recreation and tourism strategy’ will contribute to improving drought resilience of the Northwest Region through:

- Maintaining the existing system of the local economy during times of drought.

- Modifying the town planning strategies to enhance tourist visitation.

Additionally, the relevance of the project to improving the resilience of the region to identified challenges follows.

Challenge	Stronger Communities Program Relevance
Economic Dependence on Agriculture	The strategy aims to diversify the local economy by introducing alternative income streams through tourism, which is less dependent on seasonal variability than agriculture. This helps mitigate economic risks associated with farming during drought periods.
Impact of Drought on Agriculture	Tourism provides an alternative economic activity that can continue during drought when agricultural productivity declines. This helps maintain cash flow and employment in the community, reducing the severe economic impacts of drought on farming.
Reduced Local Spending and Employment	By promoting tourism, the strategy can stimulate local spending and create jobs, counteracting the economic downturn caused by drought. This includes supporting small businesses and encouraging new ventures in the tourism sector.
Social Isolation and Community Well-being	Tourism fosters greater community engagement and well-being by providing recreational opportunities and events that bring people together, countering the social isolation often experienced during tough economic times like droughts.
Environmental Degradation	Sustainable tourism practices emphasise the preservation and careful management of natural resources, which is important during drought conditions. This can lead to improved environmental stewardship and resilience against future ecological challenges.
Volunteer Fatigue and Reduced Community Services	Tourism can help revitalise community spirit and increase the number of visitors and residents who can contribute to community services and volunteer efforts, thus alleviating the strain on the remaining local population during challenging times.
Infrastructure Strain and Water Management	Part of the tourism strategy includes developing infrastructure that is resilient to drought, such as water-efficient facilities and services. This not only supports tourism but also improves the overall community’s resilience in managing scarce resources.
Psychological Impact of Drought	Tourism and recreational activities can improve mental health by providing escape and relaxation opportunities for residents, mitigating the psychological toll of enduring drought conditions and economic uncertainty.

Figure 64: Analysis of Resilience Challenges associated with the project

The projects support the pillars of drought resilience as follows:



Figure 65 - Drought Resilience, Adaption and Management Model Pillars - Sustainable Recreation & Tourism Strategy

Timeline



Figure 66 - Timeline – Sustainable Recreation & Tourism Strategy

Budget

Preliminary budgets will be determined following the planning phase and are anticipated to encompass strategy development, workshop execution, infrastructure enhancement, and promotional activities.

Accordingly, an economic analysis for this strategy has not been able to be completed within this plan.

Governance Structure

The ‘owner’ of the initiative, and therefore the Chair of the Steering Committee for each project within the initiative will be at the discretion of the Far Northwest Joint Organisation and the respective Council within the region.

Governance Structure for the project would comprise of the following:

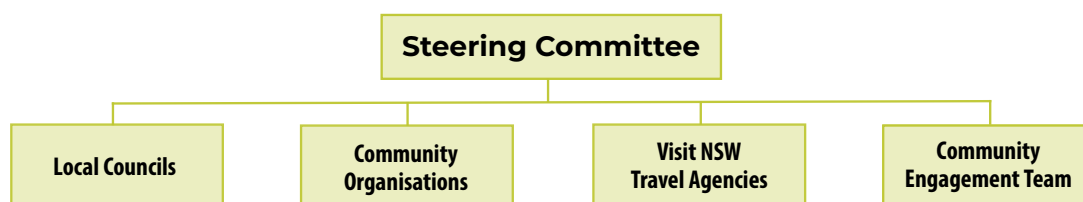


Figure 67 – Governance Structure – Sustainable Recreation & Tourism Strategy

- Steering Committee: responsible for strategic direction, oversight, decision-making, and ensuring that the project aligns with funding program.
- The supporting organisations will be involved in contributing to the design, construct and management of the strategy.

A proposed adaptive framework for monitoring and updating the project / initiative follows.

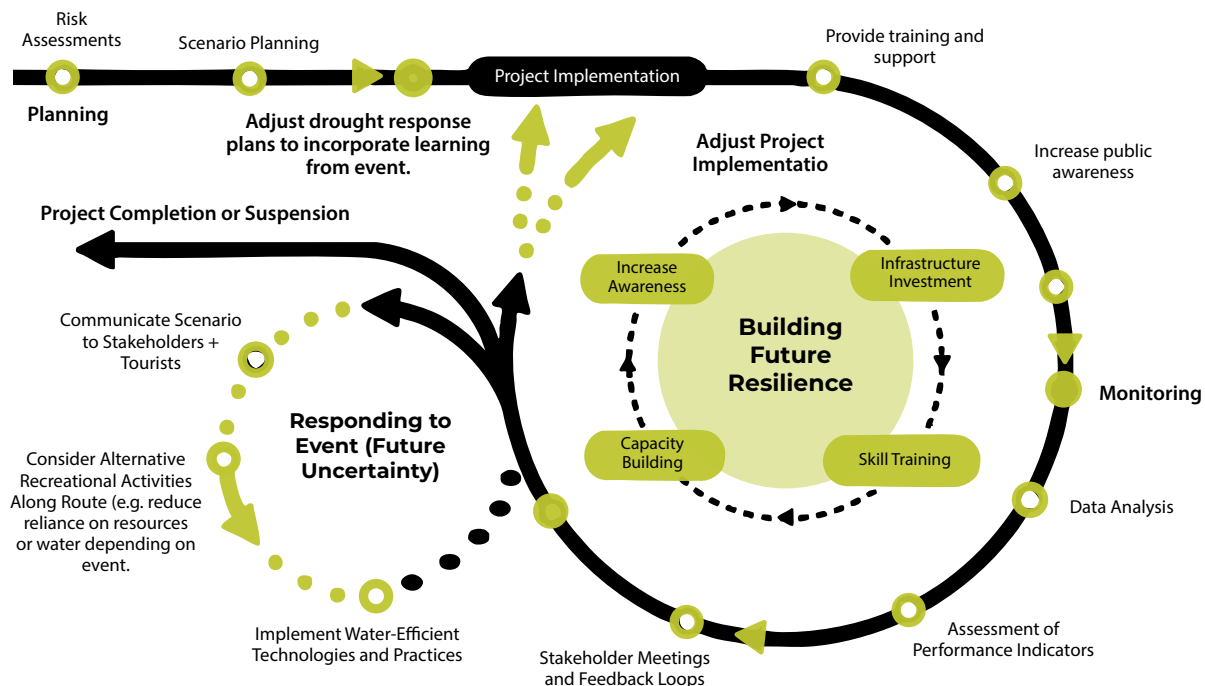


Figure 68: Framework for monitoring and updating the Sustainable Tourism and Recreation Strategy (TSG 2024).

Three Rivers and Macquarie Marshes Run

The Route: Proposed route to be further investigated and confirmed by stakeholders prior to implementation to account for community events and tourism product availability.

Day	Route	Stops
1		Walgett
2	Walgett to Coonamble	Follow the Castlereagh River, stopping via: • ‘Burrima’ Boardwalk in Upper Macquarie Marshes • Quambone – Marsh Meanders Kayaking Coonamble Outback Arts Gallery
3	Coonamble to Warren	Gulargambone – Stop to see the iconic Two Eight Two Eight Gallery, Sculpture Walk and Town Murals Warren – Window on the Wetlands Centre and Oxley Park
4	Warren to Nyngan	Roundtrip from Warren to Macquarie Marshes Nature Reserve. Gin Gin Weir Trangie – Explore the Trangie Agricultural Research Centre Nyngan – Nyngan Museum and Mid-State Shearing Shed
5	Nyngan to Cobar	Travel to Cobar – Discover the mining heritage at the Great Cobar Heritage Centre and Fort Bourke Hill Lookout.
6	Cobar to Bourke	Cobar Regional Park Mount Grenfell Historic Site – Explore the indigenous rock art site near Cobar Bourke – Visit the Back O’ Bourke Exhibition Centre and take a paddleboat cruise on the Darling River.
7	Bourke to Walgett	Brewarrina – Aboriginal Fish Traps

Figure 69 - Three Rivers and Macquarie Marshes Run Route (Table)

The Natural Highlights on the Route include:

- Macquarie Marshes
- Macquarie Valley trails
- Pilliga Forest
- Mount Grenfell Historic Site



Figure 70 - Three Rivers and Macquarie Marshes Run Route

Nominal Costs:

Phase 1 - Nominal Capital Costs					Total
Capital Costs	Nominally:	Year 0	Year 1	Year 2	
Project & Operations Manager - Tourism (0.5 FTE of Grade 7 equivalent)		\$34,072			\$34,072
Webpace (content, purchase-to-pay, design, hosting, payment service, maintenance contract)		\$15,000			\$15,000
Computer and Software (Microsoft licenses, CANVA)		\$4,200			\$4,200
Graphic Design and Brand Logos		\$2,000			\$2,000
Printing (brochures, fact sheets, information booklets, etc)		\$1,500			\$1,500
Route Signage		\$3,300			\$3,300
Outdoor displays – construction and design (total 8 signs across main locations – overnight stay locations or stops – Walgett, Coonamble, Gulargambone, Warren, Nyngan, Cobar, Bourke, Brewarrina)		\$16,000			\$16,000
Content – 50 hours at \$100 per hour		\$5,000			\$5,000
Nominal Capital Investment		\$81,072			\$81,072
Contingency (10%)		\$8,107			\$8,107
Nominal Total Capital Investment		\$89,179			\$89,179

Figure 71 - Three Rivers and Macquarie Marshes Run Route (Indicative Investment)

Outcomes Achieved from the Three Rivers and Macquarie Marshes Run:

Category	Derived Benefits
Economic Growth and Job Creation	<ul style="list-style-type: none"> • Increased tourism and subsequent spending in the region (accommodation, food, fuel, services). • Increased demand for services subsequently increases jobs in hospitality, tourism and retail. • Opportunities for business diversification for sustainable operation – tour guides, agritourism, Airbnb's, cultural tours, etc.

Category	Derived Benefits
Infrastructure Development	<ul style="list-style-type: none"> • Increased regional investment to improve roads, signage, rest stops and other infrastructure to support access to the regions.
Environmental Conservation	<ul style="list-style-type: none"> • Encouraging sustainable tourism practices can lead to the preservation of natural habitats and wildlife. • Increased awareness and education about the importance of conservation. • Preservation and promotion of cultural heritage sites, indigenous art, and historical landmarks.
Regional Additions	<ul style="list-style-type: none"> • Tourism Infrastructure – Development of visitor centres, information kiosks, and interactive maps to guide tourists through the route. • Outdoor Activities – Development of outdoor recreational activities such as hiking trails, birdwatching tours, camping sites and water sports along the rivers.
Opportunities for Regional Council Revenue	<ul style="list-style-type: none"> • Entry Fees – Charging entry fees for access to certain sites on Council land. • Collaborate with private businesses to develop tourism infrastructure, such as hotels, restaurants, and recreational facilities. • Tourist Services – Offering services such as guided tours, shuttle services, and equipment rentals, either directly or through partnerships with local businesses. • Ticketed events and festivals to increase visitation. • Tour Packages – Collaboration with travel agencies to create packages that include multiple attraction and services within the region. • Government Grants – State and Federal grants aimed at tourism development, infrastructure improvement, and cultural preservation. • Development Funds – Setting up tourism development funds that attract investment from stakeholders interested in the region’s growth. • These funds can be used to support investment in water security infrastructure e.g. bores, off- river storage, etc.

Figure 72 - Three Rivers and Macquarie Marshes Run Route (Indicative Investment)

Responsiveness to Future Scenarios and Uncertainties

An analysis of the impact of potential future scenarios and uncertainties on the implementation and delivery of the project follows.

Future Scenario	Effect on Intended Project Outcomes	Changes to Project Implementation or Delivery for Prevention
Economic Recession	<ul style="list-style-type: none"> • Decreased tourism spending, reducing economic growth and job creation. • Lower investment in infrastructure development. • Reduced community spending and engagement. 	<ul style="list-style-type: none"> • Seek additional funding from state or federal grants. • Adjust project scope to align with reduced budgets. • Focus on low-cost, high-impact activities and infrastructure. • Strengthen partnerships with local businesses to share resources and costs.
Policy and Governance Changes	<ul style="list-style-type: none"> • Uncertainty in policy direction, affecting strategic planning and resource allocation. • Delays in infrastructure projects due to regulatory changes. • Inconsistent support for tourism development. 	<ul style="list-style-type: none"> • Increased advocacy and engagement with policymakers. • Flexibility in project timelines and milestones to accommodate policy changes. • Regular monitoring of policy developments and proactive adjustments to project plans. • Formation of a policy advisory group to guide the project.

Future Scenario	Effect on Intended Project Outcomes	Changes to Project Implementation or Delivery for Prevention
Technological Advancements	<ul style="list-style-type: none"> • Variability in the adoption and effectiveness of new technologies. • Potential disparities in access to technology among local businesses. 	<ul style="list-style-type: none"> • Allocate budget for training and capacity building. • Incorporate the latest technologies for water management and infrastructure. • Collaborate with technology providers and researchers. • Develop strategies to ensure equitable access to new technologies for all community members.
Climate Variability	<ul style="list-style-type: none"> • Reduced tourism due to extreme weather conditions, affecting regional spending. • Damage to infrastructure like roads, signage, rest stops, reducing access. • Increased difficulty in preserving natural habitats and wildlife. 	<ul style="list-style-type: none"> • Increased budget for climate resilient infrastructure. • Contingency planning for extreme weather events. • Regular review and adjustment of project plans to accommodate changing climate conditions. • Investment in flexible, adaptive infrastructure that can adjust to varying conditions.
Increased Fire Risk	<ul style="list-style-type: none"> • Damage to natural habitats and infrastructure, reducing tourism appeal. • Significant resources diverted to firefighting and recovery, affecting project funding. • Long-term degradation of natural habitats and ecosystems. 	<ul style="list-style-type: none"> • Design and implement fire-resistant on-farm and off-farm infrastructure. • Increased budget for fire management and recovery efforts. • Development of emergency response plans specific to fire risks. • Potential delays and increased costs due to fire-related disruptions.
Health Crises	<ul style="list-style-type: none"> • Reduced community engagement and tourism due to health concerns. • Increased strain on local healthcare systems. • Higher costs for enduring health and safety standards. 	<ul style="list-style-type: none"> • Inclusion of health and wellness components in the project. • Collaboration with healthcare providers to integrate health services. • Allocation of additional resources for health-related infrastructure and programs. • Flexibility in project timelines to accommodate health crises and ensure community well-being.
Outmigration	<ul style="list-style-type: none"> • Reduced tourism and subsequent spending in the region (accommodation, food, fuel, services). • Lower demand for services, decreasing jobs in hospitality, tourism, and retail. • Fewer opportunities for business diversification in sustainable operations like tour guides, agritourism, Airbnb's, cultural tours, etc. 	<ul style="list-style-type: none"> • Extended timeline for project delivery due to reduced workforce availability. • Increased costs for attracting and retaining workers. • Implementation of training programs for local workers to fill gaps. • Enhanced marketing and outreach to attract tourists and investors.

Figure 73: - Analysis of the impact of potential future scenarios and uncertainties

Monitoring, Evaluation and Learning – Pillar Implementation

Success measures and indicators that might be used by the Project Steering / Control Group for the project to measure the extent of progress towards the outcomes expressed in the program logic and delivery of the project follow.

Pillar 1 : Planning and Monitoring

- Risk Assessments and Scenario Planning.

- Conduct detailed risk assessments to identify potential impacts on tourism infrastructure and activities.
- Develop scenarios for various drought conditions to anticipate challenges and plan responses.
- Advanced Data Analytics
 - Use geographical information systems (GIS) to monitor environmental conditions and visitor patterns.

- Analyse data to assess the impact of climate variability on tourist destinations.
- Regular Stakeholder Meetings and Feedback Loops
 - Engage local businesses, community members, and government agencies in regular consultations.
 - Incorporate stakeholder feedback to adapt plans and improve project outcomes.
 - Performance Indicators.
 - Establish KPIs to track the success of tourism initiatives and infrastructure resilience.
 - Use real-time monitoring to adjust strategies as needed.

Pillar 2 : Responding to Drought Events

- Drought Response Plans
 - Develop clear actions and responsibilities for managing water resources during droughts.
 - Ensure plans include maintaining tourist attractions and supporting local businesses.
- Water-Efficient Technologies and Practices
 - Install water-saving devices in tourist facilities.
 - Use drought-tolerant landscaping to maintain aesthetic appeal with minimal water use.
- Alternative Recreational Activities
 - Promote activities in each town that doesn't rely on water e.g. hiking, cultural tours and wildlife viewing.
 - Create flexible infrastructure that can adapt to varying water levels.
- Emergency Communication Strategies
 - Implement communication plans to keep tourists and stakeholders informed about drought conditions and responses.
 - Use digital platforms to provide real-time updates on water availability and tourist site accessibility.

Pillar 3 : Building Future Resilience

- Climate Resilient Infrastructure
 - Invest in flexible, adaptive recreational facilities that can operate under different environmental conditions.
 - Incorporate sustainable design principles to enhance durability and reduce environmental impact.
- Economic Diversification

- Support agri-tourism and other sustainable tourism ventures to reduce dependence on traditional agriculture.
- Encourage local entrepreneurship in tourism-related businesses such as Airbnb and Farm Stays.
- Community Education & Capacity Building
 - Provide training for residents on drought-resilient tourism practices.
 - Promote awareness of sustainable tourism and conservation efforts among visitors and the community.

Monitoring Against Objectives

The applicable objectives of the Future Drought Fund Agreement, and relevant project level indicators to track outcomes and how the project is contributing to drought resilience outcomes follow.

Community Developed RDRP Objectives Addressed:

Objective 1 : Develop the environmental resilience and natural capital of agricultural landscapes.

- o Number of eco-tourism project that incorporate conservation activities (e.g. native species planting, wildlife habitat restoration, adopt-an-animal (funding to farmers), etc).
- o Percentage improvement in soil quality parameters (e.g. water retention capacity) on properties used for agri-tourism. This will ensure that farms with alternate income streams are reinvesting profits to improve their resilience and capacity to remain viable as an agricultural producer in subsequent droughts.
- o Number of tourism businesses adopting sustainable agricultural practices.
- o Number of water conservation features and devices installed in tourism infrastructure e.g. rainfall harvesting systems.

Objective 2: Understand and plan for the region's current and future drought resilience by identifying actions, pathways, and opportunities for mitigation adaptation and improvement.

- o Number of educational programs delivered to residents on diversification of income and development of agritourism businesses.

- o Increase in the number of farm stays, Airbnbs, and eco-tourism experiences offered.
- o Revenue generated from sustainable tourism activities.
- o Percentage increase in tourist visitation to drought-affected areas due to new sustainable tourism options.
- o Percentage increase in local employment in sustainable tourism sectors.

Monitoring, Evaluation and Learning

The following table describes Monitoring, Evaluation and Learning framework for this Plan.

Key Evaluation Questions		
How effectively are the councils integrating drought resilience initiatives into their BAU activities? What measurable progress is being made towards the objectives set within the Initial Resilience Assessments for priority agricultural areas? How are the interventions influencing the community, economic stability, environmental resilience, and infrastructure within the region?		
Projects		
• Long Term Water Security Projects • Telecommunications Strategy • Stronger Communities Program • Sustainable Recreation and Tourism Strategy		
Implementation and Monitoring Framework		
Pillar 1 : Planning and Monitoring	Pillar 2 : Respond to Drought Conditions	Pillar 3 : Building Future Resilience
Councils will embed the Drought Resilience Logic Map within their strategic planning frameworks to ensure a systematic approach to drought monitoring and early warning system deployment. This tool will guide the assessment of initial situations and the alignment of planning efforts with broader resilience goals.	The monitoring process will focus on the effectiveness of response mechanisms activated during drought alerts. This includes evaluating the support provided to identified vulnerable sectors and groups, ensuring rapid and effective aid.	Councils will periodically review and update their strategies to enhance long-term drought resilience based on the feedback and data collected through the Logic Map and other MEL activities. These updates will aim to strengthen the economic, environmental, social, and infrastructural pillars of the region.
Assumptions Underpinning the Implementation of the Plan		
Councils will regularly update and refine MEL processes to align with state and national guidelines.	Stakeholder engagement remains proactive and constructive, ensuring that feedback loops are operational and inform continuous improvement.	Sufficient resources (financial, human, informational) are allocated for the ongoing support of MEL activities.
Key Assumptions Affecting Outputs to 1-2 Year Outcomes		
Early identification and mitigation of drought impacts will stabilize the regional economy and protect vulnerable sectors.	Enhanced infrastructure and community support systems will improve immediate disaster response and recovery capabilities.	Initial community and stakeholder engagement will establish a strong foundation for sustained cooperation and collaboration.
Key Assumptions Affecting Outcomes from 2+ Years		
Long-term planning and regular reassessment of strategies will adapt effectively to changing environmental conditions and emerging economic trends.	Ongoing education and community engagement will elevate the general understanding and proactive management of drought impacts.	Strategic partnerships and investments will continue to evolve, driving innovation and resilience in agricultural practices and broader economic activities.
Continuous Improvement and Reporting		
Progress against the MEL Plan will be reported through regular updates at council meetings and public forums, ensuring transparency and community involvement. (People, Culture, and Community, Economy, Landscape and Natural Environment, Infrastructure and Built Environment)		
Biannual and annual reports will detail the short and long-term impacts of the initiatives, supported by data from the Logic Map and additional quantitative and qualitative metrics.		
Successes and learnings from the pilot year and subsequent phases will inform adjustments in strategies and actions, aligning with the evolving needs of the Northwest region.		
By aligning the Monitoring, Evaluation, and Learning activities with these frameworks, councils will ensure that drought resilience planning is not only integrated into their Business As Usual activities but also dynamically supports the region's ability to manage and adapt to drought conditions effectively.		

Appendices

Appendix 1: Glossary of Key Terms

Absorptive capacity	The ability of individuals and groups to continue without adapting or changing their behaviour in response to environmental and socioeconomic changes (Béné et al., 2012).
Adaptation	Adjustment or modification in natural and/or human systems in response to actual or expected shocks and stresses to moderate harm, reduce vulnerability and/or exploit beneficial opportunities (CSIRO, 2022).
Adaptive capacity	The ability of individuals and groups to adjust and respond to environmental and socioeconomic changes (CSIRO, 2022).
Adaptive governance	Coordinating iterative, flexible and responsive interactions between systems when designing interventions and for their implementation and evaluation.
Catchment	A natural drainage area, bounded by sloping ground, hills or mountains from which water flows to a low point. Flows within the catchment contribute to surface water sources as well as to groundwater sources.
Climate variability	Describes the way key climatic elements, such as temperature, rainfall, evaporation, and humidity, differ from the average over time. Variability can be caused by natural or man-made processes.
Co-design	The process of partnership to develop and formulate project delivery and agreed objectives and needs, using participatory methods. A process of working together utilising generative and explorative processes.
Drought	Drought in general means acute water shortage. Drought is a prolonged, abnormally dry period when the amount of available water is insufficient to meet our normal use (BoM, 2022).
Drought resilience	Means the ability to adapt, reorganise or transform in response to changing temperature, increasing variability and scarcity of rainfall and changed seasonality of rainfall, for improved economic, environmental and social wellbeing (Australian Government Drought Resilience Funding Plan 2020 - 2024).
Economic resilience	The ability of the economy to absorb the economic impact of shocks and stressors without changing the economic status or outcomes (CSIRO, 2022).
Environmental resilience	The ability of the natural environment to cope with a diverse range of shocks and stressors while maintaining natural processes and ecosystem services (CSIRO, 2022).
Environmental water	Water allocated to support environmental outcomes and other public benefits. Environmental water provisions recognise environmental water requirements and are based on environmental, social, and economic considerations, including existing user rights.

Evaporation	The process by which water or another liquid becomes a gas. Water from land areas, bodies of water and all other moist surfaces is absorbed into the atmosphere as a vapour.
Governance	Governance is the structures and processes by which individuals, groups and agencies in a society share power and make decisions. It can be formally institutionalised, or informal (CSIRO, 2022).
Gross regional product (GRP)	Gross regional product (GRP) is the total value of the goods and services produced in a regional economy
Groundwater	Water located beneath the surface of the ground in the spaces between sediments and in the fractures of rock formations.
Floodplain	Flat land bordering a river or stream that is naturally subject to flooding and is made up of alluvium (sand, silt and clay) deposited during floods. Floodplain harvesting is the collection or capture of water flowing across floodplains.
Inflows	The amount of water coming into a surface water source or groundwater source.
Intervention options	Alternative or complementary actions, projects, programs, policies, initiatives and investments that are planned to bring about change in the system (Maru et al., 2017).
Local knowledge	Local knowledge and First Nations knowledge incorporates elements of lived experience within a landscape, bearing witness to the operation of systems. It includes aspects of people, landscape, culture – how people interact with surroundings and as part of communities and processes.
Public Good	For infrastructure and other capital investment or on-ground works, ‘public good’ is taken to mean that the project would not otherwise be able to recover costs—for example, utility pricing—and should deliver significant spill-over benefits for society and the economy, well beyond those derived by private beneficiaries (Australian Government Drought Resilience Funding Plan 2020 - 2024).
Resilience	The ability of a system to absorb a disturbance and reorganise so as to maintain the existing functions, structure and feedbacks (Walker et al., 2004). Also see general resilience, specified resilience, economic resilience, environmental resilience and social resilience.
Resilience planning	Resilience planning is about more than developing a plan to improve the state and trajectory of a region. Resilience plans focus on developing the capacities of a system to absorb, adapt, or transform, and to deal with specified stresses or shocks, such as drought, as well as unspecified stresses or shocks. (Adopted from the CSIRO Drought Resilience Planning, Independent Review Guide).
Resilient regional centres	Means water users are able to withstand extreme events, such as drought and flood, and/or adapt and respond to changes caused by extreme events.
Risk	The potential for adverse consequences for human or ecological systems, recognising the diversity of values and objectives associated with such systems (IPCC, 2020).

Shock	Sudden, short-term events that threaten a city (or region). Examples include major storms, floods, bush fires, heatwaves, disease outbreaks, terrorism and cyber-attacks' (Resilient Sydney, 2018).
Social resilience	The ability of the human society to cope with a diverse range of shocks and stressors while maintaining existing social and community functions (CSIRO, 2022).
Stochastic climate datasets	Stochastic climate datasets are extended climate sequences that are synthesised using statistical methods applied to observed data of rainfall and evapotranspiration and can include paleoclimatic data. These extended sequences include a more complete sample of climate variability, part of which describes more severe drought sequences.
Storage	A state-owned dam, weir or other structure which is used to regulate and manage river flows in the catchment. There are also a range of storages owned by local water utilities. Also refers to the water bodies impounded by these structures.
Stormwater	Flow generated from rainfall falling on hard (impervious) surfaces.
Stressor	An event that occurs gradually over a timeframe that causes an adverse effect, e.g., drought (CSIRO, 2022).
Surface water	All water that occurs naturally above ground including rivers, lakes, reservoirs, creeks, wetlands, and estuaries.
Systems	The interaction of processes, networks and inter-dependencies across a complex 'whole'.
Theory of change	Refers to theories, causal mechanisms and assumptions that explain how and why outcomes and impacts will be achieved through use, implementation and production of proposed inputs, activities and outputs (Maru et al., 2018).
Trends	Major global or regional influences that have driven change in the past and are expected to shape change into the future (Taylor et al., 2017).
Threshold	The point at which a change in a level or amount a controlling variable causes a system to shift to a qualitatively different regime. Also referred to as a tipping point (Folke et al., 2010).
Transform	The process of radically changing or building a new system with different structure, functions, feedbacks and identity (Folke et al., 2010).
Transpiration	The process where plants absorb water through their roots and then evaporate water vapour through pores in their leaves.
Trigger point	A pre-agreed situation or event, that when met, activates a management intervention. Trigger points are usually defined in the planning phase (Wise et al., 2014).
Water security	In the context of regional water strategies refers to the acceptable chance of not having town water supplies fail. This requires community and government to have a shared understanding of what is a 'fail event' (for example, no drinking water or unacceptable water quality) and the level of acceptability they will pay for.

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Appendix 3: Background Context and Key Inputs

The background contexts (BC), review of prior strategies, and relevance of Global academic and government strategies and reports considered, in the identification of existing drought initiatives, within NSW, Australia and International regional and rural contexts, for potential implementation within the regions considered in this plan follow.

Background Contexts

1. (BC.1) Australian Government Drought Response, Resilience and Preparedness Plan.

On 12 December 2018 the Australian, state and territory governments signed the National Drought Agreement (NDA), replacing the 2013 agreement. The NDA commits the Australian, state and territory governments to develop policies and programs that position farmers to plan for and manage risk; and prepare for, manage and recover from drought. It is in place until 30 June 2024 and will be reviewed approximately two years before expiry.

The Australian Government Drought Response, Resilience and Preparedness Plan, which in effect arises from the NDA and:

- has a prime focus on preparing farm businesses and rural communities to manage drought in pursuit of a prosperous and sustainable future.
- is supported by the Future Drought Fund Act 2019.

The purpose of the Fund is to enhance the public good by building drought resilience. This means the benefits generated by the funding must be able to be accessed and/or shared by many (public benefits), rather than be captured solely by individual businesses or industries solely for private commercial gain (private benefits). It also means the benefits achievable from the funding should outweigh the costs.

The Fund has three interconnected strategic priorities and objectives focused economic resilience, environmental resilience and social resilience of communities.

The *Drought Resilience Funding Plan 2020 to 2024* sets out an approach for making arrangements or grants in relation to drought resilience, or entering into agreements in relation to such grants, under the Future Drought Fund. A Monitoring, Evaluation and Learning (MEL) Framework has been developed to outline the rationale, scope and approach for monitoring and evaluating the activities carried out under the Funding Plan, and for the generation and sharing of knowledge gained through funded activities about how to build drought resilience.

The Australian Government, within the October 2022-23 Budget Measures is:

- providing a further \$94.5 million over six years from 2022-23 to consolidate the Drought Resilience Funding Plan in place under the Future Drought Fund Act 2019.
- investing \$6.6 million over two years from 2022-23 to support work to prepare for future droughts. This includes work to review and revise the National Drought Agreement with the states and territories and the Commonwealth Drought Plan.

2. (BC.13) Baseline Drought – Developing a Baseline Understanding of Farmer and Community Perceptions of Drought.
3. (BC.14) Building Climate Resilience Through Nature Based Solutions in Europe.
4. (BC.15) Climate Change in the North-West and Local Land Services Region.
5. (BC.16) Coordinated Strategic Plan to Advance Desalination for Enhanced Water Security.
6. (BC.17) Draft Inquiry Report – Government Drought Support.

7. (BC.18) Enhanced Aquifer Recharge of Stormwater in the United States: State of the Review Science.
8. (BC.19) EU Strategy on Adaptation to Climate Change.
9. (BC.20) Far West Enabling Regional Adaptation Report.
10. (BC.21) Final Report – Support for Drought Affected Communities in NSW.
11. (BC.22) Interim Report – Support for Drought Affected Communities in NSW.
12. (BC.23) Macquarie – Castlereagh Regional Water Strategy.
13. (BC.24) Managing and Preparing for Drought.
14. (BC.25) Regional Strengths and Infrastructure Gaps Regional Analysis: NSW.
15. (BC.26) Regional Water Strategy: Western Implementation Plan.
16. (BC.27) Resilience Strategies for Drought.
17. (BC.28) Social and Economic Impacts of Drought on Farm Families and Rural Communities.
18. (BC.29) Strengthening Agricultural Resilience in the Face of Multiple Risks – Resilience to Drought in Australia.
19. (BC.30) The Role of Conservation Programs in Drought Resilience.
20. (BC.31) Water Efficiency and Infrastructure Technical Brief.

The key inputs considered, in identifying the drought resilience projects included the following

21. Central West and Orana Climate Change Snapshot: NSW Government - Office of Environment and Heritage 2014.
22. Central West and Orana Regional Plan 2036: NSW Government - Planning and Environment 2017.
23. Central West and Orana Regional Plan 2041: NSW Government - Planning and Environment 2022.
24. Coonamble Shire Council Drought Management Plan: Coonamble Shire Council 2022.
25. Lower Macquarie Water Utilities Alliance: A Quantum Leap in Local Government Thinking.
26. Macquarie – Castlereagh Long Term Water Plan: NSW Government - Planning, Industry and Environment 2020.
27. NSW Business Chamber Drought Survey 2018: NSW Business Chamber 2018.
28. Regional Water Strategy – Macquarie Castlereagh: NSW Government - Planning and Environment 2023.
29. Lower Macquarie Water Utilities Alliance.
30. Warren Shire Economic Development Strategy and Action Plan: Warren Shire Council 2023.
31. Western Enabling Regional Adaptation - Central West and Orana Region Report.
32. NSW Government's Regional Economic Development Strategies (REDS) for each of the Functional Economic Regions (FER).
33. Council Community Strategic Plans.
34. Western Economic Development Strategy and Action Plan.
35. Water and Drought Security Report.

Desktop Review and Strategic Alignment

The review of prior strategies focused on ensuring the alignment of strategic priorities and projects for this Plan, with the Western Regional Water Strategy and the Macquarie Castlereagh Water Strategy. Below are the region-specific documents, plans and reports that were assessed, analysed and incorporated into this Plan.

Strategy (Year)		Region (Organisation)	Description	Assessment of past drought impact?	Links to Regional Water Strategy	Addresses Regional Characteristics?	Addresses future shocks or uncertainties?
Central West and Orana Climate Change Snapshot (2014)	Central West and Orana NSW Government – Office of Environment and Heritage	The report provides detailed projections on the impacts of climate change in the Central West and Orana regions, focusing on temperature, rainfall, and fire weather changes. This document serves as a critical resource for understanding climate trends and preparing for future conditions.	No	No	Yes – Location, population, natural ecosystems e.g. Macquarie Marshes.	Yes – Climate Projections (temperature, rainfall, fire weather).	
Central West and Orana Regional Plan 2036 (2017)	Central West and Orana NSW Government – Planning and Environment	The plan outlines the vision, goals, and actions for the Central West and Orana region by 2036, focusing on economic diversification, environmental sustainability, infrastructure development, and community well-being.	Yes – The plan discusses the impacts of past droughts on agriculture and water resources.	Yes – Challenges: Reducing water supply risks, maintaining and improving river health, supporting a growing regional economy; Priorities: Safe water supply, natural system resilience.	Yes – Describes social, economic, and environmental characteristics, including population, land use, natural resources, and economic sectors.	Yes – Addresses future uncertainties related to climate change, economic transitions, population growth, and infrastructure needs.	
Central West and Orana Regional Plan 2041 (2022)	Central West and Orana NSW Government – Planning and Environment	The plan provides a strategic framework for the region, focusing on sustainable growth, economic diversification, infrastructure development, and community well-being up to the year 2041.	Yes – Discusses impacts of past droughts on water resources and agriculture.	Yes – Challenges: Reducing water supply risks, supporting a growing regional economy; Priorities: Safe water supply.	Yes – Describes social, economic, and environmental characteristics, including population, land use, natural resources, and economic sectors.	Yes – Addresses future uncertainties related to climate change, economic transitions, population growth, infrastructure needs, and the shift to renewable energy sources.	
Coonamble Shire Council Drought Management Plan (2022)	Coonamble [Coonamble Shire Council]	The plan provides a framework to assist in handling future droughts, ensuring a basic water supply is available to all users. It includes monitoring strategies, drought activation triggers, and communication plans to manage water demand during drought conditions.	Yes – Discusses past droughts, including the Millennium Drought (2001-2009) and the drought from 2016-2019.	Yes – Challenges: Climate resilience, reducing water and supporting a growing regional economy; Priorities: Safe water supply, efficient water use.	Yes – Describes social, economic, and environmental characteristics, including water supply systems, population served, and significant water users.	Yes – Addresses future uncertainties related to climate change, increased water demand, and infrastructure challenges, including the need for water conservation and water management strategies.	

Strategy (Year)	Region (Organisation)	Description	Assessment of past drought impact?	Links to Regional Water Strategy	Addresses Regional Characteristics?	Addresses future shocks or uncertainties?
NSW Business Chamber Drought Survey (2018)	NSW (NSW Business Chamber)	The survey evaluates the impact of drought on businesses across various regions in NSW, highlighting revenue losses, cash flow issues, staffing reductions, and concerns about business viability. It provides an overview of how different industries and regions are affected by the drought conditions.	Yes – Provides detailed analysis of the impact of the current drought on businesses, including economic and operational challenges.	No – The survey focuses on business impacts and does not directly link to the regional water strategy's challenges or priorities.	Yes – Describes social and economic characteristics, including revenue impact, cash flow challenges, staffing issues, and regional economic weaknesses.	Yes – Addresses future uncertainties related to prolonged drought conditions, economic stability, business viability, and potential need for business closures or scaling back operations.
Regional Water Strategy – Macquarie-Castlereagh (2023)	Macquarie – Castlereagh Region (NSW Government – Planning and Environment)	The strategy identifies key water-related challenges in the Macquarie-Castlereagh region and outlines actions to address them, ensuring secure, reliable, and resilient water supplies for regional and remote communities over the next 20 years and beyond.	Yes – The strategy addresses the impacts of past droughts on water availability, agriculture, and community well-being.	Yes – The report sets the priorities and challenges in the region relating to water security and drought.	Yes – The strategy describes social, economic, and environmental characteristics of the region, including water use, climate snapshot, and cultural connections to Country.	Yes – The strategy addresses future uncertainties related to climate change, reduced water availability, and the need for climate adaptation for industry and communities.
Warren Shire Economic Development Strategy and Action Plan (2023)	Warren (Warren Shire Council)	The strategy and action plan aim to progress, evaluate, monitor, and report on economic development opportunities within Warren Shire, focusing on tourism, liveability, infrastructure development, and business growth.	Yes – Discusses past drought impacts on agriculture and the broader economy.	Yes – Challenges: Reducing water supply risks, supporting a growing regional economy; Priorities: Safe water supply, natural system resilience, efficient water use.	Yes – Describes social, economic, and environmental characteristics, including population demographics, economic sectors, and infrastructure.	Yes – Addresses future uncertainties related to economic transitions, population change, infrastructure needs, and environmental challenges, including climate change.
Western Enabling Regional Adaptation – Central West and Orana Region Report (2017)	NSW Government – Office of Environment and Heritage	The report outlines vulnerabilities to climate change in the Central West and Orana region and identifies adaptive strategies to build resilience across various sectors, including agriculture, water management, infrastructure, and community health.	Yes – Discusses impacts of past droughts on water resources, agriculture, and community well-being.	Yes – Challenges: Climate resilience, water security, sustaining regional economies; Priorities: Integrated water management, enhancing adaptive capacity, fostering resilient communities.	Yes – Describes social, economic, and environmental characteristics, including population demographics, land use, natural resources, and economic sectors.	Yes – Addresses future uncertainties related to climate change, water availability, economic stability, infrastructure resilience, and community health and well-being.

Relevance of Global academic and government strategies and reports

Global academic and government derived strategies and reports were also reviewed, with their relevance assessed against the strategic priorities and objectives identified by regional stakeholders the initial round of consultation for this plan.

Strategy (Year)	Region (Organisation)	Ending Level of Supply for Regional and Rural towns	Coordination Across Government levels	Management of Extreme Events	Rural Water Conservation & Efficiency	Access to additional Water Entitlements or Alternate Measure Utilisation	Improved Water Literacy, Drought Education & Greater Community Engagement	Enhanced Financial Support for Drought Affected Communities	Reduced Skills Shortage for Effective Water Management	Enhanced Understanding & Management of Climate Risk
<i>Relevant to the Strategic Objectives and Priorities of the RDRP (Yes [Y]/ No [N])</i>										
Australian Government Drought Response Plan (2019)	Australia [Australian Government – Department of Agriculture]	Y	N	N	Y	N	Y	Y	N	Y
Baselining Drought - Developing a Baseline Understanding of Farmer and Community Perceptions of Drought (2022)	Southern NSW [Southern NSW Innovation Hub – Sustainable Agriculture, Landscapes and Communities]	Information relevant to challenges only.								
Building Climate Resilience Through Nature Based Solutions in Europe (2022)	Europe [Academic Journal – Climate Risk Management]	N	Y	N	N	N	N	N	N	Y
Climate Change in the North-West and Local Land Services Region (2015)	North West Region [NSW Government – Local Land Services North West]	N	N	N	N	N	N	N	N	Y

Strategy (Year)	Region (Organisation)	Enduring Level of Supply for Regional and Rural towns	Coordination Across Government levels	Management of Extreme Events	Rural Water Conservation & Efficiency	Access to additional Water Entitlements or Alternate Measure Utilisation	Improved Water Literacy, Drought Education & Greater Community Engagement	Enhanced Financial Support for Drought Affected Communities	Reduced Skills Shortage for Effective Water Management	Enhanced Understanding & Management of Climate Risk
<i>Relevant to the Strategic Objectives and Priorities of the RDRP (Yes [Y]/ No [N])</i>										
Draft Inquiry Report – Government Drought Support (2008)	Australia [Australian Government – Productivity Commission]	N	N	N	N	N	N	Y	N	Y
Enhanced Aquifer Recharge of Stormwater in the United States: the State of the Review Science (2021)	US [US EPA]	N	N	N	N	Y	N	N	N	N
EU Strategy on Adaptation to Climate Change (2021)	Europe [European Commission]	N	N	N	Y	Y	N	N	N	Y
Far West Enabling Regional Adaptation Report (2017)	Far West NSW [NSW Government- Office of Environment and Heritage]	N	N	Y	N	N	N	N	N	Y
Final Report - Support for Drought Affected Communities in NSW (2021)	NSW [Legislative Assembly Committee on Investment, Industry and Regional Development]	N	Y	N	N	N	N	Y	N	N

Strategy (Year)	Region (Organisation)	Enduring Level of Supply for Regional and Rural towns	Coordination Across Government levels	Management of Extreme Events	Rural Water Conservation & Efficiency	Access to additional Water Entitlements or Alternate Measure Utilisation	Improved Water Literacy, Drought Education & Greater Community Engagement	Enhanced Financial Support for Drought Affected Communities	Reduced Skills Shortage for Effective Water Management	Enhanced Understanding & Management of Climate Risk
<i>Relevant to the Strategic Objectives and Priorities of the RDRP (Yes [Y]/ No [N])</i>										
Interim Report - Support for Drought Affected Communities in NSW (2020)	NSW [Legislative Assembly Committee on Investment, Industry and Regional Development]	N	N	N	N	N	N	Y	N	N
Macquarie - Castlereagh Regional Water Strategy (2023)	NSW [NSW Government - Department of Planning and Environment]	Y	Y	Y	Y	Y	Y	N	N	N
Managing and Preparing for Drought (2018)	NSW [NSW Government - Department of Primary Industries]	N	N	N	N	N	Is a literacy resource to aid Regional and Rural Farmers.	N	N	Provides strategies for individual farmers and businesses to manage drought.
Regional Strengths and Infrastructure Gaps Regional Analysis: NSW (2022)	NSW [Australian Government - Infrastructure Australia]	N	N	N	N	N	Y	N	N	N
Regional Water Strategy: Western Implementation Plan (2022)	Western NSW [NSW Government- Department of Planning and Environment]	N	Y	Y	Y	N	Y	N	Y	N

Strategy (Year)	Region (Organisation)	Enduring Level of Supply for Regional and Rural towns	Coordination Across Government levels	Management of Extreme Events	Rural Water Conservation & Efficiency	Access to additional Water Entitlements or Alternate Measure Utilisation	Improved Water Literacy, Drought Education & Greater Community Engagement	Enhanced Financial Support for Drought Affected Communities	Reduced Skills Shortage for Effective Water Management	Enhanced Understanding & Management of Climate Risk
<i>Relevant to the Strategic Objectives and Priorities of the RDRP (Yes [Y]/ No [N])</i>										
Resilience Strategies for Drought (2018)	US [Center for Climate and Energy Solutions]	N	N	N	Y	N	N	N	N	N
Social and Economic Impacts of Drought on Farm Families and Rural Communities	Australia [Australian Institute of Family Studies]	Information relevant to challenges only.								
Strengthening Agricultural Resilience in the Face of Multiple Risks - Resilience to Drought in Australia (2020)	Australia [Organisation for Economic Co-operation and Development]	N	N	N	Y	N	N	N	N	Y
The Role of Conservation Programs in Drought Resilience (2013)	US [United States Department of Agriculture]	N	N	N	Y	N	N	N	N	N
Water Efficiency and Infrastructure Technical Brief (2016)	US [US EPA]	N	N	N	Y	N	N	N	N	N

Appendix 4: Long List of Projects

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes / No)	Drought Technical Study(s) Required / Priority Actions	Cross Reference to Community Consultation 'Possible' Projects (016)
Coonamble LGA												
1	Council sponsored Off-Farm Employment	Council engages local community members to conduct road maintenance activities, instead of engaging outside contractors	Economy	NSW Future Ready Regions Strategy - Stronger communities & diverse regional economies	Economic - Investment in road maintenance remains within the community Social - Increased community cohesion, reduced demand for mental health services given off-farm income avenue. Environmental - Not directly identified.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Modifying aspects of the Region to improve resilience to drought)	NSW Regional Growth Fund	3 - 6 Months	Regional NSW	To be determined	Actions required: 1. Identify the road maintenance activities that local community members could be engaged for. 2. Develop a contracting /employment model and agreements. 3. Discuss with Transport for NSW potential for road maintenance activities during times of drought. 4. At a suitable point in time, seek Expressions of Interest from the community for participation in road maintenance activities. 5. Initial road maintenance program. Supporting Drought Resilience Technical Studies: Nil.	1
2	Stronger communities program	Series of activities of events to promote social cohesion and connectiveness that Councils initiate during periods of droughts (staff paid to organise, conduct and clean up)	Social	NSW Future Ready Regions Strategy - Stronger communities and diverse regional economies	Economic - Initiatives would contribute to an off-farm income stream. Social - Increased community cohesion, reduced demand for mental health services. Environmental - Not directly identified.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Maintaining aspects of the Region to improve resilience to drought)	NSW Regional Growth Fund	2 - 3 Months	Regional NSW	To be determined	Actions required: 1. In conjunction with Community organisations develop a program of activities. 2. Develop a plan for the conduct of each activity. 3. Deliver the scheduled activities. Supporting Drought Resilience Technical Studies: Nil.	6

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required/ Priority Actions	Cross Reference to Community Consultation Projects/ (016)
3	Water security - Groundwater	Increase the number of water bores for stock and domestic use and dust suppression for road maintenance / construction activities. The proving of ground water resources (quality and flow) and installation of standpipes (connected to a supervisory control system to provide a capability for standpipes to be switched on / off, to cross level usage between locations to adjust for changes in quality and flow rates) in up to five locations, to provide greater resilience for the agriculture and town water supplies of local towns.	Economy Environmental	NSW Future Ready Regions Strategy - Sustainable, secure and healthy water resources	Economic - Provides for the continued operation of agriculture and businesses that rely on the supply of water, within the community, to sustain their economic activity. Social - Provides a level of confidence to the local community, that there are options for the supply of water to support their business operations. Environmental - Supports decision making in managing the impact of bores on the natural environment.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Transforming aspects of the Region to improve resilience to drought)	NSW Future Drought Fund (for technical studies) Australian Government national Water Grid NSW Regional Growth Fund	Pre- Construction - 16 months Construction - 6 months	NSW DPE- Water Agriculture NSW NSW Farmers association Identified Agriculture Industries	Yes	Actions required: 1. Conduct Drought Resilience technical studies. 2. Detailed design of selected bore locations. 3. Detailed cost estimate. 4. Complete full business case. 5. Funding applications and approvals, Tender for construction. Supporting Drought Resilience Technical Studies: 1. Conduct a ground water resource study aligned to Agriculture use. 2. Prove (drill and assess) bores (quality and flow) in an agreed number of locations (e.g. five).	7
Warren LGA												
1	Telecommunications Security	Improve telecommunications connectivity (4G and 5G) in the region to support business and agricultural productivity	Economy		Economic - Provides for the continued operation of agriculture and businesses that rely on telecommunications, within the community, to sustain their economic activity. Social - Provides a level of confidence to the local community, that there are telecommunications options to support their business operations.	Planning and Monitoring (Pillar 1) Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Modifying aspects of the Region to transform and improve resilience to drought)			NSW & Federal Governments. Councils	Yes	Actions required: 1. Initiate discussions with NSW State Government and Commonwealth Departments. Supporting Drought Resilience Technical Studies: Nil	11

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required / Priority Actions	Cross Reference to Community Consultation 'Possible Projects' (016)
2	Livestock Nutrition Program	Combination of: - two workshops (circa 2-hrs each) about livestock nutrition principles, and nutrition strategies. - 6 to 12 hours (one-on-one) consultations for each participating farmer.	Economy	Coonamble Community Strategic Plan - Strategy 10 NSW Future Ready Regions Strategy - Stronger primary industries prepared for drought	Economic - Improved ability to maintain livestock nutrition Social - Improved resilience of farmers in managing through drought. Environmental - Not directly identified.	Planning and Monitoring (Pillar 1) Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)	NSW Future Drought Fund NSW Regional Growth Fund	Program development 3 - 6 months. Program delivery 4 - 6 months.	Regional NSW Cth Department of Agriculture Agriculture NSW NSW Farmers Association	To be determined	Actions required: 1. Identify underpinning funding agency. 2. Call for Expressions of Interest to engage a Veterinary / Agri service provider. 3. Design program construct, constraints, participation agreements (content, duration, numbers of participants, number of programs to be delivered, agreement requirements). 4. Advise the program and Call for participants. 5. Schedule and delivery programs). Supporting Drought Resilience Technical Studies: Nil	15
3	Rural Financial Program	Provision of business mentoring to support proactive decision making (livestock trading, decision making-based on facts and figures) (Workshops / one-on-one)	Economy	NSW Future Ready Regions Strategy - Stronger primary industries prepared for drought	Economic - Improved ability to maintain livestock nutrition Social - Improved resilience of farmers in managing through drought. Environmental - Not directly identified.	Planning and Monitoring (Pillar 1) Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)	NSW Department of Agriculture, Fisheries and Forestry	Immediate	Regional NSW NSW Rural Financial Counselling service	To be determined	Actions required: 1. Identify topics to be covered (eg. Succession planning Farm budgeting Forecasting and cash flow analysis Farm debt mediation Bank reviews and relationships Help refinancing debt Access government assistance and rural loans Understand farm loan interest rates Understand your financials (Build a business plan Identify areas of risk Benchmarking Referrals Debt relief and negotiation) 2. Develop a schedule. 3. Advertise program and call for participants. 4. Deliver the program.	15 & 33

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required/ Priority Actions	Cross Reference to Community Consultation Projects/ (016)
4	Council sponsored Off-Farm employment	Council engages local community members to conduct road maintenance activities, instead of engaging outside contractors	Economy	NSW Future Ready Regions Strategy - Stronger communities and diverse regional economies	Economic - Investment in road maintenance remains within the community Social - Increased community cohesion, reduced demand for mental health services given off-farm income avenue. Environmental - Not directly identified.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)	NSW Regional Growth Fund	3 - 6 Months	Regional NSW	To be determined	Actions required: 1. Identify the road maintenance activities that local community members could be engaged for. 2. Develop a contracting /employment model and agreements. 3. Discuss with Transport for NSW potential for road maintenance activities during times of drought. 4. At a suitable point in time, seek Expressions of Interest from the community for participation in road maintenance activities. 5. Initial road maintenance program. Supporting Drought Resilience Technical Studies: Nil.	17
5	Stronger communities program	Series of activities of events to promote social cohesion and connectiveness that Councils initiate during periods of droughts (staff paid to organise, conduct and clean up)	Social	NSW Future Ready Regions Strategy - Stronger communities and diverse regional economies	Economic - Initiatives would contribute to an off-farm income stream. Social - Increased community cohesion, reduced demand for mental health services. Environmental - Not directly identified.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)	NSW Regional Growth Fund	2 - 3 Months	Regional NSW	To be determined	Actions required: 1. In conjunction with Community organisations develop a program of activities. 2. Develop a plan for the conduct of each activity. 3. Deliver the scheduled activities. Supporting Drought Resilience Technical Studies: Nil.	24

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes / No)	Drought Technical Study(s) Required / Priority Actions	Cross Reference to Community Consultation 'Possible Projects' (016)
6	Water security - Groundwater	Increase the number of water bores for stock and domestic use and dust suppression for road maintenance / construction activities. The proving of ground water resources (quality and flow) and installation of standpipes (connected to a supervisory control system to provide a capability for standpipes to be switched on / off, to cross level usage between locations to adjust for changes in quality and flow rates) in up to five locations, to provide greater resilience for the agriculture and town water supplies of local towns.	Economy, Environmental	NSW Future Ready Regions Strategy - Sustainable, secure and healthy water resources	Economic - Provides for the continued operation of agriculture and businesses that rely on the supply of water, within the community, to sustain their economic activity. Social - Provides a level of confidence to the local community, that there are options for the supply of water to support their business operations. Environmental - Supports decision making in managing the impact of bores on the natural environment.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Transform aspects of the Region to improve resilience to drought)	NSW Future Drought Fund (for technical studies) Australian Government national Water Grid NSW Regional Growth Fund	Pre- Construction - 16 months Construction 6 months	NSW DPE - Water Agriculture NSW NSW Farmers association Identified Agriculture Industries	Yes	Actions required: 1. Conduct Drought Resilience technical studies. 2. Detailed design of selected bore locations. 3. Detailed cost estimate. 4. Complete full business case. 5. Funding applications and approvals 6. Tender for construction. Supporting Drought Resilience Technical Studies: 1. Conduct a ground water resource study aligned to Agriculture use. 2. Prove (drill and assess) bores (quality and flow) in an agreed number of locations (e.g. five).	25
7	Water Security	Remediation of the existing Gin Gin Weir to provide a secondary storage capacity. (Remediation options study, assessment to dam safety guidelines, and remediation of the storage)	Economy, Environmental	NSW Future Ready Regions Strategy - Sustainable, secure and healthy water resources	Economic - Provides for the continued operation of agriculture and businesses that rely on the supply of water, within the community, to sustain their economic activity. Social - Provides a level of confidence to the local community, that there are options for the supply of water to support their business operations. Environmental - Supports decision making in managing the impact of water usage on the natural environment.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Transform aspects of the Region to improve resilience to drought)	NSW Future Drought Fund (for technical studies) Australian Government national Water Grid NSW Regional Growth Fund NSW Safe and Secure Water program	Pre- Construction - 24 months Construction 12 months	NSW DPE - Water NSW Dams Safety Agriculture NSW NSW Farmers association Australian Government National Water Grid	To be determined	Actions required: 1. Geotechnical investigation. 2. Conduct Drought Resilience technical studies. 3. Detailed design. 4. Detailed cost estimate. 5. Complete full business case. 6. Funding applications and approvals. 7. Tender for construction. Supporting Drought Resilience Technical Studies: 1. Geo-Technical and raw water remediation options study. 2. Community consultation.	26

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required/ Priority Actions	Cross Reference to Community Consultation Projects/ (016)
8	Water security -	Increase the storage of the Burrendong Dam by an additional 20%	Economy, Environmental	NSW Future Ready Regions Strategy - Sustainable, secure and healthy water resources 2023/2024 Operational Plan & Estimates	Economic - Provides for the continued operation of agriculture and businesses that rely on the supply of water, within the community, to sustain their economic activity. Social - Provides a level of confidence to the local community, that there are options for the supply of water to support their business operations. Environmental - Supports decision making in managing the impact of water usage on the natural environment.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Transform aspects of the Region to improve resilience to drought)	NSW Future Drought Fund (for technical studies) Australian Government national Water Grid NSW Regional Growth Fund NSW Safe and Secure Water program	Pre- Construction - 36 months Construction 18 months	NSW DPE - Water NSW Dams Safety Agriculture NSW NSW Farmers association Australian Government National Water Grid	To be determined	Actions required: 1. Geotechnical Investigation. 2. Conduct Drought Resilience technical studies. 3. Detailed design. 4. Detailed cost estimate. 5. Complete full business case. 6. Funding applications and approvals. 7. Tender for construction. Supporting Drought Resilience Technical Studies: 1. Geo-technical and raw water remediation options study. 2. Community consultation.	26
9	Water security -	Establish storage at or before the Nyngan off-take to secure the water supply to the Warren Shire (industry, environment, irrigators, domestic supply)	Economy, Environmental	NSW Future Ready Regions Strategy - Sustainable, secure and healthy water resources	Economic - Provides for the continued operation of agriculture and businesses that rely on the supply of water, within the community, to sustain their economic activity. Social - Provides a level of confidence to the local community, that there are options for the supply of water to support their business operations. Environmental - Supports decision making in managing the impact of water usage on the natural environment.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Transform aspects of the Region to improve resilience to drought)	NSW Future Drought Fund (for technical studies) Australian Government national Water Grid NSW Regional Growth Fund NSW Safe and Secure Water program	Pre- Construction - 24 months Construction 12 months	NSW DPE - Water NSW Dams Safety Agriculture NSW NSW Farmers association Australian Government National Water Grid	To be determined	Actions required: 1. Geotechnical Investigation. 2. Conduct Drought Resilience technical studies. 3. Detailed design. 4. Detailed cost estimate. 5. Complete full business case. 6. Funding applications and approvals. 7. Tender for construction. Supporting Drought Resilience Technical Studies: 1. Geo-technical and raw water remediation options study. 2. Community consultation.	26

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required / Priority Actions	Cross Reference to Community Consultation Projects' (016)
10	Water Security - Supply Channels	Lining of supply channels - Albert Priest Channel and piping of Triton Mine at Nyngan to reduce evaporation	Economy, Environmental	NSW Future Ready Regions Strategy - Sustainable, secure and healthy water resources 2023/2024 Operational Plan & Estimates	Economic - Provides for the continued operation of agriculture and businesses that rely on the supply of water, within the community, to sustain their economic activity. Social - Provides a level of confidence to the local community, that there are options for the supply of water to support their business operations. Environmental - Not directly identified.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Transform aspects of the Region to improve resilience to drought)	NSW Future Drought Fund (for technical studies) Australian Government national Water Grid NSW Regional Growth Fund	Pre- Construction - 24 months Construction 12 months	NSW DPE - Water NSW Dams Safety Agriculture NSW NSW Farmers association	To be determined	Actions required: 1. Conduct Drought Resilience technical studies. 2. Detailed design. 3. Detailed cost estimate. 4. Complete full business case. 5. Funding applications and approvals. 6. Tender for construction. Supporting Drought Resilience Technical Studies: 1. Community consultation.	26
11	Chlorination System Upgrades for Warren, Nevertire, and Collie	The project aims to upgrade the chlorination systems in Warren, Nevertire, and Collie to best practice levels to ensure the delivery of a safe and adequately priced water supply.	Economy, Environmental	2023/2024 Operational Plan & Estimates	Social : Improved water quality can lead to better health outcomes for resident especially during drought conditions when water quality may deteriorate. Economic : Ensuring a reliable and safe water supply supports the local economy, including agriculture, by maintaining productivity and reducing potential disruptions during drought periods. Environmental : Best practice chlorination systems can minimise the environmental impact of water treatment processes, helping to maintain ecological balance, especially during the stress of drought.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)		Construction 6 months	NSW DPE - Water Council Community	To be determined	Actions required: Installation of chlorination systems to meet best practice standards.	NA

No.	Initiative /Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required/ Priority Actions	Cross Reference to Community Consultation Projects/ (016)
12	Water Security - Reservoir Drop Tests & Leakage Rectification	Carry out reservoir drop tests in order to check the level of leakage in the pipe networks and rectify any significant leakage.	Economy, Environmental	NSW Future Ready Regions Strategy - Sustainable, secure and healthy water resources	Economic: Identifying and repairing leaks to ensure more efficient use of water for agricultural and business operations, thereby preserving economic stability during drought conditions. Social: Ensuring the integrity of the water supply network builds community trust in water management and provides reassurance that water resources are being maintained effectively. Environmental: Detecting and rectifying leaks reduces water waste, ensuring that scarce water resources are preserved for essential ecological functions and habitats, particularly during drought periods.	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)	NSW Future Drought Fund (for technical studies) Australian Government national Water Grid NSW Regional Growth Fund NSW Safe and Secure Water program	Pre- Construction - 6 months Construction 12 months	NSW DPE - Water Council Community	To be determined	Actions required: 1. Investigation. 2. Detailed design. 3. Detailed cost estimate. 4. Funding applications and approvals. 5. Tender for construction or conduct rectification works by council. Supporting Drought Resilience Technical Studies: 1. Geo-technical and raw water remediation options study. 2. Community consultation.	
13	Sustainable Recreation and Tourism Strategy Development	Develop and implement a sustainable recreational access to rivers and marshes, enhancing drought resilience through community-involved planning. This includes developing recreational infrastructure that is adaptable to water levels and promoting activities suitable for dry seasons, thus supporting local economies and ecological preservation during varying climate conditions.	Social, Economic, Environmental	Warren Shire Delivery Program 2022 - 2026	Economic: supports tourism during drought Social: maintains community well-being Environmental: sustainable management of natural resources	Build future resilience (Pillar 3) (Modifying aspects of the Region to improve resilience to drought)		6-12 Months	Council (s) Tourism industry stakeholders Environmental Agencies	To be determined	Actions required: Develop drought-adaptive visitor destination management plan, Development of river locations for low-water recreation	

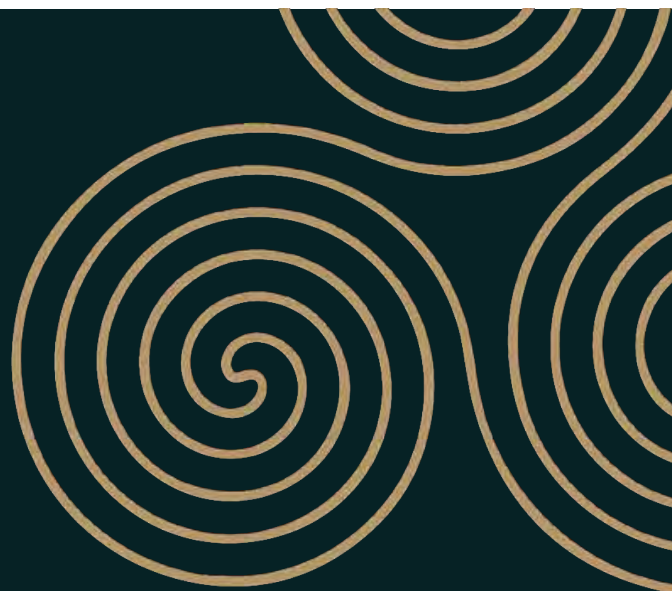
No.	Initiative /Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required/ Priority Actions	Cross Reference to Community Consultation Projects/ (016)
14	Smart Water Metering	Conducting an investigation and installing smart water meters across the town to monitor and manage water usage effectively, ensuring adherence to licensed water allocations and promoting conservation, especially during drought conditions.	Economy, Environmental	Warren Shire Delivery Program 2022 - 2026	<p>Environmental: optimises water usage, reduces waste</p> <p>Economic: potentially reduces costs for consumers and the shire</p> <p>Social: promotes community awareness of water usage and conservation</p>	<p>Planning and Monitoring (Pillar 1)</p> <p>(Modifying aspects of the Region to improve resilience to drought)</p>	Investigation: 6 months Installation: 12 months	Council Community Industry	To be determined	Actions required: 1. Investigation into smart meter technology 2. Detailed cost estimate. 3. Funding applications and approvals. 4. Installation process	NA	
Bogan LGA												
1	Stronger communities program	Series of activities of events to promote social cohesion and connectiveness that Councils initiate during periods of droughts (staff paid to organise, conduct and clean up)	Social	NSW Future Ready Regions Strategy - Stronger communities and diverse regional economies	<p>Economic - Initiatives would contribute to an off-farm income stream.</p> <p>Social - Increased community cohesion, reduced demand for mental health services.</p> <p>Environmental - Not directly identified.</p>	Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)	NSW Regional Growth Fund	2 - 3 Months	Regional NSW	To be determined	Actions required: 1. In conjunction with Community organisations develop a program of activities. 2. Develop a plan for the conduct of each activity. 3. Deliver the scheduled activities. Supporting Drought Resilience Technical Studies: Nil.	27
2	Tax Incentives / Economic Zone	Introduction of tax incentives for all local industries and businesses to support economic stability and prevent population decline in rural and remote regions.	Economy	NSW Future Ready Regions Strategy - Stronger communities and diverse regional economies	<p>Economic - Provides for the continued operation of agriculture and businesses within the community, to sustain their economic activity.</p>	Build future resilience (Pillar 3) (Modifying aspects of the Region to improve resilience to drought)	Not Applicable		Australian Government NSW Government	No	Actions required: 1. Initiate discussions with NSW State Government and Commonwealth Departments. Supporting Drought Resilience Technical Studies: Nil	30

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required / Priority Actions	Cross Reference to Community Consultation Projects' (016)
3	Tax Incentives / Economic Zone - Local Spend Targets	Implementation of local spend targets for state or federal infrastructure projects to ensure that investments remain within the local economies of rural and remote regions.	Economy	NSW Future Ready Regions Strategy - Stronger communities and diverse regional economies	Economic - Provides for the continued operation of agriculture and businesses within the community, to sustain their economic activity	Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)	Not Applicable		Australian Government NSW Government	No	Actions required: 1. Initiate discussions with NSW State Government and Commonwealth Departments. Supporting Drought Resilience Technical Studies: Nil	NA
4	Water Security Plan	Develop a regional water security infrastructure plan for the Macquarie River	Economic, Environmental		Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Modifying aspects of the Region to improve resilience to drought)		Australian Government national Water Grid NSW Regional Growth Fund		Australian Government national Water Grid NSW Regional Growth Fund Murray River Basin Authority	To be determined	Actions required: 1. Conduct Drought Resilience technical studies. 2. Detailed cost estimate (business case / funding application). 3. Development of the plan. 4. Discussion with stakeholders and community. 5. Finalisation of plan. 6. Identification of business case requirements for subsequent priority initiatives / plans / actions. 7. Progression of business cases / implementation actions. Supporting Drought Resilience Technical Studies: 1. Conduct a water demand study aligned to Agriculture and domestic uses. 2. Community consultation to facilitate concept for the plan, prior to detailed development.	32

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes / No)	Drought Technical Study(s) Required / Priority Actions	Cross Reference to Community Consultation 'Possible Projects' (016)
5	Water Security Infrastructure for Nyngan	Continuation of infrastructure projects aimed at ensuring the water supply security for Nyngan	Economic, Environmental	Draft Delivery Program - 2022 - 2025	<p>Economic - Provides for the continued operation of agriculture and businesses that rely on the supply of water, within the community, to sustain their economic activity.</p> <p>Social - Provides a level of confidence to the local community, that there are options for the supply of water to support their business operations.</p> <p>Environmental - Supports decision making in managing the impact of water usage on the natural environment.</p>	<p>Respond to Drought events (Pillar 2)</p> <p>Build future resilience (Pillar 3)</p> <p>(Modifying aspects of the Region to improve resilience to drought)</p>	<p>NSW Future Drought Fund (for technical studies)</p> <p>Australian Government national Water Grid</p> <p>NSW Regional Growth Fund</p>	<p>Pre- Construction - 24 months</p> <p>Construction 12 months</p>	<p>NSW DPE - Water</p> <p>NSW Dams Safety</p> <p>Agriculture NSW</p> <p>NSW Farmers association</p> <p>Council</p>	To be determined	<p>Actions required:</p> <ol style="list-style-type: none"> 1. Conduct Drought Resilience technical studies. 2. Detailed design. 3. Detailed cost estimate. 4. Complete full business case. 5. Funding applications and approvals. 6. Tender for construction. <p>Supporting Drought Resilience Technical Studies:</p> <ol style="list-style-type: none"> 1. Community consultation. 	NA
6	Nyngan to Cobar Pipeline Project (Stage 2)	Albert Priest Channel Improvement and Pipeline Augmentation Project (Nyngan to Cobar Pipeline Project). The project involves upgrading existing water infrastructure between Nyngan and Cobar to provide long-term water supply reliability and involves technical, environmental, and cultural heritage studies.	Economic, Environmental	Final business case developed, with stakeholder and community engagement.	<p>Economic - Provides for the continued operation of agriculture and businesses that rely on the supply of water, within the community, to sustain their economic activity.</p> <p>Social - Provides a level of confidence to the local community, that there are options for the supply of water to support their business operations.</p> <p>Environmental - Supports decision making in managing the impact of water usage on the natural environment.</p>	<p>Respond to Drought events (Pillar 2)</p> <p>Build future resilience (Pillar 3)</p> <p>(Transform aspects of the Region to improve resilience to drought)</p>	<p>\$45.5M secured for Stage 1</p> <p>Australian Government national Water Grid</p> <p>NSW Regional Growth Fund</p>	<p>Stage 1 urgent pump station replacement,</p> <p>Stage 2 pipeline replacement, with final business case due second half of 2023.</p>	<p>NSW DPE - Water Council(s)</p> <p>Industry & Mining Sectors</p> <p>First Nations</p> <p>Local Communities</p>	To be determined	<p>Actions required:</p> <ol style="list-style-type: none"> 1. Conduct Drought Resilience technical studies. 2. Detailed design. 3. Detailed cost estimate. 4. Complete full business case. 5. Funding applications and approvals. 6. Tender for construction. <p>Supporting Drought Resilience Technical Studies:</p> <ol style="list-style-type: none"> 1. Community consultation. 	NA

No.	Initiative / Project Name	Description (Short)	LGA Key Outcome Area	Program Strategic Alignment	Drought Resilience Benefit (Economic, Social, Environmental)	Drought Resilience Pillar (1, 2, 3)	Funding Source Availability	Implementation Timeframe	Key Stakeholders	Recommended for Shortlist (Yes/No)	Drought Technical Study(s) Required / Priority Actions	Cross Reference to Community Consultation Projects' (016)
ALL												
1	Additional Consultation & Community Connection	Regular consultation focused on the impacts of drought on key demographic groups, including First Nations people, young families, and the youth, to integrate their perspectives and solutions into community development.	Social		Social - Increased community cohesion	Planning and Monitoring (Pillar 1) (Maintain aspects of the Region to improve resilience to drought)	NSW Regional Growth Fund	2 - 3 Months	Council(s) First Nations Youth Young Families	To be determined	Actions required: 1. In conjunction with Community develop a consultation schedule. 2. Develop a plan for the conduct of each consultation. 3. Deliver the engagement log of the consultation. Supporting Drought Resilience Technical Studies: Nil.	NA
2	Economic Development, Visitation and Tourism Strategy - Cross Region Implementation	Implementation of a tourism strategy similar to the Darling River Run in the Three Rivers and Macquarie Marshes regions to boost local tourism and economic development through workshops on setting up tourism-related businesses like Airbnbs and Farm Stays.	Economic	NSW Future Ready Regions Strategy - Stronger communities and diverse regional economies	Economic - Initiatives would contribute to an off-farm income stream.	Planning and Monitoring (Pillar 1) Respond to Drought events (Pillar 2) Build future resilience (Pillar 3) (Modify aspects of the Region to improve resilience to drought)	NSW Regional Growth Fund	2 - 3 Months	Council (s) Tourism industry stakeholders	To be determined	Actions required: 1. In conjunction with Community develop a workshop/training material. 2. Develop a plan to conduct workshop/training. 3. Deliver the workshop/training. 4. Provide follow-up after the workshop/training. Supporting Drought Resilience Technical Studies: Nil.	NA
2	Mental Health Awareness in Young Men	Increase community sporting activities and events, like community BBQs, to enhance social connections, thereby addressing isolation among farmers and improving mental health among young men.	Social		Social - Increased community cohesion	Build future resilience (Pillar 3) (Maintain aspects of the Region to improve resilience to drought)	NSW Regional Growth Fund	2 Months	Community members Local sports clubs Mental health organisations	To be determined	Actions required: 1. In conjunction with Mental Health Organisations develop program content. 2. Develop a plan to conduct program. 3. Deliver the program. 4. Provide follow-up after the program. Supporting Drought Resilience Technical Studies: Nil.	

Appendix 5: Stakeholder Engagement Plan & Community Consultation Report



The Stable.

*Regional Drought Resilience Program (RDRP016)
Community and Council Consultation Feedback:*

Coonamble Shire Council, Warren Shire Council, Bogan Shire Council

23rd of April 2024

STABLE

~adjective

not likely to give way or overturn; firmly fixed

~noun

a group of people who perform a similar activity or are employed by the same organization.

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1. Document Control

Document Summary Information	
Version	1
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Document History				
Version	Document Type	Issued by	Issued to	Date
1	Draft	Donald Murray	Ross Earl	23/04/2024
2				

Document Information
This document provides a detailed summary of the feedback obtained across consultation periods with community groups and the Councils, within the Coonamble, Bogan and Warren Shires.

2. Summary

The Regional Drought Resilience Plan is designed to enable local governments and their communities to better prepare for, respond to and recover from drought. Community level drought resilience depends upon strong primary industries and agricultural supply chain sectors, as well as other businesses, community organisations and local government.

The consultation process with the Coonamble, Bogan, and Warren Shires as part of the Regional Drought Resilience Plan (RDRP) was comprehensive, engaging a broad spectrum of the community including local government councils (Coonamble Shire Council, Warren Shire Council, and Bogan Shire Council), community members, and various stakeholders such as local organisations and businesses. The engagement was structured around initial assessments, community and council sessions focused on drought resilience, and follow-up meetings to refine strategies and gather additional feedback.

Key themes identified during these consultations included water security, with proposals for upgrading the Burrendong Dam and improving water transport channels; regional connectivity, emphasising the need to enhance digital connectivity to support local businesses and agriculture; economic development, with initiatives aimed at boosting tourism and local spending along with suggestions for tax incentives to stimulate local economies; and social cohesion, where community sporting events and activities were highlighted to

address social isolation and mental health issues, particularly among adult males.

Community and council feedback highlighted the perennially dry and arid conditions of the area, with drought only exacerbating the scarcity of water. Water security is a major concern, with supplies often only assured for six to twelve months following the onset of drought. Another significant issue raised was the criteria for drought declaration, which typically comes when businesses and industries are already suffering, delaying the availability of funding and support programs.

Feedback from the councils underscored varying priorities: Warren Council was sceptical of past consultation efficacy and stressed the need for tangible, beneficial projects. Coonamble Council noted the strategic importance of diversifying focus from water security due to their geographical advantage, and Bogan Council marked water security as a critical priority and showed interest in collaborative water management projects with neighbouring regions.

Overall, the consultation process was pivotal in shaping the strategic direction of the RDRP, aligning it with community needs and leveraging local insights to forge effective drought resilience strategies. This approach highlighted a community preference for practical and impactful projects that promise sustainable and resilient community development.



3. Introduction

This report provides the results from an interpretation of the consultations conducted to understand the communities experiences of drought and their insights for enhancing drought resilience.

The aim of the consultations and the subsequent co-design process with community stakeholders is to:

1. Inform the community and stakeholders about the RDRP project;
2. Generate great ideas, solutions, options, opinions and stories;
3. Form relationships with community members who have capacity to champion and lead projects;
4. Understand gaps in prior responses to drought resilience; and
5. Finalise a long list of potential drought resilience projects.

The aim of the consultation and review process with Council stakeholders, including Mayors and General Managers, is to:

1. Understand the services previously delivered by Council during drought to improve drought resilience, and the limitations to their success or reasoning for success;
2. Understand projects currently in development that aim to deliver improvements to drought resilience;
3. Gather feedback on the long list of projects developed through consultation with community members, in relation to projects that have been previously actioned or projects that are missing;
4. Co-prioritise the projects to develop the short list of priority projects for further detail and analysis; and
5. Gather feedback on the overall drought resilience report to ensure that it aligns with Council expectations and visions.

Drought operates cyclically, which means that at any given moment, the community is engaged in preparation, recovery, and adaptation. These phases can be segmented into four main stages: the good period, the uncertain period, the drought period, and the recovery period. While the specific impacts of these stages may differ from one drought to another, the goal is to implement measures, training, and strategies during the good periods. These proactive efforts are designed to lessen the severity and

destruction experienced during the uncertain and drought periods, thereby supporting a more rapid and efficient recovery.

Good Period

During periods of average or above average rainfall, the communities in the Northwest Region experience a relative sense of stability. These are the times when agricultural production stabilises, and there is less strain on water resources, allowing the community and businesses to operate under 'normal' conditions. However, as emphasised in the consultation, harsh arid conditions are a perennial state and therefore even during 'normal' conditions, water efficiency and water saving is still a paramount concern.

Uncertain Period

During uncertain periods, where growing conditions are below average, there is a heightened sense of anxiety and cautiousness among farmers and businesses. These periods challenge the community to adapt to less predictable conditions, potentially leading to a reduced agricultural output and increased monitoring of resource allocations, especially water and feed for livestock.

Drought Period

During official drought periods, where rainfall is consistently below average, feedback highlighted substantial challenges. The region, being inherently arid, faces acute water shortages that severely impact agricultural productivity and local industries. Consultation responses emphasised the critical nature of water security, with a focus on long-term solutions like dam enhancements and improved water management systems. There was a notable concern regarding the late declaration of drought periods, which often come after businesses and the agricultural sector have already encountered significant hardships.

Recovery Period

In the recovery phase, while rainfall might increase, the community and businesses still face the lingering effects of the drought. Feedback suggested that this period is crucial for rebuilding and planning for future resilience. Initiatives such as the implementation of more sustainable agricultural practices, investments in infrastructure to better manage future droughts, and continued support for affected businesses and communities are vital. The emphasis is on not just returning to pre-drought conditions but improving the overall resilience and sustainability of the region to better withstand future droughts.

4. Initial Consultation - Community Groups

Consultation Workshops

Town	Male	Female	Under 40	TOTAL
Coonamble	3	7	2	10
Marra	6	4	1	10
Warren	14	13	3	27
Nyngan	8	3	1	11
	31	27		58

Across region RDRP016, business diversity and community group representations was present at the 4 community consultation and included; Local Shire Councillors, NSW Framers Local Councillors, town and village Progress Associations and Chamber of Commerce, cereal and cotton growers, wool producers, goat producers, cattle producers, retail businesses, trades people, health workers and nurses, cotton ginner, Tourism operators, Educators, Environmental Groups (Macquarie Wetlands), Local Lands Services, MDBA, NSW Crown Reserve Trustees, Sustainable Agriculture and Water Management groups, past Drought Resilience and Rural Financial Councillors, NSW Office of Regional Youth, junior and

senior sporting clubs, Mining Industry workers and suppliers, carbon farmers.

Additional Consultation Activities and Access

Throughout the consultation period print, radio and social media invited community to reach out to the Drought Plan Officer co-ordinating the consultation to ensure open and transparent consultation access. Post consultation, 2 written submissions and 2 telephone calls were received from attendees, and as a result they provided additional thoughts and evidence to further provide a comprehensive understanding of issues raised.

4.1. Coonamble Shire Council

Consultation with the Coonamble Shire Council took place from the 10th – 14th of February across various towns. Some of the key discussion topics included:

Discussion Topic	Information and Details
Financial, Health and Relationship Stress	Financial stress, coupled with ongoing financial obligations and family expectations, creates significant social and economic pressure, making it challenging for individuals and families to maintain stability. The strain is particularly pronounced during drought periods, intensifying the struggle to manage everyday life and relationships effectively.
Community Impact and Population Decline	Drought has a profound impact on the community, notably visible in Coonamble where the cycle of poverty becomes more pronounced. The town appears uninviting with empty shop fronts, reflecting the decline in business and population. This leads to unemployment and limited job opportunities, acting as a catalyst for further population decline. Vacant houses deteriorate or become vandalised, exacerbating the town's decline.
Challenges in Population Recovery Post- Drought	Post-drought recovery is hindered by barriers that prevent attracting and retaining new families, such as the lack of childcare and suitable housing. The absence of lifestyle blocks for new housing developments further complicates this issue, making it difficult for potential residents from the city to find appealing living conditions that meet their expectations.

Discussion Topic	Information and Details
Water Security	While water security in some areas of the shire is satisfactory, it could be improved. Not all areas benefited from the bore and capping scheme, which was crucial for water access. The perception of unfair water competition and the need for additional drought storage in Burrendong Dam are significant concerns, emphasising the necessity for equitable water access and enhanced storage solutions.
Social Connectivity	The importance of maintaining social connectivity is recognised, especially during droughts. Community events like 'Rain Dance' and random cricket games play a vital role in keeping the community united. It's essential to foster this connectivity continuously, to build resilience that can withstand the challenges of dry years.
Business Mentoring and Decision Making	There is a significant need for increased access to business mentoring to assist in proactive decision-making concerning livestock nutrition, trading, and relying on accurate data before situations worsen. This approach is crucial for sustaining operations through challenging times.
Media Awareness and Perception of Farmers	Changing the negative media perception of farmers is crucial. There is a need to promote a more accurate image of proactive, resource-managing farmers rather than the often portrayed bleak scenarios. Highlighting the essential role of farmers in food production and encouraging the purchase of Australian products are key strategies to improve public perception and support for the agricultural sector.
Labour Challenges Post- Drought	Finding qualified, skilled labour becomes increasingly difficult after a drought. This affects both on-farm and off-farm businesses as local economies revive. Initiatives like scholarships or incentives for youth upskilling are essential to cultivate local talent and ensure continuity of services.
Isolation and Connectivity Issues	Poor mobile and data connectivity exacerbate the feelings of isolation, particularly during droughts. Improving telecommunications services, such as expanding mobile coverage and introducing new providers like Starlink, could significantly reduce this isolation.
Volunteer Fatigue	Small communities heavily rely on volunteers for organising functions and services. However, volunteer fatigue is a significant issue, especially during and after droughts, when the community's capacity to volunteer diminishes due to increased personal and economic pressures.
Succession and Transition Planning	Drought complicates succession planning within farming families, often delaying or disrupting it due to the financial and emotional stresses involved. Transition planning for older farmers and integrating younger generations into the farming business are critical for continuity but are often overlooked during challenging times.
Educational Access and Costs	Access to quality education is a barrier for many families, with distance and associated costs discouraging higher education pursuits. Families sometimes relocate to provide better educational opportunities for their children, impacting the demographic composition of rural communities.

Discussion Topic	Information and Details
Importance of Local Support During Drought	Local support initiatives, such as 'Buy Local' campaigns, are vital during droughts. They help sustain the local economy and are preferable to external aid like hampers, which might not always meet the community's needs as effectively as local purchasing power would.
Comprehensive Business Planning	There is a pressing need for thorough business planning and mentorships to foster preparedness and resilience in the face of recurring droughts. Businesses that plan and prepare tend to fare better during and after droughts, highlighting the importance of proactive management and strategic decision-making.
Government Service Continuity	The lack of continuity in government positions, particularly in health and local land services, impedes effective community support and development. Longer contract terms and integrated local services could provide more stability and effectiveness, benefiting the entire community.

4.2. Warren Shire Council

Consultation was undertaken across the Warren Shire in two locations on the 14th of February.

Discussion Topic	Information and Details
Financial, Health and Relationship Stress	Warren Shire experiences significant social and economic challenges during drought periods, notably financial, health, and relationship stress. Reduced income combined with continuous financial commitments and family expectations creates substantial hardship, making it difficult for residents to maintain stability. The economic effects are profound, with businesses closing and financial institutions shutting down, forcing residents to travel further to access banking services. The resultant job losses lead to a decline in the local population, which reduces the number of volunteers and affects community services like education and retail, further exacerbating the economic downturn.
Business Mentoring and Water Security	Business mentoring is seen as crucial in Warren for helping residents make proactive decisions, especially concerning livestock nutrition and trading. Water security is a significant concern; limited access during drought undermines confidence in investing in the community, correlating directly with declines in population and business activity. Proposals such as more bore and capping programs and increasing Burrendong Dam's capacity by 20% are suggested to improve the situation and support economic stability.
Isolation and Connectivity Issues	Isolation is particularly severe in Warren during droughts due to inadequate mobile and data access, which hinders not only personal communication but also the viability of online or home-based businesses. This lack of connectivity affects the social fabric of the community, making it difficult to maintain relationships with family and friends, and restricts residents from accessing essential services and information.
Volunteer Fatigue and Red Tape	Volunteer fatigue is a notable issue, with the same individuals repeatedly bearing the brunt of community support efforts. The financial and time costs associated with volunteering, alongside

Discussion Topic	Information and Details
	excessive bureaucratic requirements, discourage community participation and contribute to a decline in volunteer numbers. Reducing red tape, particularly around environmental planning, is suggested to make life easier in the bush and encourage community retention during droughts.
Infrastructure and Skilled Labour Challenges	Limited access to reliable electricity infrastructure restricts the development of alternative industries that do not rely on water, such as wind and solar energy, which could provide alternate income streams during droughts. Additionally, accessing skilled labour is a persistent challenge, exacerbated by the lack of local educational opportunities in agriculture and trades, leading to business under- resourcing and staff burnout.
Health Services Continuity	The lack of continuity in health services becomes a critical issue during drought, as frequent changes in medical staff hinder the development of stable patient-provider relationships. This inconsistency discourages residents from seeking medical help, particularly for mental health issues, further straining the community's wellbeing during already challenging times.

4.3. Bogan Shire Council

Consultation was undertaken across the Bogan Shire on the 15th of February.

Discussion Topic	Information and Details
Population Loss and Community Cohesion	Drought has profoundly impacted population dynamics and community cohesion. There is a noticeable decline in the younger population returning to regional communities, as other opportunities appear more exciting, and a generation has not returned to the land. Additionally, mid-aged skilled individuals have left during the drought and not returned, exacerbated by an increase in properties owned by corporate agriculture and overseas investments, which typically lack a strong sense of local community responsibility. This shift contributes significantly to the local social and economic fabric's erosion, as these entities often do not support local businesses as traditional community members would.
Volunteer Fatigue and Social Isolation	Post-drought, volunteer fatigue is substantial, with many feeling too exhausted to organize or participate in community functions, such as those at the recently repaired Marra Hall. Drought also imposes significant social isolation; financial constraints limit social activities, poor communication infrastructure impedes connectivity, and family interactions can sometimes intensify existing stresses.
Infrastructure Deterioration and Economic Challenges	Drought leads to the deterioration of transport infrastructure, like unsealed roads, making them hazardous and inaccessible for essential services like ambulances during adverse conditions. Economically, drought creates a cyclical downturn, with each period of drought forcing the local economy to almost restart from ground zero. The challenge of resourcing, including re-establishing a workforce and securing housing in post-drought periods, becomes a daunting and expensive task.

Discussion Topic	Information and Details
Water Security and Government Resource Allocation	Water security remains a crucial concern, with significant environmental and economic implications. The health of water systems like the Macquarie Marshes is vital for maintaining livestock and agriculture. However, limited access to essential water infrastructure like piping and capping exacerbates the challenges during drought. Moreover, community frustration often increases due to perceived misallocation of government resources, such as investing in inappropriate equipment during drought or providing short-term employment contracts that do not support sustainable community development.
Decision Making and Anxiety Post-Drought	The anxiety associated with making future decisions post-drought is palpable, with many in the community needing more education and resources to make informed decisions confidently. This uncertainty affects the community's ability to recover and rebuild economically and socially, highlighting the need for targeted support and education to reinforce local confidence and resilience.

5. Secondary Community Consultation

A second round of community consultation was undertaken to gain feedback surrounding the long list of projects developed and understand the community priorities. This was to ensure that the long list of projects, presented to Council for prioritisation, accurately reflected the needs, perspectives, and insights of the respective communities.

This consultation was undertaken via Microsoft Teams with representatives across all three communities present at the one meeting, facilitating region-based discussion.

Based on the long list of projects the following priorities were raised by the community:

Priority Project	Commentary
Water Security 1. Upgrade Burrendong Dam Capacity to 120%. 2. Upgrade Gin Gin Weir	Expansion of Burrendong Dam capacity to 120% will enable an extra 200 GL of water storage. This is enough to provide an extra year of water for both residential purposes and agriculture. In the last flood, the capacity of the Burrendong Dam reached 140% without structural implications, suggesting that there is the capability of increasing capacity to 120% within minimal costs. Suggestion: Business Case/ Feasibility study for the Burrendong Dam Capacity Upgrade of raising of Gin Gin Weir wall. Could also include employment of project officer to gather and synthesise information across the three LGAs to support the application.
Regional Connectivity	Remote sensing of farm dams and major irrigation projects depend on connectivity between regions whether that be 4G or 5G. The connectivity limits agriculture and makes things difficult in good times and impossible in harder times.
Economic Development, Visitation and Tourism Strategy – Cross Region Implementation: Three Rivers and Macquarie Marshes	Emphasis was placed on not just buying from the bush but buying in the bush – getting tourists to come to the region and spend in the region. One example was the Darling River Run (https://www.thedarlingriverrun.com.au/) which has been very beneficial in its application – could a similar tourism strategy be rolled out within these three LGAs. Workshops to teach people how to set up their own tourism businesses e.g. Air BnBs, Farm Stays, etc.

Priority Project	Commentary
	<p>The intention is to be able to use the income generated from these programs to fund bores and road upgrades. Warren Council were willing to hold responsibility across all three councils.</p>
<p>Economic Zones and Tax Incentives</p>	<p>While interest in such projects was expressed, scepticism was also raised and emphasis was placed on the careful wording of such projects to ensure it didn't become a media target or regional subsidy program. Suggestion 1: Tax incentives for local industries and businesses (for all business not just agriculture). Suggestion 2: Implementation of local spend target for state or federal infrastructure projects within regions to ensure that money is spent in the local economies.</p>
<p>Social Cohesion</p>	<p>Population decline and increase in rates of mental health (particularly amongst adult males) is a significant concern. In past generations / decades, 3 or 4 people would assist as farmhands, creating a stronger community, but now due to economic conditions, farmers often now work in isolation for several hours or days. They are also more fearful of leaving the farm due to fears of theft and the lack of support. As a result, rates of mental health has increased. A result of the financial uncertainty, and the increased cost of pub food and meals, has meant that the number of pubs in the region has declined. This is reducing opportunities further for social cohesion and connection. It was suggested that the big winners in the community are sporting activities for adults and/or kids, as even youth sports bring the families out to mingle. Suggestion: Implementation of community sporting activities and programs and community bbqs / events, to increase the number of opportunities for social connection within community.</p>

Feedback:

Representatives from the Warren Shire expressed a desire for actions that delivered tangible outcomes with observable progress, particularly in areas such as water security and the ability to adapt to changing drought and water conditions. The council expressed a strong preference to implement and manage projects internally, leveraging their own capacities rather than relying on external consultants. They aim to lead economic and tourism development strategies across all three councils. Additionally, they highlighted the need for better engagement with the 30-50 age group, who have been minimally involved due to a distrust of political bureaucracy.

Representatives of the Coonamble Shire mentioned that water security isn't a top priority for them, given their advantageous location above the Great Artesian Basin. They are interested in prioritising projects that aren't

already covered by existing implementation programs. Furthermore, there was a significant emphasis on the importance of implementing tax incentives within the region. Coonamble seek to focus on strategic projects and policy implementations that promise long-term benefits, rather than compiling a mere list of potential initiatives.

Bogan Shire Representatives identified water security as a critical priority for their area. They proposed the idea of collaborating with Warren and potentially Cobar on a joint water security project within the Macquarie River region, indicating a regional approach to the issue. This cooperation could potentially enhance the impact and feasibility of the water security measures they undertake.

6. Survey Feedback

While the secondary community consultation raised crucial information relating to the prioritisation of the long list of projects, due to the breadth of the region and pre-existing commitments, in comparison to the initial consultation, the attendance was significantly reduced. In order to ensure that all initial members of the community had the opportunity to comment on project prioritisation, a survey was developed which contained the long list of projects presented within the table in Section 6 of this report. 18 responses were recorded.

Commentary	Average Score (1-10)
<p>Water Security: Expansion of Burrendong Dam capacity to 120% will enable an extra 200 GL of water storage. This is enough to provide an extra year of water for both residential purposes and agriculture. In the last flood, the capacity of the Burrendong Dam reached 140% without structural implications, suggesting that there is the capability of increasing capacity to 120% within minimal costs. <i>Project Suggestion:</i> Business Case/ Feasibility study for the Burrendong Dam Capacity Upgrade of raising of Gin Gin Weir wall. Could also include employment of project officer to gather and synthesise information across the three LGAs to support the application.</p>	5.9
<p>Ongoing Consultation and Community Connection: Ongoing consultation around the impacts of drought on population and community development needs to be a regular activity, especially in key demographic groups such as First Nations people, young families and the youth. Their view on drought, the connection to it and the solutions around it, should not be underestimated. <i>Project Suggestion:</i> Throughout the life of the Regional Drought Resilience Plan, energy is invested in ensuring that underrepresented groups have the opportunity to contribute to the future of the region.</p>	5.1
<p>Regional Connectivity: Remote sensing of farm dams and major irrigation projects depend on connectivity between regions (either 4G or 5G). The connectivity limits agriculture and makes things difficult in good times and impossible in harder times. <i>Project Suggestion:</i> Continue to look for ways to improve connectivity and increase infrastructure.</p>	7.2
<p>Economic Development, Visitation and Tourism Strategy - Cross Region Implementation: Three Rivers and Macquarie Marshes: Let's get tourists to come to the region and spend in the region. One example was the Darling River Run (https://www.thedarlingriverrun.com.au/) which has been very beneficial in its application. <i>Project Suggestion:</i> A similar tourism strategy be rolled out within these three LGAs with workshops to teach people how to set up their own tourism businesses e.g. Air BnBs, Farm Stays, etc.</p>	6.2
<p>Economic Zones and Tax Incentives: Taxation incentives are critical for rural and remote regions to keep people in the region. Declining population is the most significant concern. <i>Project Suggestion:</i> Tax incentives for local industries and businesses (all businesses, not just agriculture).</p>	6.9

Commentary	Average Score (1-10)
<p>Economic Zones and Tax Incentives: Taxation incentives are critical for rural and remote regions to keep people in the region. Declining population is the most significant concern. <i>Project Suggestion:</i> Implementation of local spend target for state or federal infrastructure projects within regions to ensure that money is spent in the local economies.</p>	6.9
<p>Social Cohesion: Population decline and increase in rates of mental health (particularly amongst adult males) is a significant concern. In past generations/ decades, 3 or 4 people would assist as farmhands, creating a stronger community, now farmers often work in isolation. This is reducing opportunities further for social cohesion and connection. It was suggested that the big winners in the community are sporting activities for adults and/or kids, as even youth sports bring the families out to mingle. <i>Project Suggestion:</i> Implementation of community sporting activities and programs and community bbqs / events, to increase the number of opportunities for social connection within community.</p>	7.2

7. Council Review

The RDRP Program requires Councils to:

- Consider both water security and environmental and social resilience needs.
- Collaborate across Local Government boundaries.
- Encourage active community participation to capture ideas and thoughts related to drought preparation, management and recovery.

The aim of the hybrid (in-person and online) Council review meeting was to:

- Collect Council feedback, and reach an agreeable position across the region, on previously completed sections of the RDRP.
- Gain Council input and perspectives on observations and lessons from prior droughts, current or planned economic initiatives and responses to drought, and key organisations and community groups to be engaged during the project.
- Review the current compiled list of potential projects and initiatives, and received feedback on whether they align with any Council project plans and/or whether any projects/initiatives are absent from the list.
- Provide Councils with the planned next steps for the completion of the RDRPs.

Based on the discussions completed during this meeting the following feedback was received, which guided the prioritisation of projects and feedback.

Bogan Shire Council

Bogan Shire Council sees significant merit in strengthening community programs, viewing these as crucial for enhancing social cohesion. However, they believe tax incentives, though beneficial, are not feasible in the short to medium term and thus not recommended currently. The council emphasises the importance of regional water security but indicates specific local projects like the Nyngan bore and the repair of leaks in the Albert Priest Channel are more immediately relevant than broader studies or the Nyngan to Cobar pipeline, which they deem irrelevant to their direct interests.

Coonamble Shire Council

Coonamble Council, expresses that water security is not their highest priority due to their advantageous geographical location above the Great Artesian Basin. Their focus is on initiating and prioritising projects that aren't already covered by existing programs, aiming for strategic implementations that bring long-term benefits and avoid merely extending current efforts. They emphasize the need for actionable tax incentives and strategic projects that yield tangible progress.

Warren Shire Council

Warren Shire Council has outlined a strong preference for substantial projects that deliver ongoing benefits, particularly in water security enhancements at Burrendong Dam and Gin Gin Weir, and the development of sustainable recreation and tourism strategies. They express a need for internal execution of projects rather than reliance on external consultants, and stress the importance of involving middle-aged demographics in the planning processes to ensure the initiatives meet the actual needs and avoid bureaucratic disconnects.

Discussion Insights

The roundtable discussions highlighted a broader context in which these councils operate, emphasising the need for a shift from overemphasising agriculture to a more diversified approach to drought resilience. This includes recognising the arid environmental conditions that dictate regional capabilities and framing drought not just as a cyclical challenge but as a constant condition requiring

ongoing management strategies. There is a noted need for more inclusive community engagement strategies, particularly with hard-to-reach groups like Aboriginal communities and the critical 30-40 year age group, who are pivotal for future community stability.

8. Consultation Overview

Combining all insights, it is evident that all three shires seek more than just short-term fixes; they demand robust, integrated strategies that address both immediate and long-term needs. Water security emerges as a common thread of concern, albeit with different priorities and proposed solutions reflecting each council's specific circumstances. The feedback also underscores a universal desire for improved economic, social, and environmental resilience that can sustain these communities through the unpredictable challenges posed by drought and other climatic variabilities.

Appendix 6: Projects Economic Feasibility Assessment and Benefit Cost Ratios

Economic Assessment

for Regional Drought Resilience Plan

016 - Northwest NSW - Coonamble Shire Council, Warren Shire Council and Bogan Shire Council

Far North West Joint Organisation

1. Introduction

This report contains an assessment using rapid economic appraisal of the options shortlisted for the Regional Drought Resilience Plan for the Far North West Joint Organisation.

2. Background

The Regional Drought Resilience Planning Program (RDR Plan) ('The Program') is designed to enable local governments and their communities to better prepare for, respond to, endure and thrive during, and recover from drought.

3. Project Reports

There are two completed reports for the project under the Program:

- Regional Drought Resilience Plan (RDR Plan-016) covering Coonamble Shire Council, Warren Shire Council, Bogan Shire Council which together make up the Northwest NSW Region; and
- Regional Drought Resilience Plan (RDR Plan-004) covering Bourke Shire, Brewarrina Shire, Cobar Shire and Walgett Shire, which together make up the Far Northwest Region¹⁸.

One of the outcomes of each report is the development of initiatives and projects to improve the drought resilience of the region across four outcome areas:

- People, Culture, and Community
- Economy
- Landscape and Natural Environment
- Infrastructure and Built Environment

Each report contains a long list of considered projects, and each project proposal is marked according to whether it was recommended for shortlisting.

This economic assessment addresses the first Plan (RDR Plan-016) covering Coonamble Shire, Warren Shire, Bogan Shire, which together make up the Northwest Region.

4. Economic Assessment

The assessment phase of the project is for The Stable economics team to do a rapid assessment of the shortlisted projects.

It is proposed that this assessment comprise:

- A logic structure that expands at the project level, that structure developed for the plan¹⁹;
- A rapid cost-benefit analysis²⁰, inputting cost and benefit data to the NSW Treasury proforma, estimated utilising the data calculated in previous two tasks.

The "rapid" nature of the technique is to assess benefits and costs only at a high level, using readily available secondary data, but not undertaking primary research. This methodology follows broadly the real options methodology in the NSW Treasury Guidelines, while remaining within the cash flow framework of Treasury's recommended rapid cost-benefit analysis.

5. Data needs

To deliver on the above methodology there are simple economic data needs:

- Available secondary data sources, including past assessments of proposals, or of related projects;
- Rapid assessment, using these sources, of the project logic as integrating with the plan logic.

5.1. Projects for Analysis

The study used detailed consultation techniques to shortlist projects for potential investment. The following project types were shortlisted across both reports:

- Water security - Groundwater
- Telecommunications Security
- Water Security Plans

These three project types can be described generically as:

¹⁸ This region is not to be confused with the Far North West Joint Organisation (FNWJO), which is a representative body for Bourke, Cobar and Walgett Shire Councils as proclaimed. The FNWJO lodged successful applications to develop these two Regional Drought Resilience Plans on behalf of the seven Councils of Bogan, Bourke, Brewarrina, Cobar, Coonamble, Walgett, and Warren Shire. All seven councils are part of the Western Plains Functional Economic Region.

¹⁹ Pg. 20-21, TPG23-08 NSW Government Guide to Cost-Benefit Analysis

²⁰ See A8.1 Preliminary Cost-Benefit Analysis, Pg. 100, TPG23-08 NSW Government Guide to Cost-Benefit Analysis

- **Water security:** Including Groundwater assessments and water reliability studies for the two regions or their member councils. This may include aquifer assessments, bore monitoring programs or water supply assessments incorporating groundwater. Key data sources were the Councils themselves and state planning bodies (regional water plans).
- **Telecommunications planning,** including mobile service areas, programs to identify communications gaps and post proposals to address telecommunications issues in these regions. Key sources were past telecommunications projects and their project managers.
- **Water Security Planning:** Existing water planning for the wider region, including Western Regional Water Strategy, and identifying complementary plans from within Councils. The key sources were existing water plans.

In addition, some of the “To be considered” projects (not shortlisted in the first round, but ranking highly) were selected for further analysis. These are projects that did not make the cut, but were thought worthy of further consideration. A panel reviewed these projects and chose a selection. In some cases these aligned with existing projects, providing expansion or more details scope – eg. Improving bore water quality, rather than quantity.

5.1.1. Projects for RDRP 016

The final shortlisted projects for Regional Drought Resilience Plan 016 for Northwest NSW – Coonamble Shire Council, Warren Shire Council, Bogan are listed below.

The following specific projects in Area 016:

Water Security

Water Security Groundwater in Warren Shire Council - Proving of groundwater resources (quality and flow) and installation of standpipes

- Increase the number of water bores for stock and domestic use and dust suppression for road maintenance/construction activities. The proving of groundwater resources (quality and flow) and installation of standpipes (connected to a supervisory control system to provide a capability for

standpipes to be switched on/off, to cross level usage between locations to adjust for changes in quality and flow rates) in up to five locations, to provide greater resilience for the agriculture and town water supplies of local towns. Three bore locations have been considered in this particular case.

Telecommunications Security

- Improve telecommunications connectivity (4G and 5G) in the region to support business and agricultural productivity.

Water Security Off River in Warren Shire Council

- Establish an off river storage at or before the Nyngan off-take to secure the water supply to Warren Shire (industry, environment, irrigators, domestic supply). Analysis indicates an additional off-river storage with 3,000 ML capacity could reduce water security risks for Nyngan and increase resilience of Nyngan, Cobar and nearby mines during drought.²¹

Water Planning

The following project was shortlisted in the 016 Region with water planning objectives:

- Develop a regional water security infrastructure plan for the Macquarie River

In conceptualising this project, the plan includes a scope of feasibility studies, community engagement and development of funding proposals. It is difficult in an economic analysis to measure the benefits of regional or basin plans per se, so we have taken the approach of assuming that the proposed plan would occur as part of the base case, but the development of the plan into particular options has been measured by representative case studies of groundwater security and off river storage.

From these shortlisted options, we deduce three options for analysis:

- **Base Case:** Planning without projects: it is assumed for the sake of clarity, that considering a program with up to three projects will incorporate a base level of expenditure on water security planning, and we’ve focused the water planning net benefit estimates on projects that might develop from that planning.

²¹ https://bogan.nsw.gov.au/images/Business_Case_Nyngan_Cobar_Water_Security_DRAFT_V2.0.pdf

- **Option 1: Water security: Groundwater** – investigation and development of bore fields in the region
- **Option 2: Telecommunications Upgrade** – Improve telecommunications connectivity (4G and 5G) in the region to support business and agricultural productivity
- **Option 3: Water security: Off river storage** at or near Nyngan

5.2. Projects Logic

This task consists of adapting the program logic diagrams down to the project level by identifying key benefits and costs and the logic of how they will be delivered.

For Project 016, the following Logic Map was presented:

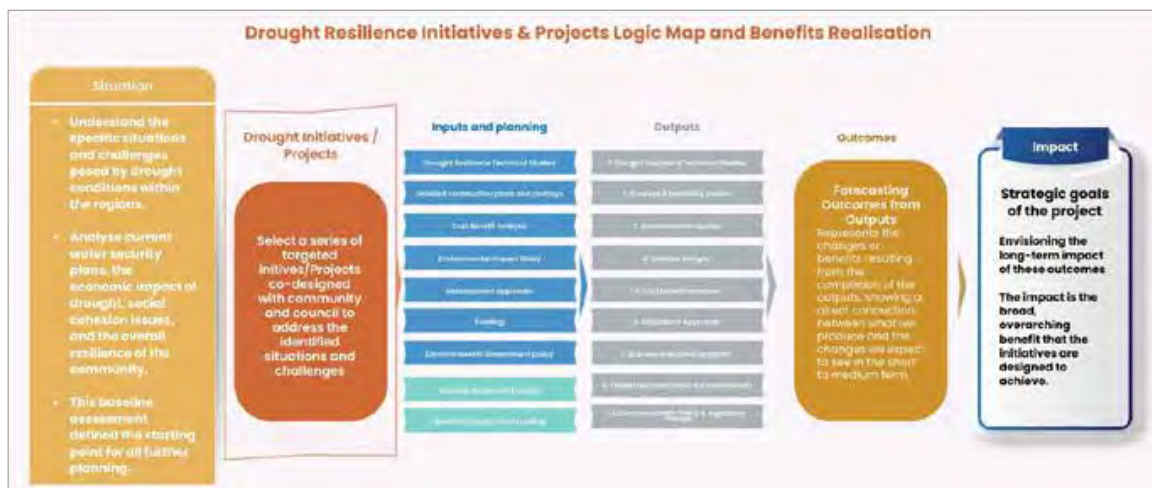


Figure 1: Initiatives and Projects Overview Logic Map

For the shortlisted individual projects, the draft project logic maps proposed are:

REGIONAL DROUGHT RESILIENCE PLAN 016 (BOGAN, COONAMBLE AND WARREN LOCAL GOVERNMENT AREAS)

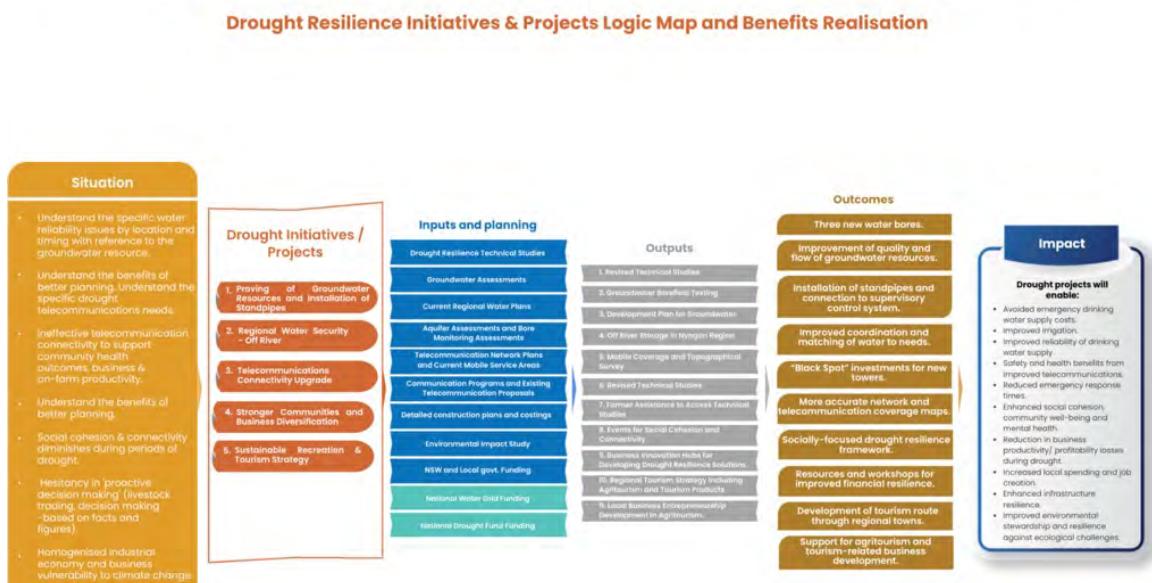


Figure 2: Projects Logic Map

6. Costs

The costs have been calculated on benchmark estimates by area and scope. This section breaks down the costs for each option to achieve the benefits listed in Section 6 Benefits.

6.1. Groundwater

The costing for the groundwater project has been developed with a view to conduct a ground water resource study, drill three new water bores, prove quality and flow of groundwater resources, install standpipes and connect to a supervisory control system (to provide a capability for standpipes to be

switched on/off, to cross level usage between locations to adjust for changes in quality and flow rates) across a three phase program at a total cost of \$0.81M.

6.2. Telecommunications

The principal tasks of the Telecommunications Security project was to investigate significant areas of non-connection to the mobile broadband network and to implement “black spot” investments to locate new towers so that there is continuity of coverage.

There have been a number of similar programs that can be used to benchmark costs.

Description of work	Total cost	Units	Total cost
Mobile Coverage and Topographical Survey	\$50,000	1	\$50,000
Towers	\$30,000	20	\$600,000
Fibre Connectivity	\$200,000	1	\$200,000
Solar Powered Battery Packs	\$50,000	1	\$50,000
Licensing & Subscription	\$50,000	1	\$50,000
Project Management	\$200,000	1	\$200,000
Escalation & Contingency	\$50,000	1	\$50,000
Total Cost			\$1,200,000

Table 2: Mobile phone coverage investment

6.3. Water Security

The costs for the Off river storage at or near Nyngan have been benchmarked from Queensland and NSW studies.

	Capital Cost per Unit Capacity \$/ML	Benchmark Location	Capacity ML	Cost \$	Notes
Offstream Storage	\$37,000	Walcha (Apsley)	300	\$11,000,000	
Offstream Storage	\$37,000	Tuross River Study	3,000	\$130,000,000	Cost revised as part of a variation

Table 3: Capital Cost Benchmarks

7. Benefits

The impact charts illustrate the likely benefits of the major options:

Groundwater

- Avoided emergency drinking water supply costs – typically valued in the literature at above \$7 per kL;
- Irrigation benefits – typically valued at crop gross margins of \$3 per ML.

Telecommunications

- Improved telecommunications offer safety and health benefits to the region. As permanent infrastructure, these benefits accrue both in and outside emergency situations like drought or flood.
- Safety: emergency response time savings valued using risk and value of life.

- Health: reduced transport cost to nearest health centre. Improved pre-care for emergency patients.

Water planning

- Improved reliability of drinking water supply from better matching of storage and transmission. Values in terms of emergency supply costs avoided at \$7/kL.

In this section, these benefits are broken down in more detail for input to the cash flow analysis.

It's important to first set down that many of the benefits are driven by the town, regional or state population. The following table, adapted from the main report, sets the key values for this region:

	Bourke	Brewarrina	Cobar	Walgett	Bogan	Coonamble	Warren
Population	2,340	1,356	4,059	5,253	1,467	3,732	2,550
Projected Population (2041)	1,556	931	2,555	3,732	1,581	2,965	1,755
Drought Water Consumption (kL pa 2023)	101,739	40,478	176,478	228,391	68,739	162,261	110,870
Drought Water Consumption (kL pa 2041)	67,652	58,957	111,087	162,261	107,261	128,913	76,304
Household Water Consumption (kL per household pa)	597	400	203	300	314	165	231
Potable Water Consumption (kL per household pa)*	100	100	100	100	100	100	100

Table 4: Population and Water Demand. Source: NSW Department of Planning Population Projections & NSW Department of Local Government Water Supply Statistics * Estimated using urban individual use metering studies

7.1. Groundwater

Groundwater is a significant variable in managing water security in the councils in this plan. Groundwater is used in town water supplies to ensure volume in droughts by providing supplementary water when for example, in drought, regulated releases cease from upstream storages, or in dry periods more generally, surface water quality declines with reduced flows.

In the main report, borefields are described as one of the key system assets in delivering Water Security:

- **Borefields.** Groundwater accessed through borefields supplements surface water sources, particularly during periods of drought. The use of borefields requires careful management to prevent over-extraction, which can lead to declining water levels and quality.

7.2. Telecommunications

In the main report, Telecommunications Security is proposed as a project because of the likely benefits that are described as:

- supporting the operational continuity of local businesses, community and agricultural activities and
- improving the community's confidence in their economic stability.

These benefits can be further broken down into:

- local business and community operational continuity benefits;
- benefits for non-local users, either as receivers of telecommunications in other

regions, or as visitors to the far west region;

- health related benefits for the local community.

To these can be added the technological benefits of the proposed device program being used by farmers to give a more efficient water use.

That is, by the types of users and their location.

Measuring these benefits includes calculating the time savings from better telecommunications and valuing them using average earnings.

The following Table shows the calculation of business and community continuity benefits:

General Telecommunications benefits		Notes
Black spots addressed	5	
Population Impacted	100%	
Time saving (hours per annum per person)	0.1	Estimate
Value	\$1,958	Average Weekly Earnings
Value per hour	\$58	35 hour week
Value of time saving per annum	\$5.59	
Total population impacted	2,550	Population of the Warren region

Table 5: General Telecommunications Benefits

The total value in the Rapid CBA Model is calculated as the value of local time saving (\$5.59 per person) times the local population, plus the value to the population as a whole per person, \$0.06 times the state population.

supply through better matching of storage and transmission, with values in terms of emergency supply costs avoided estimated at \$7 per kilolitre.

7.3. Water Planning

The benefits of water planning include improved reliability of the drinking water

8. Net Benefit

The following tables show the results after costs are netted off from benefits.

8.1. Results

Option	NPV	BCR	NPV Rank out of 3	BCR Rank out of 3
Base Case: Planning without projects	-\$170,915		-	-
Option 1: Water security: Groundwater	\$550,791	2.144	3	3
Option 2: Telecommunications Security	\$2,483,237	3.471	2	1
Option 3: Water security: Off river storage Nyngan	\$128,719,996	2.350	1	2

Table 6: Rapid Benefit Cost Analysis Results. Source: Analysis using NSW Treasury Rapid BCA Model

Options 1, 2 and 3 have benefit cost ratios greater than 1 at 5% discount rate.

8.2. Sensitivity and Distributional Analysis

All options have positive Net Present Values at all discount rates considered.

Sensitivity	3% Discount Rate		7% Discount Rate		10% Discount Rate	
Option	NPV	BCR	NPV	BCR	NPV	BCR
Base Case	-\$170,729		-\$170,912		-\$170,632	0.106
Option 1	\$571,433	2.083	\$530,831	2.203	\$502,352	2.285
Option 2	\$3,418,118	4.408	\$1,821,703	2.810	\$1,149,572	2.139
Option 3	\$210,584,491	2.959	\$75,745,210	1.891	\$28,613,666	1.397

Table 7: Sensitivity testing – Discount Rate

The results are insensitive to cost and benefits variance up to +/- 20%.

Option	Costs +20%		Costs -20%		Benefits +20%		Benefits -20%	
	NPV	BCR	NPV	BCR	NPV	BCR	NPV	BCR
Base Case	-\$209,962		-\$131,867		-\$166,050		-\$175,779	
Option 1	\$454,514	1.787	\$647,069	2.680	\$757,227	2.573	\$344,355	1.715
Option 2	\$2,282,284	2.893	\$2,684,189	4.339	\$3,180,837	4.166	\$1,785,637	2.777
Option 3	\$109,643,314	1.958	\$147,796,678	2.937	\$173,540,677	2.819	\$83,899,315	1.880

Table 8: Sensitivity to Cost and Benefit Variance

All options have positive Net Present Values for both Low case scenarios and High case scenarios.

Scenario	Low Case Scenario		High Case Scenario	
Option	NPV	BCR	NPV	BCR
Base Case	-\$214,827		-\$127,002	
Option 1	\$248,078	1.429	\$853,505	3.216
Option 2	1,584,685	2.314	\$3,381,789	5.207
Option 3	\$64,822,633	1.566	\$192,617,358	3.524

Table 9: Sensitivity to Negatively Correlated Benefit/Cost Variance

The Low Case Scenario assumes a cost increase of 20% and a benefit decrease of 20% with a social discount rate of 5%. The High Case Scenario assumes a cost decrease of 20% and a benefit increase of 20% with a social discount rate of 5%

9. Conclusion

This report contains the analysis of a range of remote regional drought projects using rapid cost benefit techniques. The conclusion is it is quite plausible for these projects to have benefit cost ratios greater than one, and would be recommended for a full cost benefit analysis as part of funding and approval processes.

Appendix: Cash Flow Tables

		Cash Flow Analysis Extended Report											
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Section 1: Section 1													
Cash Flow Summary		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cash Flow Details		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cash Flow Summary		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Section 2: Section 2													
Cash Flow Summary		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cash Flow Details		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cash Flow Summary		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Section 3: Section 3													
Cash Flow Summary		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cash Flow Details		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cash Flow Summary		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Section 4: Section 4													
Cash Flow Summary		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cash Flow Details		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cash Flow Summary		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000

Appendix 7: Community Consultation RDRP016 Coonamble, Warren and Nyngan

“WHAT THE PEOPLE SAID”

Prepared by Far Northwest Joint Organisation

Contact Belinda Colless
 Drought Plan Officer
 Far Northwest Joint Organisation
 droughtplan@farmnorthwestjo.nsw.gov.au

Drought Discussion	Social	Economic	Environmental
<p>Financial, Health and Relationship Stress Reduced income, continued financial commitments, family expectations – “is difficult trying to hold it all together”</p>	✓	✓	
<p>Drought results in population decline that has flow-on effects for whole of community.</p> <ul style="list-style-type: none"> • During Drought the cycle of poverty is more pronounced in Coonamble • Town looks uninviting, empty shop fronts as business / population has declined • Unemployment and futile unemployment opportunities – catalyst for population decline • Housing is vacated and left to be vandalised or in need of repairs and maintenance because it's not lived in • Shops and businesses close, people have to travel or rely on freight to access goods and services 	✓	✓	
<p>Need to increase population post drought - Our community is not in a position to attract and retain families due to infrastructure limitations</p> <ol style="list-style-type: none"> 1. Childcare and preschool access – insufficient early childhood places, skilled parents are unable to work and they have moved away from family support 2. Limited suitable housing – rental vacancy rates are 0 to 0.4%; housing standards also an issue as professional people from the city have an expectations 3. Shortage of “lifestyle” blocks to build new houses with space for bikes / horses 	✓	✓	
<p>Water Security OK, but could be improved in some areas of Shire</p> <ol style="list-style-type: none"> 4. Properties in north west sector of shire able to access ‘cap and pipe’ scheme for artesian bores – this was a game changer to have access to water <p>Not all areas had access to this scheme – an extension of this scheme for other areas and in particular “new” bores would be most beneficial</p> <ul style="list-style-type: none"> • Feeling that during last drought Warren irrigators “stole” water from Macquarie Marshes for environmental flow • Needs to be additional drought storage in Burrendong Dam • Unfair platform / competition for water access 	✓	✓	✓

Drought Discussion	Social	Economic	Environmental
<p>Social connectedness</p> <ul style="list-style-type: none"> • This was supported by community in the drought – “Rain Dance”, random games of cricket • Need to keep the community connected in the good years to create resilience in the dry years 5. Functions that brought people together – don’t have to be huge, just creating and supporting the idea of “connectedness”. Need to support existing and community-driven events and activities rather than creating imported ‘additional’ events. 	<p>✓</p>		
<p>Business Mentoring</p> <ul style="list-style-type: none"> • More access to business mentoring to assist people with proactive decision making 6. livestock nutrition and trading • decision making based on facts and figures before it’s too late 	<p>✓</p>	<p>✓</p>	<p>✓</p>
<p>Media Awareness Campaign</p> <ul style="list-style-type: none"> • Need to change perception of “farmers” that has been portrayed on the media – farmers in 2024 are pro-active, manage their assets and make decisions – not the bleak, sad stories portrayed on TV and press • Farmers care for their animals and the environment • Need to elevate the message “we need food, so we need farmers, so at least buy Australian” – Red Tractor ad • Why would people move to the bush after seeing all the negative images of drought? 	<p>✓</p>	<p>✓</p>	<p>✓</p>
<p>Difficult to find qualified / skilled labour and attract and retain long-term community members</p> <ul style="list-style-type: none"> • Worse after a drought, when you need to “gear up” quickly to take advantage of growing seasons, markets and improved agricultural conditions. • Affect both on-farm and off-farm businesses as local communities experience economic stimulation • Need to “grow our own” with scholarships / incentives for upskilling youth i.e hex debt cancelled after 5 years like NSW Education staff committing to 5 years rural and remote • Interrupted service provision with short-term contracts or high staff change over makes it difficult to have consistency and continuity of services (i.e health) 	<p>✓</p>	<p>✓</p>	
<p>Volunteer Fatigue and perceived reluctance to get involved – this is pre, during and post drought</p> <p>9. Volunteers are depleted - small communities rely on volunteers to organise functions, services and support in rural communities, particularly communities that have had significant population decline due to drought.</p> <ul style="list-style-type: none"> • Volunteers are becoming choosy about what they do and who they work with as time and resources are precious – Rain Dance had committed committee, timeframe and clear objective to deliver and disband 10. Too much responsibility and risk to be a volunteer - needing police checks and certs, the cost to obtain, ridiculous red tape 11. Asking volunteers to distribute donated products during drought adds extra burden and also has a negative impact on revenue of local businesses already suffering downturn 			

Drought Discussion	Social			Economic	Environmental
<p>Succession Planning is interrupted by drought</p> <ul style="list-style-type: none"> • No money, time or resources to undertake succession planning • Succession planning is stressful – families often avoid this during already stressful times like drought • Need to have consideration for “Transition” Planning for older farmers to retire • Younger generations find it difficult to see a clear future for themselves and their families as they have little financial control / decision making influence– this can also add to the pressure to move from the community during times of drought and find alternate security 	✓		✓		
<p>Poor and expensive trade and tertiary education options</p> <ul style="list-style-type: none"> • Distance and access to education institutions is a barrier for some families / youth – it’s either “too hard”, “too expensive” with travel and accommodation expenses or in some cases families will move so children can access a broader range of educational institutions 	✓		✓		
<p>Buy Local / Local purchasing is really important in drought</p> <ul style="list-style-type: none"> • “we need to stick together”, so we all make it through • Hampers are a lovely gesture from people but “buy local” vouchers would be BETTER to keep the local economy ticking over and easier to distribute • Hay drives were well intended, but missed the mark with the quality of the hay delivered 	✓		✓		
<p>During Drought EVERYONE SUFFERS</p> <p>12. Assistance for non-ag businesses during drought to prevent closures- if agriculture is suffering, the flow on affect is immediate for local business. Local small businesses (retail, service, trade) don’t have access to financial assistance or large assets to borrow against to access line of credit</p> <p>13. Power problems; brown outs for long periods – days in some cases</p>			✓	✓	
<p>Need for more business planning and mentorships to make informed decisions earlier – programs initiated in last drought were good but need them now to create preparedness / resilience. Businesses that are planners and prepared to make decisions, fair better</p> <ul style="list-style-type: none"> • Animal nutrition / Destocking plans • Soil health / pasture health / Plans to adapt to seasons 	✓		✓	✓	
<p>Confidence in economic investment and growth has been stunted by drought – too risky</p> <p>14. Zonal taxation rewards to stimulate and reward investment – pilot program to get things started</p> <ul style="list-style-type: none"> • Incentivise moving and starting a business in regional and remote NSW – tax rewards, to encourage productivity = increased population 	✓		✓		

Drought Discussion	Social	Economic	Environmental
<p>No continuity of Government Positions (Health, LLS) makes it difficult to get traction and be effective</p> <ul style="list-style-type: none"> • During drought, if one partner has a secure "government" job and the other is working in agricultural industry – this provides the family with economic stability • Contract terms need to be longer – 12mths is not realistic – need to be 5 years+ so people in government jobs can settle in the community, but a home etc • Some government services could be delivered by working in collaboration with existing businesses i.e support a local spray operator to spray roadside weeds, contract the local vet to undertake LLS work, physio undertake contract work for Health – "collaboration" would assist in keeping local people already settled in the community, in town 	✓	✓	✓
<p>All government-funded projects should have a local employment/purchasing bias, especially during drought.</p> <p>15. All infrastructure and service delivery programs targeting regional communities should include minimum standards for local or regional employment and for purchasing of materials/inputs. This would help drought-proof local economies by retaining workers, stimulating local business at no additional cost to government.</p>			
<p>Secured Financial Loans to provide confidence – Agriculture businesses and small business in towns</p> <ul style="list-style-type: none"> • Don't want grants and hand-outs – want tools to be more self-reliant • Need for a dedicated rural bank • Long-term bank loans with low interest rates locked in for 20 years – to provide planning confidence to grow businesses in uncertain seasons – 10 years of drought is not unheard of, so a financial arrangement that recognises this. 		✓	
<p>Freight Rebates Drive prices up</p> <p>Great idea in principle, but drove up the price of hay – farmers didn't really benefit</p>		✓	



Coonamble Main Street has many empty shops – it’s not an inviting look for industry and new business



Post drought, there are still parts of the Coonamble Shire that are quite dry



Mink and Me is a “Fresh” business in Coonamble owned by a Milenial

Drought Discussion		Short / Term	Mid / Term	Long / Term	Responsible
<p>In drought times, Council provide employment opportunities for farmers</p> <ul style="list-style-type: none"> • i.e heavy earthmoving, locals do the work, off farms and fix roads in dry times; don't get outside contractors; Note: Needs to be compliant with regulations and insurances 		✓			Council
<p>Economic Zone</p> <ul style="list-style-type: none"> • To attract population to our town post-drought – we need to make it easier, this would be a competitive advantage over other regions to access land, housing, jobs, education 	✓	✓			Council - to update LEP
<p>Increased population - campaign to attract young people to rural and regional communities</p> <ul style="list-style-type: none"> • Need to get away from media negatively portraying "poor, unfortunate farmers". • Regional Australia is resilient, younger farmers are early adaptors and use technology to improve economic and environmental outcomes. • Promote the benefits of living in a rural community – support, friendly, small so everyone has connections / relationships 	✓	✓	✓		Council
<p>Campaign to attract new residence and increase population – Welcome to Coonamble / welcome to Western Plains</p>	✓				Council
<p>Awareness campaign to city "sell the bush campaign" – there are opportunities in the bush – it's not all bad</p>		✓			RDA / Council
<p>More community gatherings particularly aimed at getting the community together with the view to enhancing community spirit – maybe "pay" someone to organise and have it as fee for service so volunteer resources are not stretched i.e hire a caterer, hire bar staff, pay a cleaner post event, pay an event co-ordinator to organise</p>	✓				Community Groups / Council
<p>Increased water security with more bores for stock and domestic use, dust suppression during drought – taking pressure off existing water sources</p>		✓		✓	Dep Environment
<p>Expand community-owned childcare and preschools – availability of places allows families to remain in the district; expanded services provide more local non-ag employment.</p>					
<p>Support 'building society' type housing developments – providing quality, affordable options for local families and skilled workers; construction employs more workers, local purchasing of materials supports and strengthens local business.</p>					
<p>Fast-track rezoning to allow access to small rural lifestyle blocks – would help attract young families, professionals and retain younger retirees (especially those off the land). Rules around minimum rural lot size are ridiculous in areas where land is readily available.</p>					Council
<p>Return training opportunities to local communities by making local TAFE campuses multi-purpose training hubs – many TAFE courses, including those that support agriculture and related industries, have been centralised to major regional centres. This means increased costs for students to access courses and exacerbates out of town shopping. TAFE campuses are under-utilised and should have stronger relationships with local business and industry for all post-secondary education and training. They should also be used as University Hubs providing study spaces, fast internet access and supported learning opportunities to build and retain skills in the community.</p>					

Submission, [REDACTED] Coonamble, received 14/2/2024

Hi Belinda,

The ideas that were noted last night were great ideas for building our towns and communities. All these ideas we have been trying to achieve and have been spoken about at every meeting. Our shire and community is well aware of these points and working on ideas to achieve resilience. If governments need this in a plan, great!! And if gov will help, even better.

I have 2 children back on the farm with young kids. Our farms support 3 families in the middle of succession planning and transition. There was not a single idea on the board that would have helped my family and farms in the last drought. Which left me feeling down hearted. The drought starts on the farms and spreads through the community.

The things that would help us would be extremely low interest rates in drought. To relieve pressure from banks because farms have to borrow money in droughts and most farms have debt. And keeping staff on so subsidising wages would have helped when we were all under so much stress, to share the workload would have helped. There are already loans with RAA that we can get, great!

I really believe we need a Rural Bank (not private) Government owned and viable to keep taxpayer happy that can adjust to how the climate change going to treat us/ Farmers and rural businesses going forward. Our Farm businesses can't fit in the 9 to 5 world because of climate and it all comes down to how much rain in the gauge.

Insurance wasn't mentioned we need affordable insurance and seasonal protection insurance . But now with the world feel the effects of climate change insurance companies can't afford to offer this. So it would have to be government body this need investigation to see if can be done and be viable to Gov and Rural people.

A game changer would be saving \$20 ton on our grain Freight by having Inland rail to Coonamble like it will do at Narrabri and Narromine. We pay \$47/ton freight to Narrabri and pay \$21 / ton freight in a good year - this would put back in \$35.million to our shires the figures are there to prove this - This would help drought proof by having more income good times to get through hard times. Our area is drained by freight costs. We are the largest Grain receival site NSW. This is a very BIG idea long lasting and empowering farmers and towns for Coonamble but it has to come to our silos not a spur line.

It was hard to get a word in last night and water is very important, and the bad governance of government departments is deplorable. I know this because of interacting with ARTC. The damming report by Kerri Shotts about ARTC poor actions proved the people and the community were right about the despicable behaviour of ARTC to land holders and communities. So, this report may have given Coonamble a chance to put a case forward.

Thanks [REDACTED]
[REDACTED]
[REDACTED]

Marra Hall – 14th February 2024 (10 participants)

Drought Discussion		Social	Economic	Environmental
<p>Drought has resulted in loss of population and sense of community</p> <ul style="list-style-type: none"> • Decrease in younger population coming back to regional communities – other opportunities more exciting and a generation hasn't returned to the land • Decrease in mid-aged productive / skilled people due to drought and they have not returned to community • Increase in carbon blocks has resulted added to population decline – don't need to be on-site to manage. • Properties are owned by corporate agriculture, O/S investment and superannuation company owned – they don't have the same sense of community and don't have corporate responsibility to "buy local, support local". 	✓	✓		
<p>Volunteers are exhausted after drought – really difficult to stay motivated and keep things going post drought</p> <ul style="list-style-type: none"> • Marra hall has been fixed with grant money, but no functions because we're exhausted 	✓	✓		
<p>Drought is socially isolating.</p> <ul style="list-style-type: none"> • Can't afford to be going out – other priorities to spend money on • Communication is a barrier to – poor mobile phone reception – you can't ring up while you're driving and down the paddock/shed, expensive and need knowledge to fit "skylink" or similar • Only see family – this can sometimes magnify family stresses 	✓			
<p>Transport and Roads deteriorate during drought and require additional maintenance post drought</p> <ul style="list-style-type: none"> • Unsealed roads deteriorate during dry periods, making them dangerous • Ambulances are not 4 x 4 and will not travel on roads with water over them or impassable due to wet weather 	✓	✓	✓	
<p>Drought causes a downward spiral in the local economy – every time the season and economic outlook changes, it's like starting from ground zero again and having to re-resource is expensive and time consuming</p> <ul style="list-style-type: none"> • Housing stock depleted – housing deteriorates if not lived in, and new housing is difficult to acquire with limited trades, red tape involved in new housing on farm • Post drought it takes time to re-instate a workforce, find places for them to live etc 	✓	✓		
<p>Need for more business planning and mentorships to make informed decisions earlier – programs initiated in last drought were good but need them now to create preparedness / resilience</p> <ul style="list-style-type: none"> • Animal nutrition / destocking plans • Soil health / pasture health • Plans to adapt to season 	✓	✓	✓	

Drought Discussion	Social	Economic	Environmental
<p>During Drought access to care / schools / education is magnified</p> <ul style="list-style-type: none"> No childcare or after school care available for parents considering "off farm" income Limited access to secondary school due to distance – continuity of boarding school under threat due to expense To access TAFE trade, students need to attend regional centres – travel to and from training and costs associated with "block" training are generally met by the bank of "Mum and Dad" – this is an additional financial stress during times of drought that some families can't afford 	✓	✓	
<p>Isolation and lack of connectivity in drought is amplified – can't just reach out and talk to someone</p> <ul style="list-style-type: none"> Limited mobile and internet service to house 16. Aerial extenders available but expensive, need to be fitted by expert and sometimes don't live up to advertised expectations Phone calls and emails are sent after hours, breaking into "family time" Limits access to on-line information / communication 	✓	✓	✓
<p>Water Security</p> <ul style="list-style-type: none"> Macquarie Marshes healthy water system No water = no stock, if there is water there are still opportunities to feed no access to piping and capping, sub artesian 300-200 metres dry holes Have ground tanks, have to do yourself and pay for its care 17. Macquarie River and creeks go dry, Bogan goes dry, no water for stock 18. environmental heritage care - employees have never been past Dubbo(unaware off water shortage to farms) 	✓	✓	✓
<p>Makes communities angry to see Government money wasted during drought</p> <ul style="list-style-type: none"> Firetrucks had expensive flood equipment added during the height of a drought but government jobs have short-term employment contracts – would be more sustainable for the community to re-direct funds into providing job security in regional and remote towns so people had confidence to become part of the workforce 		✓	
<p>Difficult to make decisions post drought</p> <ul style="list-style-type: none"> Anxiety in future decision making – is it the right decision or not??? Need more education to make more informed decisions to reinforce confidence 	✓	✓	✓



Marra Hall Consultation – attendees lived in the Coonamble, Warren, Brewarrina and Nyngan Local Government Areas



Above & Below: Macquarie Marshes wetlands - viewing platforms



Marra - Possible Project Development		Short / Term	Mid / Term	Long / Term	Responsible
<p>“Grow our Own” – promote skill development in locals that are already “resilient” and are used to the harsh and sometimes challenging conditions of rural and remote areas – “when the going gets tough – these guys already know what it’s like”</p>				✓	NSW State Gov
<p>Increase population = increased access to services</p> <ul style="list-style-type: none"> • Promotional campaign to encourage people to move to our communities 				✓	Everyone
<p>Diversification to increase financial independence during times of drought</p> <p>19. Off farm incomes should be encouraged and rewarded as part of resilience plan</p> <ul style="list-style-type: none"> • Alternate energy incomes Solar / Wind / Carbon • Access to communications to support alternate service delivery i.e professionals working from home, on-farm, • Tourism / farm-stay activities 		✓			Farmers
<p>Isolation of Drought is further amplified by poor communications</p> <ul style="list-style-type: none"> • Mobile telephone and internet access is poor and patchy – can’t maximise production in the good times to create resilience in the bad times • Businesspeople can’t be “mobile” to undertake business communication – they have to stay at home – this really restricts production and opportunity 				✓	Telcos, Government, Farmers to install own infrastructure
<p>“Use it or Lose it” or “Promote Local Campaign”</p> <ul style="list-style-type: none"> • Create a resilient community we need to commit to buying and supporting local business or they will pack up and leave = population decline 					Council
<p>Community Resilience Strategy to ensure “absentee landholders” are committed to and invest in the local communities where they have investment land – can’t just take from the land and not give to the community.</p>		✓		✓	Council
<p>Promote “buy local” with services provided to Local Government i.e plant, grader hire etc</p>	✓				Council
<p>More Education and mentoring</p> <ul style="list-style-type: none"> • Improved Cashflow Management Strategies for businesses (agriculture and town businesses) i.e take out the economic peaks (bumper years) and troughs (drought years) through cash management schemes, tax incentives, instant tax write-offs, forward payments • Stock Management, nutrition management and stock Trading 	✓				LLS, Farmers, RFCS

Marra - Possible Project Development			
Short / Term	Mid / Term	Long / Term	Responsible
<p>Change media portrayal of the regions</p> <ul style="list-style-type: none"> • Farmers don't want to be seen looking for "hand-outs" but instead would like to be supported. And who would want to move out here post "doom and gloom" drought stories so fresh in city dwellers memories. 	✓		Council / RDA

Warren Consultation, 14th February 2024 (23 Participants)

Drought Discussion	Social			Economic	Environmental
<p>Financial, Health and Relationship Stress</p> <p>Reduced income, continued financial commitments, family expectations – "is difficult trying to hold it all together"</p>	✓			✓	
<p>Drought results in population decline that has flow-on effects for whole of community.</p> <p>20. Loss of employment – people move away to find new employment opportunities</p> <ul style="list-style-type: none"> • Loss families in community – reduced number of volunteers, reduced number kids at school, reduced number kids sports • Flow-on economic effects of community shrinkage i.e. need for less teachers, retail workers, service providers – businesses close • Financial institutions / banks close – have to travel away to access money • When families move, skilled workforce move, making succession planning in the workplace difficult • Houses are left vacant and lack maintenance and care – existing housing stock sits in disrepair. • Young people with no "ties" are more likely to move as it's easier for them to "pack up" and move – once they move it is difficult to get them back after the drought 	✓			✓	
<p>Business Mentoring</p> <ul style="list-style-type: none"> • More access to business mentoring to assist people with proactive decision making • livestock nutrition • livestock trading • decision making based on facts and figures before it's too late 	✓				
<p>Water security is poor during drought – historically in Warren during drought periods water security is limited. Without secure water it is difficult to have confidence to invest in business. There is a direct correlation with population and business decline when there is a shortage of water, this limits confidence and investment in the community.</p> <ul style="list-style-type: none"> • More bore and capping programs – rural stock and domestic use and for road safety and maintenance during dry periods (dust suppression) to take pressure off already scarce water stocks 				✓	✓

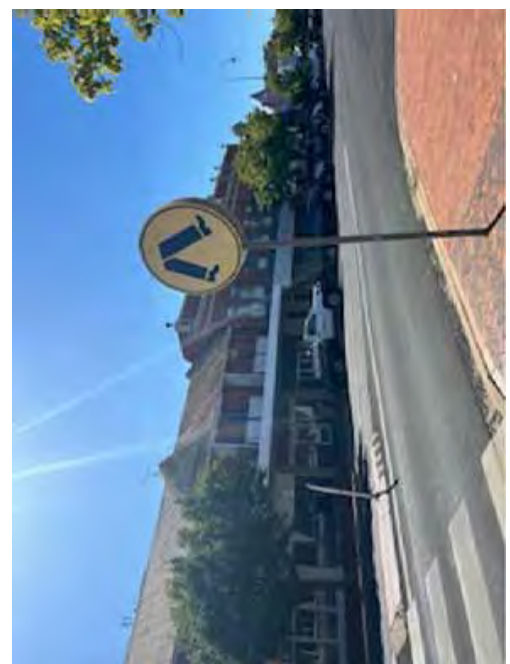
Drought Discussion	Social	Economic	Environmental
<ul style="list-style-type: none"> • Council - Dust Suppression and road deterioration – more bores to access for road works, maintenance and construction and available for rural stock and domestic use • Uncertainty with future water allocations • Localised conflicts between irrigators and graziers • poor water security • Permanently increase Burrendong Dam by 20% - as they have done in the past 			
<p>Isolation, particularly in drought made worse with poor access to mobile and data and no “connectivity” to assistance.</p> <ul style="list-style-type: none"> • You can't just “reach out” and talk to someone in the paddock or the shed or on the tractor – you are limited by mobile telephone reception • no mobile service 9km out of Warren • Ability for “on-line” or homebased businesses “on farm” as an alternate income stream (resilience income) is not possible as communications infrastructure does not support • landline services can go down and difficult to report • have to stay on phone for over an hour if problems • poor internet communication, this limits ability to access information, run business, stay on top of markets • Difficult to keep in contact with family and friends – social aspect of “face-timing” relatives to keep in touch 	<p>✓</p>	<p>✓</p>	
<p>Volunteer fatigue and perceived reluctance to get involved – this is pre, during and post drought</p> <ul style="list-style-type: none"> • The same people are keeping the community together • It can be “too expensive” to be a volunteer and people don't have the extra cash so are not in a position to put their hand up – cost of time taken away from work, fuel to travel, many organisations have requirements for training i.e OHS, RSA, going to regional meetings etc • Community relies so heavily on volunteers – city dwellers don't understand importance of volunteers – in small communities no-one gets paid for anything • Too much responsibility and risk to be a volunteer - needing police checks and certs, the cost to obtain, ridiculous red tape - Rotary had to prove they were not terrorists! • It's becoming “too hard” to be a volunteer – easier to just say no 	<p>✓</p>	<p>✓</p>	
<p>Reduce Environmental Plan red tape in the bush - Reduce the red tape to make life in the bush easier to encourage industry and development i.e industrial buildings, worker accommodation – if this was easier it would help “tie” people to communities in drought and prevent them from leaving</p> <ul style="list-style-type: none"> • Need for more lifestyle blocks as an attraction for young families / farm workers / business people • DA required for intensive feeding operation for over 999 / head – there are lots of intensive feed operations in drought that are not identified for this reason – red tape is too hard, takes time, requires specialist knowledge and is expensive, so just ignore it 	<p>✓</p>	<p>✓</p>	<p>✓</p>

Drought Discussion		Social	Economic	Environmental
<p>Limited Access to electricity infrastructure – limiting access to alternate industries that don't rely on water and are alternate industries and incomes for communities in drought</p> <ul style="list-style-type: none"> • Wind and solar industries need access to the grid • Power problems; brown outs for long periods – day in some cases 		✓	✓	✓
<p>Accessing skilled labour, pre, during and post drought seems impossible so businesses are under resourced to grow, suffer burn-out of existing staff or move to where they can find skilled labour.</p> <p>Ability to “grow your own” in terms of up-skilling local community has challenges;</p> <ul style="list-style-type: none"> • no agricultural teachers at high school (eg Ag had to stop) • No local access to trade education – have to travel far away • TAFE online - poor delivery and limited choices <p>Riversmart project, unable to get numbers and go ahead</p>	✓	✓		
<p>No continuity of health services - this becomes magnified during drought as community do not have a familiar relationship with health providers. Every time you go to the GP you need to “re-explain” your circumstances. Eventually you just give up going to see the GP. This attitude does not support or encourage people to reach out about mental health issues.</p> <p>Examples</p> <ul style="list-style-type: none"> • difficulty getting staff – Drs, Nurses and auxiliary staff are constantly changing • No permanent GP – rely on locum GP's to service community • Families of GP's don't live here, poor homelife for GPs • Agency nurses, burn out and leave 	✓			

Warren - Possible Project Development		Short / Term	Mid / Term	Long / Term	Responsible
<p>In drought times, Council provide employment opportunities for farmers</p> <p>i.e heavy earthmoving, locals do the work, off farms and fix roads in dry times; don't get outside contractors; The Red Scheme - pilot scheme Warren Shire; Use local labour where possible</p> <p>Note: Needs to be compliant with regulations and insurances</p>		✓			Council - Council already has self-help scheme in place but needs assistance
<p>The empty buildings in the main street make the town look unappealing. Buildings require maintenance / make-over.</p> <ul style="list-style-type: none"> • Is it possible to repurpose buildings? Encourage small businesses / home businesses to take up residence. • Create a “Hub” for part-time small businesses to have a shop front 		✓			Owners / Chamber Commerce / Council / Council Facilitation

Warren - Possible Project Development		Short / Term	Mid / Term	Long / Term	Responsible
<p>Take advantage of demand for 'rural lifestyle blocks' To attract population to our town post-drought, is it possible to open-up more life-style blocks to encourage young families, industry and trades to move to Warren Additional lifestyle blocks for Warren area</p>		✓			Council to update LEP
<p>More tourism infrastructure to support tourism as an alternate industry to agriculture</p> <ul style="list-style-type: none"> • Need additional accommodation and existing accommodation needs updating • Additional Eco-tourism product – promotion and access to the Macquarie Marshes • Activate rural "Air B n B" rural style with incentives / workshops to assist people to get "business ready" • Activate City dwellers to experience rural and environmental tourism – Brisbane, Sydney, Melbourne, Canberra – "Three Rivers visitation – Castlereagh, Bogan and Macquarie Rivers" 		✓			Tourism Operators / Council (Destination Macquarie Marshes plan being developed)
<p>Increased population - campaign to attract young people to rural and regional communities.</p> <ul style="list-style-type: none"> • Need to get away from media negatively portraying "poor, unfortunate farmers". • Regional Australia is resilient, younger farmers are early adaptors and use technology to improve economic and environmental outcomes. • Promote the benefits of living in a rural community – support, friendly, small so everyone has connections / relationships 		✓			
<p>More local ownership of water to ensure we have secure water for production</p> <ul style="list-style-type: none"> • stop overseas interests from owning our natural resource 				✓	Murray Darling Basin Authority / Council facilitating
<p>Campaign to attract new residents and increase population</p> <ul style="list-style-type: none"> • Welcome to Warren / welcome to Central NSW • Events and media • Warren Prospectus for new business / industry, 		✓			Council
<p>Awareness campaign to city "sell the bush"</p> <ul style="list-style-type: none"> • Promote the slogan "want to help? Why don't you come for a visit?" • "Drought can be positive, and every drought is different" but it's even more difficult to manage when you don't have the same tools as everyone else in more populated areas – ie technology, weather radar, access to information and training • Close the "culture" gap between country and city people 		✓			RDA / Council

Warren - Possible Project Development		Short / Term	Mid / Term	Long / Term	Responsible
<p>More community gatherings particularly aimed at getting the community together</p> <ul style="list-style-type: none"> • “pay” someone to organise and co-ordinate events and have it as fee for service so volunteer resources are not stretched i.e. hire a caterer, hire bar staff, pay a cleaner post event, pay an event coordinator to organise 	✓				Community Groups / Council
<p>Increased access to water</p> <ul style="list-style-type: none"> • Funding availability to access more bores for stock and domestic use – taking pressure of existing water sources • Dust suppression during drought for road restoration and rehabilitation 		✓	✓		Dep Environment / Council
<p>Water Security Activities</p> <ul style="list-style-type: none"> • Gin Gin Weir – reconstruction to allow for secondary storage capacity. • Burrendong Dam – increase to 120% capacity to be made new 100% capacity. 2.1. Off River Storage at or before the Nyngan off take to secure water supply to Warren Shire (industry, environment, irrigators, domestic supply) • Lining of supply channels - Albert Priest Channel and piping of Trinton Mine at Nyngan to reduce evaporation 			✓	✓	NSW Water



Warren – many vaccant shops in the main street.

An observation – rural communitites have vaccant pubs but active bottle shops – community are not socialising at the Pub but deciding to have a drink at home.

Submission, [Redacted] Warren, Received 16/2/2024

G'day Belinda,

Thanks to a few storms around last night and subsequent decent falls of rain I've been able to get into the office and tidy up a few jobs! It was great to be a part of the forum on Wednesday night and hear you speak and also listen to the concerns/ideas of those present. My apologies that I had to leave early. I figured that I could shoot you an email or have a chat on the phone at a later time!

The thought I had was around Small businesses in those 7 LGA's (20% of the state) that are as prone to any to the effects of Drought. Although in saying that, I wonder if the following could be applicable to rural areas nationally? Primary Producers obviously have some really useful tools in place at Tax time to reduce taxable income, one of which are the FMD's.

It got me thinking that there should be an opportunity for a small business (non-primary producing business) to participate in a similar scheme? We talk about the 'peaks and troughs' of Rural life as far as production goes and climate dictates. It would be a nice thought that small businesses could have the option of putting some pre-tax funds away at the end of June to go into a 'Small Business Management Deposit' (SBMD). Funds would be locked up but only released back to the Small business to use once their LGA was Drought declared?

We all know that some Overheads are really hard to reduce at times with permanent staff wages being one. We talk about ways we can retain our Rural Staff and avoid the 'Brain drain' which occurs in an Easterly direction once they are let go due to cost pressures. So, I thought something like this might help? This would give small businesses potentially a buffer/insurance policy for the next period of drought and we all know the clock is ticking.

Some interesting ideas around rural housing too I thought. Are there already existing schemes with rural housing between Government and private enterprise? I don't know how it would look like but I just think of those tunnels and tollways down in Sydney that seem to have these partnerships in place?

Also, does Decentralisation only apply to centres like Bathurst, Wagga, Albury, Tamworth etc? Maybe government need to consider incentivising businesses to move certain industries out West like low interest loans or tax breaks?? Yes, yes I know, we need housing!!

That's about as far as my mental intuition (if you call it that!) will handle for a Friday afternoon!

Best wishes,

[Redacted Signature]

[Redacted Name]
Branch Manager/Agronomist - Nutrien Ag Solutions

[Redacted Address]
Landmark Operations Ltd (ABN 73 008 743 217) 25 Radhedge Road Warren NSW 2824, Australia
[Redacted Phone Numbers]

Nyngan Consultation – 15th February 2024 (11 Participants)

Drought Discussion	Social	Economic	Environmental
<p>Mines are supported by the community on the whole and provide an alternate income stream to the Nyngan community during times of drought</p> <ul style="list-style-type: none"> • Employs locals but mainly FIFO – these are generally specialised positions • Mining stabilizes town economy • Opportunities for our kids for employment • Farmers can work, extra income 	✓	✓	
<p>Financial, Health and Relationship Stress</p> <ul style="list-style-type: none"> • Loss of income is difficult, trying to balance business and family pressures <p>It's disheartening when you have a second income as a diversification strategy for financial security but its taxed.</p> <p>22.Drought is depressive - dust storms, brown gets you down, environment is dying around you and losing value of natural assets</p>	✓	✓	✓
<p>Drought results in population decline that has flow-on effects for whole of community.</p> <ul style="list-style-type: none"> • Loss of population – this is a killer – friendship groups are broken up, school class numbers decrease, kids sporting activities affected, reduced people living in Nyngan affects community multiplier effect. <p>Flow on to reduced population is less volunteers, less community functions and gatherings</p> <ul style="list-style-type: none"> • Shops closing and lots of vacant shops, no machinery dealerships • Fluctuation of population affected stability of childcare numbers – this affected its financial viability and as a community run organisation it posed too much risk for volunteers, so Shire took it on to provide security for childcare provision in the town. 	✓	✓	
<p>Community feel exhausted or “Planned Out”, with no or few changes to the political environment surrounding drought</p> <ul style="list-style-type: none"> • Difficult to manage cashflows with such diverse seasonal conditions, sometimes it feels impossible to manage and stay on top of the social, environmental and financial changes being experienced. Government red tape does not help or encourage progress • Why are droughts not natural disasters, “frequent climate events” Government should have a policy and plan by now - still not available • sold cattle in the middle of a drought and still had to pay tax • Farm Management Deposits are difficult to administer • Some people specialise on getting the “free” money instead of trying to be self-sufficient • when you create money in good times, there is a tax bill - no balance for droughts 	✓	✓	

Drought Discussion	Social	Economic	Environmental
<p>Water security is poor during drought – there is no basin under Nyngan – water security is dire as there are no other alternatives.</p> <ul style="list-style-type: none"> • Without secure water it is difficult to have confidence to invest in business. • There is a direct correlation with population and business decline when there is a shortage of water, this limits confidence and investment in the community. • water restricted by Macquarie River flows • Town is on water restrictions even outside of “Drought” declarations • Farmers rely on surface water and ground tanks to harvest their own water • Stop saving water for environment – there is conflict with Nyngan residents and supporters of environmental flows to the Macquarie Marshes. There is a feeling in Nyngan that the Macquarie Marshes environmental flows are not controlled and take water essential for the survival of the Nyngan community. 		✓	✓
<p>Inability to manage business, particularly in drought made worse with poor access to mobile and data and no “connectivity” to assistance.</p> <ul style="list-style-type: none"> • Mobile lots of areas with no service – businesses in the city or regional towns don’t have issues like this and the lack of understanding during drought is very frustrating 23. Have to spend \$15K on boosters or Starlink- no rebates and difficult to install if you’re not an IT person 	✓	✓	
<p>Volunteer Fatigue and perceived reluctance to get involved – this is pre, during and post drought</p> <ul style="list-style-type: none"> • No volunteers and workers, same 5 people volunteer for everything 24. Our volunteers are ageing, reflective of our ageing population • Financial pressures require people to work long hours and sometimes multiple jobs – there is no time to volunteer • Eg’s of volunteer decline - Vinnie’s open 3 days a week, no junior cricket, no tuckshop at school –mothers working, no rotary, no apex anymore <p>Too much responsibility and risk to be a volunteer - needing police checks and certs, the cost to obtain, ridiculous red tape - Rotary had to prove they were not terrorists!</p> <ul style="list-style-type: none"> • It’s becoming “too hard” to be a volunteer – easier to just say no 	✓	✓	
<p>Reduce Environmental Plan Red Tape in the bush - Reduce the red tape to make life in the bush easier to encourage industry and development</p> <ul style="list-style-type: none"> • Red tape and Govt regulations are not encouraging for development in the bush 25. New housing subdivision -2yrs and still no progress, biodiversity regulations put it back 2 yrs • same rules and regulations required in Nyngan as in the middle of Sydney • too many barriers to develop in Nyngan • same price for investment as in a major city but less return – no confidence to invest Need small “lifestyle blocks” 	✓	✓	✓

Drought Discussion	Social	Economic	Environmental
<p>Accessing skilled labour, pre, during and post drought seems impossible so businesses are under resourced to grow, suffer burn-out of existing staff or move to where they can find skilled labour.</p> <p>Ability to “grow your own” in terms of up-skilling local community has challenges;</p> <ul style="list-style-type: none"> • visiting OT • lack mechanics and trades people • short term contracts and people come and go - no security • inconsistent service delivery • mining takes workers as more attractive 7 on 7 off, work when you want 	✓	✓	
<p>No continuity of health services - this becomes magnified during drought as community do not have a familiar relationship with health providers.</p> <ul style="list-style-type: none"> • Agency nurses, burn out and leave • Bogan Shire Council now manages the Medical Center in Nyngan to ensure continuity of service provision – This is not a traditional council role that Council is remunerated for through rate provisions. Council is “filling” the gap to meet community expectations. 	✓	✓	



LEFT: Restored Nyngan Town Hall

RIGHT: Empty Town Shops in Nyngan



LEFT: Empty Town Shops in Nyngan

RIGHT: Empty Town Shops in Nyngan



Nyngan- Possible Project Development		Short / Term	Mid / Term	Long / Term	Responsible
<p>Community Gatherings that are pre-organised and not run by volunteers – people want a break.</p> <ul style="list-style-type: none"> Evident in the smaller villages and hamlets where it's difficult to get to town to socialise 	✓				Council
<p>Maintaining Local Economies during drought</p> <ul style="list-style-type: none"> Buy local campaign – keep money stimulating local economy Instead of people "giving" hampers etc, perhaps vouchers for local grocery shops? drought assist non farmers to help our community – this will assist with population and employment, support local businesses and existing services Encourage "home businesses" to have a shopfront 		✓			Owners / Chamber Commerce / Council Facilitation
<p>Attract population to our town post-drought</p> <ul style="list-style-type: none"> Need for more life-style blocks to encourage young families, industry and trades to move to Nyngan. promote the town, cheap to buy, has hospital and schools, lots of jobs, 2 hrs to Dubbo, mines Promote the benefits of living in a rural community – support, friendly, small so everyone has connections / relationships Campaign to attract young people to rural and regional communities 		✓			Council - to update LEP
<p>Flatten out the peaks and troughs of agriculture cash-flows</p> <ul style="list-style-type: none"> Tax incentives / economic zone - reward people for having a go and sticking it out 				✓	Aust Government
<p>Infrastructure for Alternate Industries i.e electricity, freight routes (rail and road)</p> <ul style="list-style-type: none"> Salt bush feedlots Solar farm 		✓		✓	Aust Government
<p>Water Security Plan for new infrastructure along the Macquarie River</p> <ul style="list-style-type: none"> Ensure water security for domestic, industry, stock and farming 	✓	✓		✓	Aust Government

Phase Two - Project Identification

Sub-Group LGA Representation- RDRP016 – Project Identification and Development Ideas

The below group provides a cross-section of LGAs, gender, age and interests, industry, community and Council representation.

The following have been approached to undertake 2 x 1 hour facetime group interviews to discuss and come up with viable ideas for Project Implementation for RDRP016 to participate in the following;

- 1st Facetime Meeting – 7pm to 8pm
Wednesday – discuss ideas
- Participants receive an e-mail outlining ideas for consideration to narrow down to 10 projects
- 2nd Facetime Meeting – 7pm to 8pm
Wednesday – finalise ideas

Project Priorities

- **Projects do not over burdening existing organisations / individuals (volunteers)** with already limited resources
- Ensure the **lead organisation has adequate capacity and resources** to execute the project
- Be community-led, are relevant, integrated, targeted, inclusive, and reflective of community and stakeholder needs.
- Prioritise and focus on developing drought resilience through a lens of regional development.
- Be achievable
- Be cost effective (total budget of \$200K with the view to sourcing additional funding or working in partnerships with other organisations i.e LLS)

RDRP 004 - Idea Generators Consultation Meetings

1. Media campaign – “Visit the Bush” (Mid Term)

- Elevate more positive picture of regional and remote Australia and in particular “farmers”.
- Educate children about where their food comes from and why farms are important and valuable – without farms we don’t eat.

- Encourage people to visit the bush – just a short burst of economic stimulation will assist with much needed cashflow and business confidence.
- Promote our communities as a viable place to consider investing in and raising a family – “move to the bush”

2. Develop a water security plan for Coonamble, Warren and Nyngan (Long-term)

- Incorporate river and bore water options
- Include town, village, stock, industrial, irrigation and domestic usage
- Investigate efficiencies in water delivery and storage
- Advocate for communities and financial assistance to implement

3. Mental Health Awareness in the bush (Short to mid-term)

- Use existing organisations / networks to promote mental health awareness i.e Western Plains Rugby Union – provide funding / resources for a “mental health awareness” round.
- Have a healthy check list ” i.e mental health, skin check, breast / cervical cancer check / prostate check -complete 3 and will a prize (Conversation starter shirts (Tade Mutt)
- Mental Health 1st Aid, particularly for rural and remote communities that don’t have a full-time mental health presence in their community.

4. Community Gatherings (Short-term)

- Community want to keep the “support” groups / events that occurred during the drought going forward – this was a great way to create support networks , share information and tackle isolation, BUT we don’t want to put additional pressure on our volunteers – just simple “get togethers” – no dressing up, no catering, nothing fancy just basic to organise and run

5. Education / Workshops (Short to mid-term)

- Liked on-farm workshops during the drought, with practical / visual approach where appropriate.

- More access to business mentoring to assist people with proactive decision making – having confidence to make a decision is a huge help to business and mental health.
- livestock nutrition – when, where and how? Knowing sometimes it's not worthwhile to persist and better off to sell.
- Livestock trading – understanding markets to “bounce back” quicker post drought.
- Financial decision making – what are the key inputs/ outputs to be monitored.
- Succession planning

6. Telecommunications Review (Mid-term)

- Gathering data and information on the real effects of inadequate communication systems in Western NSW and the impacts they have on mental health, safety and reduced productivity during drought
- What will be the benefits of a much anticipated “Starlink” connection to communities with limited or zero internet or telephone access?

7. Stimulate local economies / main streets with more shop front activity

- “Community Hubs – pooling of resources to purchase a building with multiple users
- Succession planning for small business – How can a transition occur to allow younger people to buy into small business
- Promote community benefits – work and business opportunities

8. Councils to review LEP's to encourage industry and development

- provisions for additional lifestyle blocks
- Make it easier to build / locate worker accommodation on farm –acknowledge that some Councils don't have a full-time Health and Building service.

9. Economic Zone strategy developed / reviewed for consideration by government to include;

- Provisions and pre-approvals for development to encourage investment. i.e grain storage sheds, intensive feeding operations
- Incentives and rewards for maximising production – rewarding optimal behaviours.

10. “Grow Our Own Program”

- Encourage youth from the area to develop skills / access education to bring skills back to the bush.
- NSW Government offers incentives for teachers, nurses, police officers, ambulance to undertake contracts in rural and remote areas. Instead of “importing” skilled people to a foreign community (rural and remote), why not turn the program around to encourage easier access for bush youth to gain skills and bring them back to the bush? They will be more likely to stay in the long-term.



COONAMBLE SHIRE COUNCIL

PLANNING PROPOSAL

Industrial Land

PP002/2024

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PRELIMINARY

Context

This document is a planning proposal that aims to support the rezoning of Council owned land that is currently zoned RU1 Primary Production but is not currently utilised for agricultural uses. The land is adjacent to existing industrial land and the rail corridor. The primary aim of the planning proposal is to provide additional industrial land so that Council is in a position to encourage new industrial activities in Coonamble.

Current Zoning and Use

The land is currently zoned RU1 Primary Production. Located on the land is the former Council sheep yards that are no longer in use. To the east of the site is the council depot, GrainCorp silos and rail corridor. To the west is an area of Travelling Stock Route and Crown land. The current and proposed zoning are shown in Figures 2 and 3.

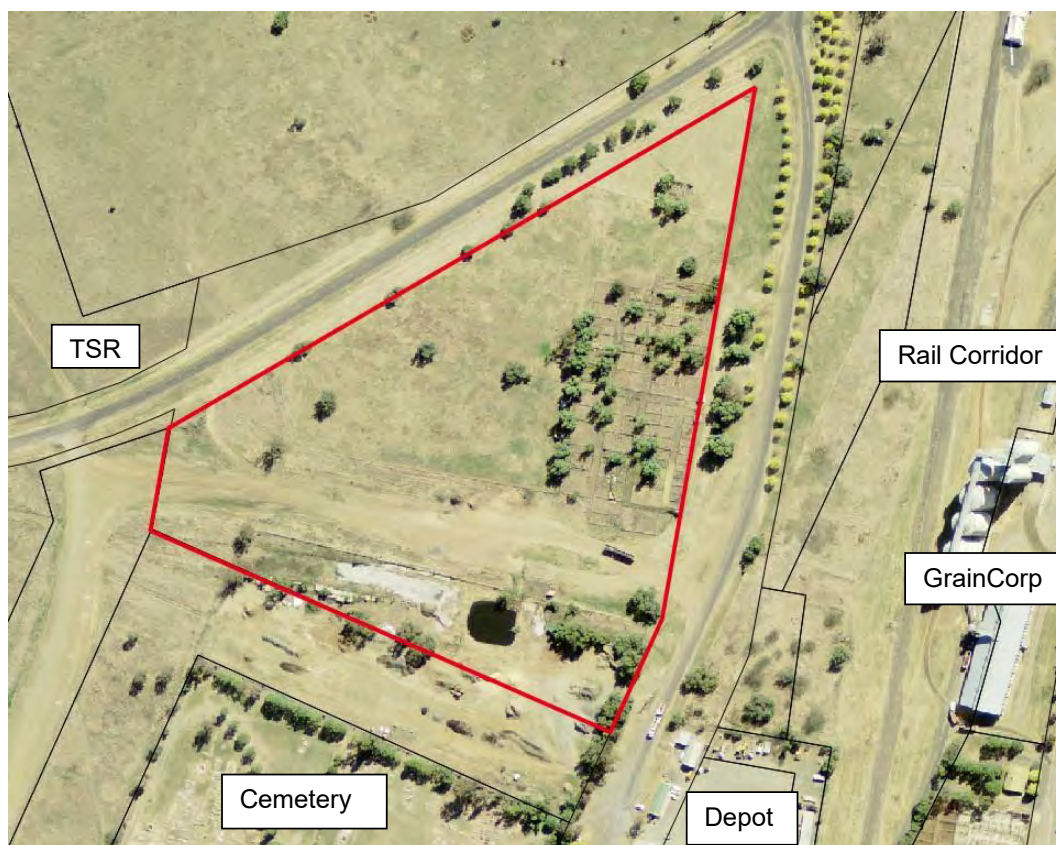


Figure 1: Context Map

Figure 2: Current Land Use Zoning

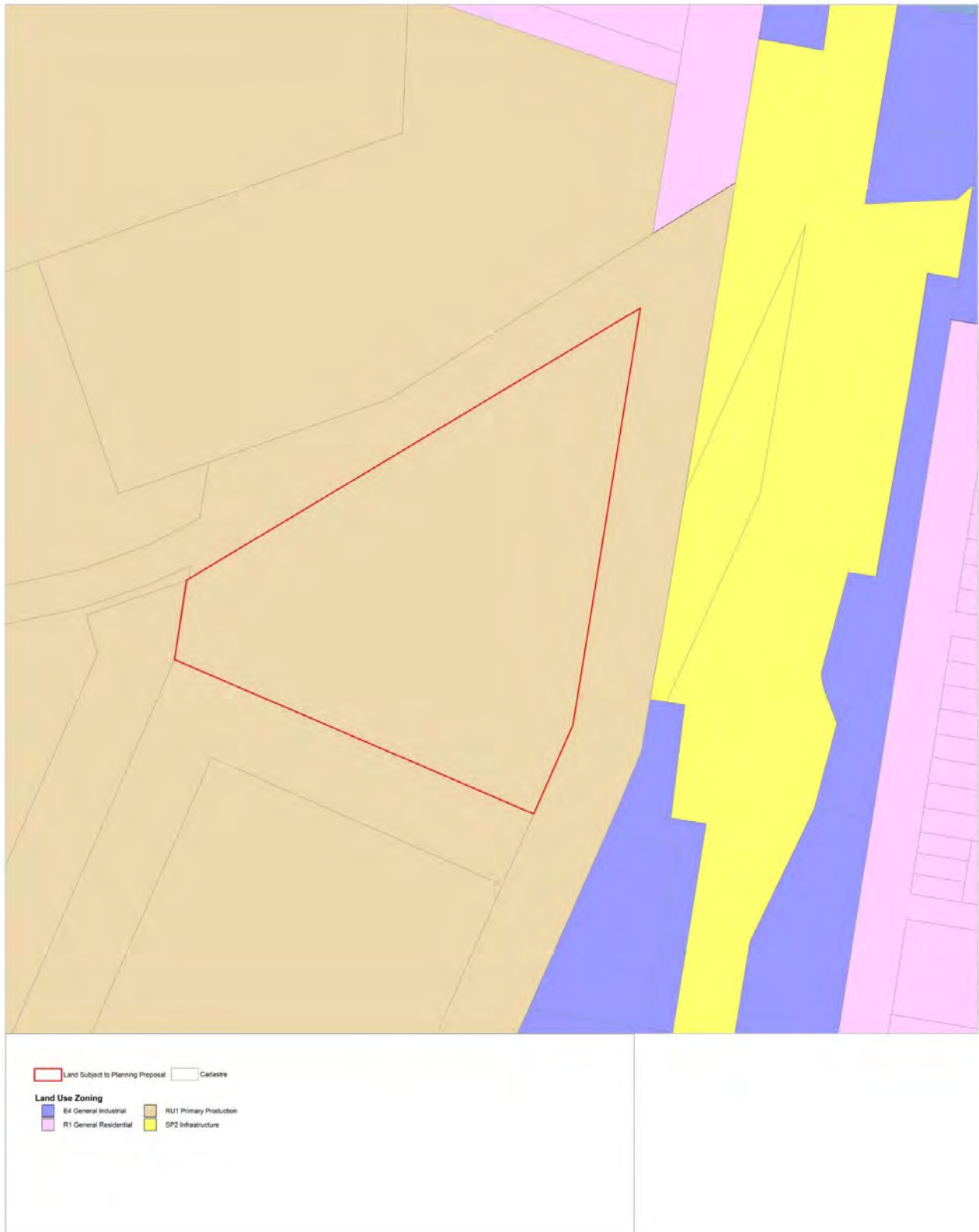
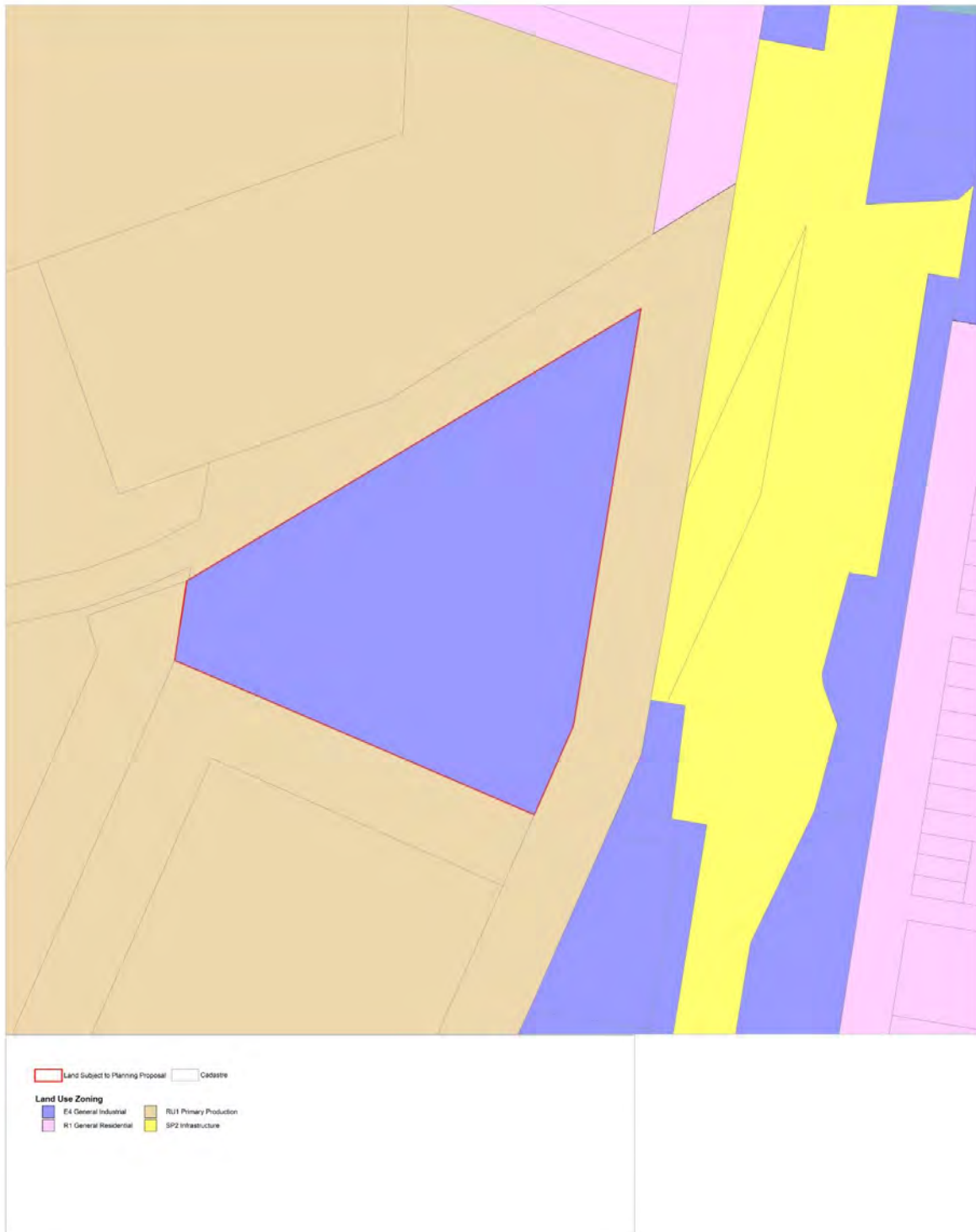


Figure 3: Proposed Land Use Zoning



PART 1 – OBJECTIVES AND INTENDED OUTCOMES

The intended outcome of the instrument proposed by this Planning Proposal is to make amendments to the Coonamble Local Environmental Plan 2011 to facilitate employment opportunities in Coonamble. The proposal will make amendments to map sheet LZN_006B and LSZ_006B.

PART 2 – EXPLANATION OF PROVISIONS

A description and explanation of each of the proposed changes to the Coonamble Local Environmental Plan 2011 is as follows:

- Rezone land being Lot 240 DP754199 from RU1 Primary Production to E4 General Industrial.
- Amend the minimum lot size for subdivision on the land being Lot 240 DP754199 from 1000 hectares to nil.

PART 3 – JUSTIFICATION

Section A – The Need for a Planning Proposal

Is the planning proposal a result of an endorsed LSPS, strategic study or report?

The planning proposal is not the result of a LSPS, strategic study or report.

Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

An amendment to the LEP is the only reasonable means of achieving the intended outcome. Coonamble Shire Council is endeavouring to attract manufacturing to the town and requires fully-serviced industrial zoned land to facilitate this.

The availability of industrial land is critical for industry and businesses to locate activities and expand their operations. Industrial land plays a crucial role in economic development and serves as the primary location for manufacturing facilities, warehouses, and other industrial operations.

Getting more land will support the growth of various industries, making it a driving force for economic development. Unlike residential or commercial land, industrial land has specific zoning regulations and permits that allow for industrial activities. These regulations ensure efficient use of space and proper infrastructure for industrial operations.

Investing in industrial land will improve economic growth and contribute to the Shire's socio-economic stability. Industrial land is a fundamental component of urban areas, driving economic progress and supporting various industries. Its strategic use and development are essential for our sustainable growth.

Section B – Relationship to the Strategic Planning Framework

Will the planning proposal give effect to the objectives and actions of the applicable regional or district plan or strategy (including any exhibited draft plans or strategies)?

The planning proposal is consistent with the Central West and Orana Regional Plan 2041, in particular, the following objective:

Objective 18

Leverage existing industries and employment areas and support new and innovative economic enterprises.

The town of Coonamble has a limited supply of industrial land available for new economic enterprises. There is no industrial land currently available for sale in Coonamble. Council has been working steadily toward attracting a new and innovative employment opportunities to the local government area that will provide benefit to the town of Coonamble as well as across the region.

Is the planning proposal consistent with a council LSPS that has been endorsed by the Planning Secretary or GCC, or another endorsed local strategy or strategic plan?

Local Strategic Planning Statement

The planning proposal aligns with:

Priority 8 – Promote business and development opportunities.

Action 5 – Work with Government agencies and key stakeholders to develop actions and to oversee and coordinate activities relating to employment opportunities.

To implement this action Council has been working with Government agencies and industry stakeholders to undertake a joint venture to establish a manufacturing facility in Coonamble.

Community Strategic Plan

The planning proposal is consistent with:

Goal 6 of the Community Strategic Plan – *Our economy is sustainable, prosperous and diversified* – and in particular strategy ED1.1 (8) – *Grow our reputation as an LGA of choice to live, work and invest.*

Is the planning proposal consistent with any other applicable State and regional studies or strategies?

There are no further applicable State and regional studies or strategies, other than those addressed elsewhere within this planning proposal.

Is the planning proposal consistent with applicable SEPPs?

SEPP Title	Planning Proposal Consistency
SEPP (Biodiversity and Conservation) 2021	Yes - The planning proposal will not prevent the application of the provisions this SEPP.
SEPP (Exempt and Complying Development Codes) 2008	Yes - The planning proposal will not prevent the application of the provisions this SEPP.
SEPP (Housing) 2021	Yes - The planning proposal will not prevent the application of the provisions this SEPP.
SEPP (Industry and Employment) 2021	Yes - Chapter 2 relates to the Western Sydney employment area. Chapter 3 provides development standards for advertising and signage provisions. The planning proposal will not prevent the application of the provisions this SEPP
SEPP (Planning Systems)	Yes – State significant development would not be impacted by the proposed rezoning.
SEPP (Precincts – Central River City) 2021	Yes – Not applicable to the Coonamble LGA.
SEPP (Precincts – Regional) 2021	Yes – Not applicable to the Coonamble LGA
SEPP (Precincts – Western Parkland City) 2021	Yes – Not applicable to the Coonamble LGA
SEPP (Primary Production) 2021	Yes – The planning proposal does affect state significant agricultural land.
SEPP (Resilience and Hazards) 2021	Yes - The potential for the land being contaminated and a site investigation and report has been prepared to support this planning proposal.
SEPP (Resources and Energy) 2021	Yes - The planning proposal will not prevent the application of the provisions this SEPP.
SEPP (Sustainable Buildings) 2022	Yes - The planning proposal will not prevent the application of the provisions this SEPP.
SEPP (Transport and Infrastructure) 2021	Yes - The planning proposal will not prevent the application of the provisions this SEPP.

Is the planning proposal consistent with applicable Ministerial Directions?

Direction		Planning Proposal Consistency
Focus Area 1: Planning Systems		
1.1	Implementation of Regional Plans	<p>This direction applies to a relevant planning authority when preparing a planning proposal for land to which a Regional Plan has been released by the Minister for Planning. The planning proposal must be consistent with this regional plan.</p> <p>Coonamble falls under the Central West Orana Regional Plan 2041 Regional Plan. As outlined above in this section of the report, the planning proposal is consistent with the intent of the regional plan, the overall vision, goals, directions and actions.</p>
1.2	Development of Aboriginal Land Council Land	<p>This direction applies to all land identified on the Land Application Map in chapter 3 of the SEPP (Planning Systems) 2021. There are no areas in the Coonamble LGA mapped on the Aboriginal Cultural Significance Map.</p>
1.3	Approval and Referral Requirements	<p>This direction applies to planning proposals and aims to ensure LEP provisions encourage the efficient and appropriate assessment of development. The direction requires consent authorities minimise the requirement for concurrence, consultation or referral of development applications to a minister or public authority. The Planning Proposal will facilitate additional development along Quambone Road, which is a classified road. The anticipated impacts resulting from the Planning Proposal are considered to be of minor significance.</p>
1.4	Site Specific Provisions	<p>The aim of this Planning Proposal is to create additional industrial land to allow for future industrial development to take advantage of emerging stakeholder relationships to generate employment in Coonamble. This direction also requires that a planning proposal must not contain or refer to drawings that show details of the proposed development. It is considered that this planning proposal is consistent with this direction.</p>
1.4A	Exclusion of Development Standards from Variation	<p>The aim of this direction is to maintain flexibility in the application of development standards by ensuring that exclusions from</p>

		<p>the application Clause 4.6 of a Standard Instrument Local Environmental Plan.</p> <p>The Planning Proposal does not seek to introduce or alter an existing exclusion to Clause 4.6.</p>
Focus Area 1: Planning Systems – Place-based		
1.5	Parramatta Road Corridor Urban Transformation Strategy	Not applicable to Coonamble LGA.
1.6	Implementation of North West Priority Growth Area Land Use and Infrastructure Implementation Plan	Not applicable to Coonamble LGA.
1.7	Implementation of Greater Parramatta Priority Growth Area Interim Land Use and Infrastructure Implementation Plan	Not applicable to Coonamble LGA.
1.8	Implementation of Wilton Priority Growth Area Interim Land Use and Infrastructure Implementation Plan	Not applicable to Coonamble LGA.
1.9	Implementation of Glenfield to Macarthur Urban Renewal Corridor	Not applicable to Coonamble LGA.
1.10	Implementation of the Western Sydney Aerotropolis Plan	Not applicable to Coonamble LGA.
1.11	Implementation of Bayside West Precincts 2036 Plan	Not applicable to Coonamble LGA.
1.12	Implementation of planning principles for the Cooks Cove Precinct	Not applicable to Coonamble LGA.
1.13	Implementation of St Leonards and Crows Nest 2036 Plan	Not applicable to Coonamble LGA.
1.14	Implementation of Greater Macarthur 2040	Not applicable to Coonamble LGA.
1.15	Implementation of the Pyrmont Peninsula Place Strategy	Not applicable to Coonamble LGA.
1.16	North West Rail Link Corridor Strategy	Not applicable to Coonamble LGA.
1.17	Implementation of the Bays West Place Strategy	Not applicable to Coonamble LGA.
1.18	Implementation of the Macquarie Park Innovation Precinct	Not applicable to Coonamble LGA.
1.19	Implementation of the Westmead Place Strategy	Not applicable to Coonamble LGA.
1.20	Implementation of the Cameillia-Rosehill Place Strategy	Not applicable to Coonamble LGA.
1.21	Implementation of South West Growth Area Structure Plan	Not applicable to Coonamble LGA.
1.22	Implementation of the Cherrybrook Station Place Strategy	Not applicable to Coonamble LGA.

Focus Area 2: Design and Place		
At the time of writing this focus area was blank.		
Focus Area 3: Biodiversity and Conservation		
3.1	Conservation Zones	The subject land is not located in an environmentally sensitive area or environmental protection zone and therefore this direction is not applicable to the planning proposal.
3.2	Heritage Conservation	This direction aims to conserve items, areas, objects and places of environmental or indigenous heritage. As outlined in this report there are no items of cultural heritage significance on the subject site or in the vicinity listed under the CLEP 2011 and there are no objects or places of Aboriginal heritage identified in an AHIMS search for the subject site. Accordingly, it is considered that it is unlikely that the planning proposal will impact on items, areas, objects, or places of environmental, cultural or Indigenous heritage. The proposal is consistent with this direction.
3.3	Sydney Drinking Water Catchments	This direction is not applicable to the Coonamble Shire Council LGA.
3.4	Application of C2 and C3 Zones and Environmental Overlays in Far North Coast LEPs	The subject site is not zoned C2 or C3 and therefore this direction is not applicable.
3.5	Recreation Vehicle Areas	The subject site is not located within a conservation area, near a beach or dune area. The planning proposal is to facilitate rezoning of land for industrial purposes and no recreational vehicle areas are proposed.
3.6	Strategic Conservation Planning	This direction applies to areas of high biodiversity value that are mapped as avoided land or land that is within a strategic conservation area in <i>State Environmental Planning Policy (Biodiversity and Conservation 2021)</i> . The subject land is not mapped as avoided land and is not within a strategic conservation area. Therefore this direction is not applicable.
3.7	Public Bushland	This direction does not apply to the Coonamble LGA.
3.8	Willandra Lakes Region	This direction does not apply to the Coonamble LGA.
3.9	Sydney Harbour Foreshores and Waterways Area	This direction does not apply to the Coonamble LGA.

3.10	Water Catchment Protection	The subject site is not located in a drinking water catchment area, accordingly this direction does not apply.
Focus Area 4: Resilience and Hazards		
4.1	Flooding	The subject site is not mapped as flood prone land.
4.2	Coastal Management	The subject site is not in a coastal zone.
4.3	Planning for Bushfire Protection	The subject site is not mapped as bushfire prone land in the Coonamble Shire.
4.4	Remediation of Contaminated Land	As outlined under <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> , agricultural activities are listed in table 1 as an activity which may cause contamination. Contamination and the SEPP (formally SEPP 55) has been addressed in a preliminary site investigation and it is concluded that the land is suitable for its intended use. The report is attached in Appendix A.
4.5	Acid Sulfate Soils	There are no Acid Sulfate Soils in the Coonamble LGA.
4.6	Mine Subsidence and Unstable Land	The subject land is not located in mine subsidence area within the meaning of the <i>Coal Mine Subsidence Compensation Act 2017</i> .
Focus Area 5: Transport and Infrastructure		
5.1	Integrating Land Use and Transport	<p>This direction requires all planning proposals which will create, alter or remove a provision relating to urban land including land zoned for employment uses.</p> <p>This direction requires consistency to the aims, objectives and principles of:</p> <ul style="list-style-type: none"> (a) Improving Transport Choices – Guidelines for planning and development (b) The Right Place for Business and Services – Planning Policy <p>Further commentary regarding consistency with these guidelines is provided below.</p>
5.2	Reserving Land for Public Purpose	There is no public open space identified for the subject site nor is any proposed.
5.3	Development Near Regulated Airports and Defence Airfields	The subject site is located approximately 2 kilometres from the Coonamble airport and is not mapped as being in an airport buffer or zone.
5.4	Shooting Ranges	There are no shooting ranges located in proximity to the subject land.

Focus Area 6: Housing		
6.1	Residential Zones	The subject land is currently zoned RU1 Primary Production and it is not proposed to rezone the land for residential uses. This direction is not applicable.
6.2	Caravan Parks and Manufactured Home Estates	The proposal does seek to amend provisions relating to caravan parks or manufactured home estates (MHEs). Caravan Parks and MHEs are prohibited in the E4 General Industrial zone.
Focus Area 7: Industry and Employment		
7.1	Employment Zones	This direction requires all planning proposals which will affect land within and existing or proposed employment zone. This planning seeks to rezone land E4 General Industrial, therefore this direction is applicable. The objectives of the direction are discussed below.
7.2	Reduction in non-hosted short-term rental accommodation period	This direction is only applicable to Byron Shire Council.
7.3	Commercial and Retail Development along the Pacific Highway, North Coast	This direction applies to land within North Coast LGAs that are traversed by the Pacific Highway.
Focus Area 8: Resources and Energy		
8.1	Mining, Petroleum Production and Extractive Industries	Mining, petroleum production and extractive industries are permissible in the E4 zone of the Coonamble LEP. The planning proposal is consistent with this direction.
Focus Area 9: Primary Production		
9.1	Rural Zones	The planning proposal seeks to rezone land from RU1 Primary Production to E4 General Residential. The area land proposed to be rezoned is approximately 7.8 hectares and is located adjacent to SP2 Rail Infrastructure facilities and existing E4 zoned land. The land is owned by Coonamble Shire Council and is not used for the purposes of agriculture. There is currently a truck wash facility and disused sheep saleyards on land. While the planning proposal is inconsistent with this direction the inconsistency is considered to be of minor significance.
9.2	Rural Lands	The planning proposal seeks to rezone land from RU1 Primary Production to E4 General Residential. The area land

		proposed to be rezoned is approximately 7.8 hectares and is located adjacent to SP2 Rail Infrastructure facilities and existing E4 zoned land. The land is owned by Coonamble Shire Council and is not used for the purposes of agriculture. There is currently a truck wash facility and disused sheep saleyards on land. While the planning proposal is inconsistent with this direction the inconsistency is considered to be of minor significance.
9.3	Oyster Aquaculture	The Coonamble LGA is not located within a 'Priority Oyster Aquaculture Area'.
9.4	Farmland of State and Regional Significance on the NSW Far North Coast	This direction is not applicable to the Coonamble LGA.

Commentary

Direction 5.1 – Integrated Land Use and Transport

Improving Transport Choices – Guidelines for Planning and Development (DUAP 2001)

The guideline embodies the critical objectives of:

- Reducing the growth in vehicle kilometres travelled (VKT);
- Improving air quality and reducing greenhouse gas emissions;
- Building more compact cities; and
- Promoting economic development and creating jobs.

The guidelines set out 10 principles of accessible development, which encourage and support development that is highly accessible by walking, cycling and public transport.

The guideline focuses on improved modes of transport which do not involve the use of private motor vehicles but, given the Coonamble population and settlement pattern it is not considered that this guideline is relevant to this proposal.

The Right Place for Business and Services (DUAP 2001)

The aims of this guideline are to ensure that:

- There are development opportunities in centres for businesses and services;
- Community investment in infrastructure is protected;
- Investor confidence in centres is maintained.

The guideline aims to reduce the need for trip generating development by grouping services and businesses in the one area and having available public transport. The subject land is located in proximity to other industrial land uses, however, there are no public transport services available in Coonamble. Given the small population this is unlikely to change in the immediate future.

Direction 7.1 Employment Zones

The objectives of Direction 7.1 Employment Zones are:

- (a) Encourage employment growth in suitable locations
- (b) Protect employment land in employment zones, and
- (c) Support the viability of identified centres.

The planning proposal will provide additional industrial land to enable Coonamble Shire Council to attract industrial and manufacturing opportunities to the town of Coonamble. There is insufficient suitably zoned land available to facilitate future development.

Section C – Environmental, Social and Economic Impact

Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected because of the proposal?

The planning proposal is unlikely to result in any significant impact to critical habitat or threatened species, populations or ecological communities or their habitats. The subject area is cleared of significant vegetation and the lands previous use for as sheep yards has left the land in a disturbed state.

There have been no endangered or critically endangered species known to occur on the land. The figure 4 identifies flora and fauna sightings on and near the site.

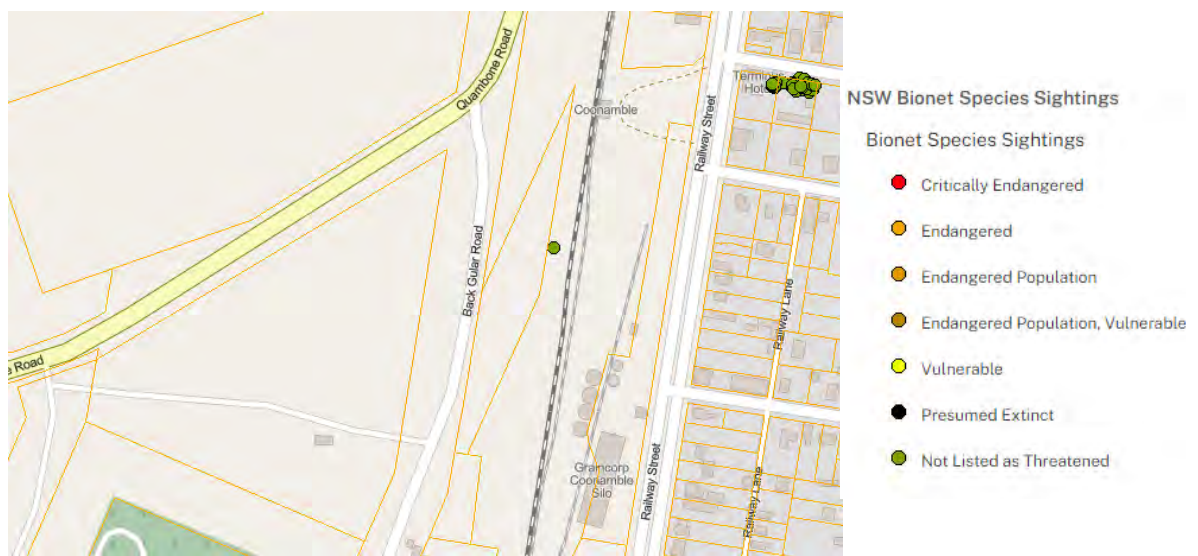


Figure 4: NSW Bionet Species Sightings

Are there any other likely environmental effects of the planning proposal and how are they proposed to be managed?

The planning proposal is unlikely to result in any environmental effects.

Has the planning proposal adequately addressed any social and economic effects?

There will be a positive social and economical effect for the Coonamble community from the planning proposal through the provision of industrial land that has the potential to increase employment opportunities and subsequently lead to population growth. This will result in an increase in both community and commercial services for Coonamble as well as increased investment in the local community through subdivision and industrial development.

Section D – Infrastructure (Local, State and Commonwealth)

Is there adequate public infrastructure for the planning proposal?

Water and sewer infrastructure is available in the vicinity of the site as shown in Figure 5. Subsequent development of the subject site will include the extension of the existing infrastructure to service the use and development of the land for industrial development.



Figure 5: Location of Infrastructure

Section E – State and Commonwealth Interests

What are the views of state and federal public authorities and government agencies consulted in order to inform the Gateway determination?

It is not considered that the amendments proposed via this planning proposal would conflict with any State or Commonwealth interests. The formal views of the State and Commonwealth public authorities would be ascertained following the Gateway determination.

PART 4 – MAPS

The planning proposal seeks to amend the following maps:

Land Zoning Map: LZN_006B

Lot Size Map: LSZ_006B

The current maps have been attached to this planning proposal in Appendix B.

PART 5 – COMMUNITY CONSULTATION

In accordance with Section 3.33(2)(e) of the *Environmental Planning and Assessment Act 1979*, community consultation will be required to be undertaken.

The proposed consultation strategy for this planning proposal will include:

- Written notification to adjoining landowners
- Notification of the proposal on Council's website
- Notification of the proposal on the Planning Portal
- Consultation will relevant Government departments and agencies, service providers and other key stakeholders as determined in the Gateway determination
- Static displays of the Planning Proposal and supporting material in Council's administration building.

At the conclusion of the public exhibition period Council staff will consider submissions made with respect to the Planning Proposal and prepare a report to Council.

It is considered unlikely, at this stage, that any public hearing would be required under the relevant provisions of the *Environmental Planning and Assessment Act 1979*.

PART 6 – PROJECT TIMELINE

MILESTONE	TIME FRAME
Consideration by council	February 2025
Council decision	February 2025
Gateway determination	March 2025
Pre-exhibition	March 2025
Commencement and completion of public exhibition period	April 2025
Consideration of submissions	May 2025
Post-exhibition review and additional studies	June 2025
Submission to the department for finalisation	July 2025
Gazettal of LEP amendment	August 2025

APPENDIX A

Preliminary Site Investigation

SMK

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Old Sheep Yards
54 Back Gular Road Coonamble NSW 2829

Preliminary Site Investigation

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May 2024

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1 Introduction

Consenth Solutions engaged SMK Consultants to undertake a preliminary site investigation for the proposed development and subdivision of the land at the Old Sheep Yard. The land is located at 54 Back Gular Road Coonamble. The property is located on Lot 240 Deposited Plan 754199.

The property is zoned RU1: Primary Production under the Coonamble Local Environmental Plan 2011.

As part of the Council's requirement to obtain development consent for the proposal, a preliminary site investigation is required to identify any contamination constraint present at the site.

SMK consultants inspected the site on the 30th of April 2024 to visually identify any contaminants present at the site and to collect samples for laboratory analysis. The site assessment and laboratory results will aid in determining the presence of any contamination constraints that may impact the proposed development of residential buildings on the immediate property.

This report presents the field and laboratory results, analysis, and recommendations of this investigation.

1.1 Objective

The preliminary site investigation aims to determine whether the site has any contamination constraints that could affect the proposed development and subdivision of the land.

1.2 Scope of work

The scope of works adopted for this investigation follows the NSW EPA Guideline for Consultants Reporting on Contaminated Sites (2020).

The primary scope of work involved the following steps:

- Desktop assessment of available information about the site;
- Review of historical aerial photographs of the property and surrounds;
- Onsite assessment of visible landscape to identify any potential contamination concerning historical activity on site;
- Risk assessment of the previous land use;
- Sampling of soils to determine whether contamination is present;
- Analysis of samples by a NATA accredited Laboratory;
- Review of results to compare relevant threshold levels for analytes;
- Preparation of a Preliminary Site Investigation Report to outline the investigation.

The activities undertaken to achieve the above objectives are reported and discussed in the following sections.

2 The Site

2.1 Site Details

The site is located on Lot 240 Deposited Plan 754199. The property address is 54 Back Gular Road Coonamble. The land is in the western part of Coonamble town. The land is zoned RU1: Primary Production under the Coonamble Local Environmental Plan 2011.

The subject site includes an area of approximately 7.99 hectares. The proposal is expected to disturb mostly the centre and western parts of the site measuring about 1.29 hectares as outlined in Figure 4. The proposed development site is bounded by the old sheep yards along Gular Road on the east, Quambone Road on the north and west, and a gravel road linking Gular Road and Quambone Road on the south.

2.2 Land Use

Part of the site supports the abandoned sheep yards along Back Gular Road. The site has historically supported Coonamble Shire's sheep yards. Local history indicates that the yards had not been used since about 2005 and in 2022, Council accepted a proposal to dismantle the yards. The majority of the sheep yard structures were removed as a result of this decision.

Use of the sheep yards involved trucking of sheep to the facility for sale through the sheep pens. Large open paddocks were included in the facility which allowed sheep to be fed outside of the sale pens or held for a short period prior to trucking from the site.

2.3 Site Condition

The land is currently used for grazing of horses. The pastures within the site appear to include a mix of native and introduced grass species. All sections of the site are currently heavily grazed or slashed to keep the grass short. The site gradient is flat.

A leaking stock watering trough was identified on the northeastern part of the site. A minor amount of the original infrastructure remains onsite.

2.4 Site History

An aerial photograph search was conducted for the site and the local area. The aerial photographs of the location on the NSW historical imagery website and publicly available Google Earth images include images from 1961, 1970, 1990, 1995, 1996, 2006, 2010, 2014, 2016, 2018, 2020, 2021, 2023, and 2024.

The NSW historic aerial imagery did not show any other aerial photo of the site before 1961.

The 1961 historical imagery revealed some buildings and other developments within the suburb of the subject site which appears to be the date of the subdivision and development of this part of Coonamble. The 1961 to 2024 Historic Aerial Photos and Google Earth images revealed no development on the subject site except for the old sheep yard which shares boundaries with the eastern part of the site. The aerial imagery established that the entire property was used for agricultural purposes including pasture production, which is considered unlikely to have any significant soil contamination implications on the site.

No dip sites or other structures were evident in the historic photos. No areas of bare soil are present in the images, other than an occasional cultivation of the paddock. No areas of active use such as a horse or sheep yard are evident.

54 Back Gular Road Coonamble NSW

Preliminary Site Investigation

Figure 1: 1961 Historic Aerial Photo of the property.



Figure 2: 1990 Historic Aerial Photo of the property.



54 Back Gular Road Coonamble NSW

Preliminary Site Investigation

Figure 3: 1996 Aerial Photo of the property.



54 Back Gular Road Coonamble NSW

Preliminary Site Investigation

Figure 4: Investigation Plan.



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2.4.1 Areas of Environmental Concern

The following describes potential contamination risks that could be present on the site due to site history and risks associated with land use on and off the property.

Table 1: Risk Assessment Table

Location	Material Status	Potential Concern	Risk Class	Comment
Vacant Land	Residual contamination risk	Heavy metals	Low	There is a possibility of surface contamination due to past activities on the property or runoff from nearby property
	Surface contamination	Asbestos	Low	Asbestos waste can be stored/dumped on vacant land before disposal at a landfill and is often left on site due to the cost of disposal
		Contaminated soil	Low	Vacant land is often used to store fill material which may contain other waste

3 Recorded Contamination Issues

3.1 Contaminated Land Record

A search on the NSW EPA contaminated land register was conducted at the time of preparing this report and no contamination record for the site was found in the register.

3.2 Protection of the Environment Operations Act (POEO) Public Register

A search on the POEO public register was conducted for environmental protection licences, applications, notices, audits, pollution studies, and reduction programs. No result was found for this site. The site does not require an environmental protection licence.

3.3 Acid Sulfate soil

There are no acid sulphate soils in the Coonamble region and the subject site is not considered to have any existing salinity issues.

4 Conceptual Site Model

A Conceptual Site Model (CSM) aims to provide a concept for the planning of a site contamination investigation based on site history, risk assessment, and location of the land. The concept includes potential sources of contamination and potential pathways for this contamination to cause an environmental problem.

The following provides an assessment of the risk of activities on the subject site.

4.1 Contaminants of Concern

Contaminants of potential concern for the site include heavy metals and pesticides associated with agricultural land, vacant land, and rural activities. These would include lead from paints and batteries, copper from a range of treatments, cadmium from paints, and other common metals. These would be key indicators of potential contamination.

4.2 Migration Pathways

The primary health risks for contaminants from this site are dermal contact, cross-contamination, inhalation, and ingestion of particulates when in contact with surface soil. This would be critical for development if there is access to the natural ground surface. The secondary migration pathways from this site would be via leaching into groundwater and stormwater runoff from the site.

4.3 Human and Ecological Receptors

Receptors include workers, site visitors, trespassers, future owners/occupiers, and adjacent properties. Ecological receptors exposed to runoff from this site into Castlereagh River would include swamps, fish, and other aquatic lives in the river.

5 Sampling and Analysis and Plan

5.1 Sample Program

A Preliminary Site Investigation was undertaken on the 30th of April 2024. The subject site was visually assessed for visible topsoil contamination and other potential contaminants. The purpose of the inspection was to identify any material or objects of environmental concern present on the site. If materials of concern or unexplained bare ground or dead vegetation were present, the inspection was to involve sampling of the soil and further investigation of the source of the material and the potential extent of the contamination.

The pattern and number of samples to be obtained would be determined by the presence of contamination at the site. If minor contamination is suspected, judgmental sampling patterns would be used to target the contamination. If extensive contamination were identified, this would trigger a Detailed site investigation (DSI) and a pattern of sampling would be adopted from *NSW EPA Sampling Design part 1 - application, Contaminated Land Guidelines (2022)* which determines the number of samples, depth of samples, and requirements for re-sampling.

Based on the condition of the site, a judgmental sampling pattern was adopted. Figure 4 shows the locations chosen for sampling. Table 2 describes the soil sampling sites. The selection of the sampled locations was based on site observations, surface water runoff, which moves toward the east of the property, and locations with no or little vegetation.

The two soil samples were taken from the centre of the site (24-166-1) and west edge (24-166-2) of the site using a combination of hand tools and a hand-drill. The soil samples were taken as discrete samples from the sampling locations. All the soil samples were taken using nitrile gloves to avoid cross-contamination of the sample by the sampler. The samples were labelled and placed in prepared sample bottles.

The test parameters chosen for the soils obtained from the site include common heavy metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg), Pesticides, pH, and EC.

Two soil sample sites were identified (see Figure 4).

The samples were sent to a NATA Accredited Laboratory for analysis. A description of the samples is presented in the following table.

Table 2: Sample identification and description

SMK Sample Number	Sample Description	Assessed parameters
24-166-1	Centre - top and subsoil	Heavy metals, Pesticides, pH, and EC.
24-166-2	West - top and subsoil	Heavy metals, Pesticides, pH, and EC.

5.2 Quality Assurance and Quality Control

The sampling was undertaken following SMK Consultants’ standard protocol as presented in Appendix 1. This ensures thorough decontamination of all field equipment before and during sampling.

Quality control of sample analysis is achieved by using a NATA-accredited laboratory. These laboratories follow ASTM standard methods which are supported by internal duplicates and blanks, surrogate spikes, and matrix spikes. ALS Laboratories provides the details of surrogates and spikes,

percentage recoveries of surrogates and spikes used, as well as instrument detection limits within the certificate of analysis.

Field observations are also compared with laboratory results. If inconsistencies are detected, re-sampling and re-analysis of a sample is undertaken.

6 Adopted Assessment Criteria

The National Environmental Protection Measure 2013 (NEPM) provides a nationally consistent approach for the assessment of site contamination. NEPM presents parameters for a range of soil parameters and contaminants thresholds in the soil before they have the potential to affect health or the environment. The guideline values or site criteria are referred to as Health-Based Screening Levels (HSL's) and Groundwater Investigation Levels (GIL's). NSW EPA and National Authorities have prepared other similar documents to provide additional threshold levels for contaminants.

Schedule B (1) – Guidelines on Investigation Levels for Soil and Groundwater (NEPC 2011) were used to establish the appropriate threshold levels for contamination on this site.

The proposed development on the site is characterised to have an intended land use of Commercial/industrial D (HIL D) by Table 1A (1) Health Investigation levels for soil contaminants. The HIL D - 'Commercial/industrial D, criteria are for premises such as shops, offices, factories, and industrial sites.

This is the least stringent classification for a site when compared to other classifications such as Residential A, Residential B, and Recreational¹ C Health-based investigation levels.

7 Field and Analytical results

7.1 Field Results

The assessed part of the site includes only the portions within the blue-marked area as outlined in Figure 4 and its boundaries with the surrounding properties.

The site shares boundaries with commercial property with the old sheep yard on the east along Back Gular Road, Quambone Road on the west, and a truck wash on the south.

Most of these adjoining properties involve agricultural land use and do not include any light industries. No potential offsite sources of contamination were observed during the site inspection.

This site slopes from northeast to southwest. The slope is not significant and property could be defined as relatively flat.

A site walkover of the subject site identified a structure which may have been a sheep dip on the north of the site as shown in Figure 4. A soil sample was taken for laboratory analysis from the surrounds of this sheep dip area.

Figure 5: Suspected sheep dip.



The inspection of the northeastern part of the site identified an old toilet block adjacent to the eastern boundary and a leaking watering trough on the northern boundary of the site. The soil around the leaking watering trough area was waterlogged due to the continuous overflow of water from the watering system. No issues of contamination were identified in the area other than soil saturation.

Figure 6: Leaking stock watering trough.



No building waste or stockpiled material was identified at the site. Other materials present at the site include discarded used tyres and scrap metals.

No hazardous material or hydrocarbon was stored on the site.

In general, no activity or physical indication of any significant pollution or contamination was visually identified on the site.

Based on field inspections, two representative soil samples were obtained from the site for laboratory analysis. Sample 1 was taken from the northern section of the site close to the suspected sheep dip. Sample 2 was taken from the western section of the property to assess contaminants from runoff originating from the sheep yard site and neighbouring properties.

7.2 Laboratory Results and Analysis

A summary of the laboratory analysis is presented in the following Table. The HIL contaminant threshold levels for the criteria adopted for this site are included in the table. The locations identified are shown in Figure 4.

The selected Health Based Investigation level adopted for this site is Level D – Commercial/industrial D (HIL-D). Land use under this classification includes premises such as shops, offices, factories, and industrial sites.

This HIL-D is less stringent than HIL A, B, and C for Residential and Recreational land use respectively. The published HIL levels are included in Table 4 to compare the results for the two soil samples.

The Certificates of Analysis for these results are presented in Appendix 2.

Table 3: Summary of soil analysis with NEPM 2013 HIL D - Commercial/Industrial D Threshold Criteria

Analyte	Unit	LOR ¹	HIL D- Commercial/ Industrial D	24-166-1	24-166-2
Depth	mm		-	00-300mm	00-300mm
EA055: Moisture Content (Dried @ 105-110°C)					
Moisture Content		1.0	-	5.8	7.7
EA002: pH 1:5 (Soils)					
pH Value		0.1	-	7.2	7.8
EA010: Conductivity (1:5)					
Electrical Conductivity @ 25°C		1	-	58	91
EG005(ED093) T: Total Metals by ICP-AES					
Arsenic	mg/kg	5	3000	<5	<5
Cadmium	mg/kg	1	800	<1	<1
Chromium	mg/kg	2	3000	9	15
Copper	mg/kg	5	250000	7	10
Lead	mg/kg	5	1500	<5	<5
Nickel	mg/kg	2	4000	11	17
Zinc	mg/kg	5	400000	25	33
EG035T: Total Recoverable Mercury by FIMS					
Mercury	mg/kg	0.1	4000	<0.1	<0.1
EP068A: Organochlorine Pesticides (OC)					
alpha-BHC	mg/kg	0.05	NL	<0.05	<0.05
Hexachlorobenzene (HCB)	mg/kg	0.05	NL	<0.05	<0.05
beta-BHC	mg/kg	0.05	NL	<0.05	<0.05
gamma-BHC	mg/kg	0.05	NL	<0.05	<0.05
delta-BHC	mg/kg	0.05	NL	<0.05	<0.05
Heptachlor	mg/kg	0.05	50	<0.05	<0.05
Aldrin	mg/kg	0.05	NL	<0.05	<0.05
Heptachlor epoxide	mg/kg	0.05	50	<0.05	<0.05
Total Chlordane (sum)	mg/kg	0.05	560	<0.05	<0.05
trans-Chlordane	mg/kg	0.05	NL	<0.05	<0.05
alpha-Endosulfan	mg/kg	0.05	NL	<0.05	<0.05
cis-Chlordane	mg/kg	0.05	NL	<0.05	<0.05
Dieldrin	mg/kg	0.05	NL	<0.05	<0.05
4,4'-DDE	mg/kg	0.05	NL	<0.05	<0.05

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Analyte	Unit	LOR ¹	HIL D- Commercial/ Industrial D	24-166-1	24-166-2
Endrin	mg/kg	0.05	100	<0.05	<0.05
Endosulfan (sum)	mg/kg	0.05	2000	<0.05	<0.05
beta-Endosulfan	mg/kg	0.05	NL	<0.05	<0.05
4,4'-DDD	mg/kg	0.05	NL	<0.05	<0.05
Endrin aldehyde	mg/kg	0.05	NL	<0.05	<0.05
Endosulfan sulfate	mg/kg	0.05	NL	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)					
Dichlorvos	mg/kg	0.05	NL	<0.05	<0.05
Demeton-S-methyl	mg/kg	0.05	NL	<0.05	<0.05
Monocrotophos	mg/kg	0.2	NL	<0.2	<0.2
Dimethoate	mg/kg	0.05	NL	<0.05	<0.05
Diazinon	mg/kg	0.05	NL	<0.05	<0.05
Chlorpyrifos-methyl	mg/kg	0.05	170	<0.05	<0.05
Parathion-methyl	mg/kg	0.2	NL	<0.2	<0.2
Malathion	mg/kg	0.05	NL	<0.05	<0.05
Fenthion	mg/kg	0.05	NL	<0.05	<0.05
Chlorpyrifos	mg/kg	0.05	NL	<0.05	<0.05
Parathion	mg/kg	0.2	NL	<0.2	<0.2
Pirimphos-ethyl	mg/kg	0.05	NL	<0.05	<0.05
Chlorfenvinphos	mg/kg	0.05	NL	<0.05	<0.05
Bromophos-ethyl	mg/kg	0.05	NL	<0.05	<0.05
Fenamiphos	mg/kg	0.05	NL	<0.05	<0.05
Prothiofos	mg/kg	0.05	NL	<0.05	<0.05
Ethion	mg/kg	0.05	NL	<0.05	<0.05
Carbophenothion	mg/kg	0.05	NL	<0.05	<0.05
Azinphos Methyl	mg/kg	0.05	NL	<0.05	<0.05

Notes:

- (1) LOR = Limit of Reporting
- (2) HSL for arsenic assumes 70% oral bioavailability. Site-specific bioavailability may be important and should be considered where proper.

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8 Discussion

The two soil samples (24-166-1 and 24-166-2) were obtained from the subject site during this investigation and were assessed for a range of standard heavy metals, pH, pesticides and Electrical conductivity.

The standard range of metals provides an initial indicator of contamination as these metals are common to many products. The pH provides an indication of contamination concerning a specific contaminant that may lower or raise the pH outside acceptable standards. Electrical conductivity provides an overall indicator as to whether some form of contamination or saline product is present in the soil to indicate some pollution.

The analytical results of the two soil samples returned a record of 7.2 and 7.8 pH levels respectively. This is considered normal.

Electrical conductivity levels of 58 and 91 μ S/cm were recorded in the two soil samples respectively. This is considered normal and therefore the soils can be considered as non-saline. The results suggest that no significant contaminants are present in the soil.

The results for metals show normal background levels for Arsenic, Cadmium, Chromium, Copper, Lead, Nickel Zinc, and Mercury. Some of the parameters were recorded at the limit of recording and therefore it is suspected that no such contaminant was contained within the samples.

The metals included arsenic which was a common ingredient in sheep dip products. The level of arsenic in the samples was not elevated above normal background levels.

The results for pesticides were recorded at the limit of recording. No spikes of chemical product associated with pesticides were present. As a result, it is presumed that the samples did not have any such contaminants.

9 Conclusions

The preliminary site investigation at 54 Back Gular Road in Coonamble identified no area or material of concern on the subject site.

All analytical results for the soils sampled were below Health Investigation Levels D (Commercial/Industrial D) Threshold Criteria, which was adopted for the site based on the proposed subdivision of the land and the use of the land for commercial/Industrial development.

The site condition, past, and current site activities described in this PSI indicate a low potential for any contamination that may impact the intended subdivision of the land and the use of this property for commercial/Industrial purposes.

Based on the desktop search, laboratory results, and the inspection of the environmental condition of 54 Back Gular Road Coonamble, the site is considered suitable for the proposed subdivision and the development of a commercial/Industrial property as no contamination constraint was identified in the subject site.

Signatures :

Bruno Nwokolo

Bruno Nwokolo B.Sc., M.Sc. LAA
Environmental Consultant

Peter Taylor BSc. MEIANZ CIAg LAA

Environment and Resource Consultant

54 Back Gular Road Coonamble NSW

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10 Limitations

This report is based on observation at the time of the investigation and the history of the site available to the authors. The conclusions and recommendations are based on the scope of works adopted, the method presented in this report, and the results of laboratory analysis undertaken for this investigation.

11 Bibliography

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- Waste Classification Guidelines, Part 1 – Classifying Waste (NSW EPA, 2014)
- Work Health and Safety Act, 2011; and
- Work Health and Safety Regulation, 2011.

Appendix 1 – Standard Sampling Procedure

SMK Consultants - Soil Sampling, Storage, Transport and Laboratory Procedures

1. Field sampling

- **Preparation of Equipment** - All equipment to be utilised for the excavation, collection and storage of field samples is to be cleaned before entering the investigation site.
- **Onsite Sampling** – All equipment used for sample collection and excavation is to be cleaned between sampling actions. Cleaning is to be done using clean water and cleaning equipment to be dried before the next sampling action to ensure that all soil and water are removed from the sampling implement.
- **Field Observations** – The sampler is to record the date of sampling, location of sampling, conditions of sampling (weather), observation of the condition of soil, odours, potential contamination, level, and type of contamination.
- **Sampling Order** – Where it is envisaged that parts of the investigation area are more contaminated than other parts, the less contaminated areas are to be sampled before contaminated areas.

2. Sample Storage

- All samples are to be placed in cold storage (esky, fridge) and chilled to approximately 3-4 C⁰ as soon as practicable.
- All samples are to be documented and forwarded to the selected laboratory as soon as practicable.

3. Transport of Samples

- Chain of Custody forms are to be prepared for inclusion with samples for Transport. Forms are to include project reference, Client, date of sampling, a listing of laboratory testing to be done on each sample, sample container description, date of transport, and condition of samples at the time of despatch.
- Laboratory to be advised by fax/email of pending arrival date for samples and type of testing to be done. (E.g. Forward a copy of the COC form)
- Samples are to be securely packed in an esky with sufficient ice to maintain the sample temperature at the required level until received by the Laboratory.
- Courier to be contacted for pick-up of samples at the latest possible time.

4. Laboratory Analysis

- The laboratory is to prepare a response COC to indicate that samples were delivered in suitable condition to maintain the integrity of samples, a list of testing required was received and the expected date for issue of results.
- The Laboratory is to undertake the required and documented QC/QA procedures as set out by the National Association of Testing Authorities (NATA)
- Where the Laboratory has its procedures, these procedures are to be documented and noted on the test results.
- Laboratory to maintain their appropriate system of internal check samples, duplicates, and external laboratory comparisons.

5. Correlation of Field Observations and Laboratory Results

- Field observations are to be correlated with laboratory results.
- Where a laboratory result does not correlate with a field observation, the investigation must consider re-sampling of the site to provide additional evidence to determine whether the contamination is present.

6. Laboratory Duplication Requirements

- Laboratory duplications are required during a detailed site investigation where the risk of contamination and the potential consequences of contamination are considered as significant to human health or the environment, or where the laboratory operates this procedure as part of standard quality assurance management practices.
- Duplications are to be in two forms when it is determined that duplications are required.
- Field duplications are to be undertaken at a rate of one sample per 10 field samples. The field duplicate preparation involves obtaining sufficient sample material from the randomly selected point to prepare two samples. The duplicate is to be identified with a reference known to the sampler to ensure that the laboratory is unaware of the field duplicate identification or reference. The duplicate sample is to be evaluated for the same parameters as the original sample and then results are to be compared once laboratory results are provided. The scientist/sampler is then required to assess the results for the duplicated sample to determine variations in laboratory results. If a significant variation is noted, the laboratory should be advised to enable retesting of the sample to determine whether the results are correct or whether procedural errors have occurred in the laboratory.
- Laboratory duplicates and external duplicates to be determined by the Laboratories QC/QA system. Laboratory to be advised of duplicate requirements before submission of samples.

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Appendix 2 – Certificate of Analysis for Soil Samples.



CERTIFICATE OF ANALYSIS

Work Order	: ES2414383	Page	: 1 of 6
Client	: SMK CONSULTANTS PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MR PETER TAYLOR	Contact	: Customer Services ES
Address	: P.O.Box 774 38 FROME STREET MOREE NSW, AUSTRALIA 2400	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2184
Telephone	: +61 02 6752 1021	Telephone	: +61-2-8784 8555
Project	: Old Sheep Yards-54 Back Gular Road Coonamble NSW 2829	Date Samples Received	: 03-May-2024 08:00
Order number	: ----	Date Analysis Commenced	: 07-May-2024
C-O-C number	: 24-186	Issue Date	: 10-May-2024 17:23
Sampler	: PETER TAYLOR		
Site	: ----		
Quote number	: EN/333		
No. of samples received	: 2		
No. of samples analysed	: 2		



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

right solutions. right partner.

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Client : SMK CONSULTANTS PTY LTD
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General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number - CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR - Limit of reporting
^ - This result is computed from individual analyte detections at or above the level of reporting
ø - ALS is not NATA accredited for these tests.
~ - Indicates an estimated value.

- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.

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 Work Order : ES2414383
 Client : SMK CONSULTANTS PTY LTD
 Project : Old Sheep Yards-54 Back Gular Road Coonamble NSW 2829



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		24-166-1 North-top and subsoil	24-166-2 West-top and subsoil	---	---	---
		Sampling date / time		30-Apr-2024 00:00	30-Apr-2024 00:00	---	---	---
Compound	CAS Number	LOR	Unit	ES2414383-001	ES2414383-002	---	---	---
				Result	Result	---	---	---
EA002: pH 1:5 (Soils)								
pH Value	---	0.1	pH Unit	7.2	7.8	---	---	---
EA010: Conductivity (1:5)								
Electrical Conductivity @ 25°C	---	1	µS/cm	58	91	---	---	---
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	---	1.0	%	5.8	7.7	---	---	---
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	---	---	---
Cadmium	7440-43-9	1	mg/kg	<1	<1	---	---	---
Chromium	7440-47-3	2	mg/kg	9	15	---	---	---
Copper	7440-50-8	5	mg/kg	7	10	---	---	---
Lead	7439-92-1	5	mg/kg	<5	<5	---	---	---
Nickel	7440-02-0	2	mg/kg	11	17	---	---	---
Zinc	7440-66-8	5	mg/kg	25	33	---	---	---
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	---	---	---
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-8	0.05	mg/kg	<0.05	<0.05	---	---	---
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	---	---	---
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	---	---	---
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	---	---	---
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	---	---	---
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	---	---	---
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	---	---	---
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	---	---	---
^A Total Chlordane (sum)	---	0.05	mg/kg	<0.05	<0.05	---	---	---
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	---	---	---
alpha-Endosulfan	960-98-8	0.05	mg/kg	<0.05	<0.05	---	---	---

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 Work Order : ES2414383
 Client : SMK CONSULTANTS PTY LTD
 Project : Old Sheep Yards-54 Back Gular Road Coonamble NSW 2829

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	24-166-1 North-top and subsoil	24-166-2 West-top and subsoil	---	---	---
Sampling date / time					30-Apr-2024 00:00	30-Apr-2024 00:00	---	---	---
Compound	CAS Number	LOR	Unit	ES2414383-001	ES2414383-002	---	---	---	
				Result	Result	---	---	---	
EP068A: Organochlorine Pesticides (OC) - Continued									
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	---	---	---	
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	---	---	---	
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	---	---	---	
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	---	---	---	
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	---	---	---	
^A Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	---	---	---	
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	---	---	---	
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	---	---	---	
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	---	---	---	
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	---	---	---	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	---	---	---	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	---	---	---	
^A Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	---	---	---	
^A Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-29-3	0.05	mg/kg	<0.05	<0.05	---	---	---	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	---	---	---	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	---	---	---	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	---	---	---	
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	---	---	---	
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	---	---	---	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	---	---	---	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	---	---	---	
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	---	---	---	
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	---	---	---	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	---	---	---	
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	---	---	---	

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 Client : SMK CONSULTANTS PTY LTD
 Project : Old Sheep Yards-54 Back Gular Road Coonamble NSW 2829

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	24-166-1 North-top and subsoil	24-166-2 West-top and subsoil	----	----	----
Sampling date / time					30-Apr-2024 00:00	30-Apr-2024 00:00	---	---	---
Compound	CAS Number	LOR	Unit	ES2414383-001	ES2414383-002	---	---	---	
				Result	Result	---	---	---	
EP068B: Organophosphorus Pesticides (OP) - Continued									
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	---	---	---	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	---	---	---	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	---	---	---	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	---	---	---	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	---	---	---	
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	---	---	---	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	---	---	---	
Azinphos Methyl	88-50-0	0.05	mg/kg	<0.05	<0.05	---	---	---	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%	115	109	---	---	---	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%	102	89.0	---	---	---	

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 Work Order - ES2414383
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Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-6	35	143

Appendix B
Current Maps



Coonamble Local Environmental Plan 2011

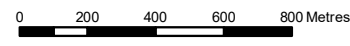
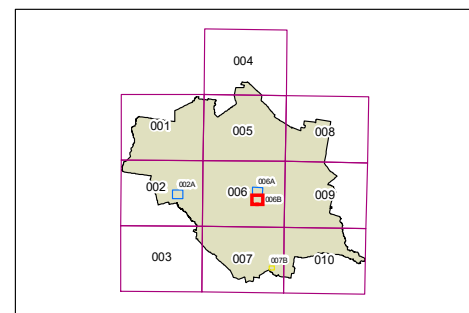
Lot Size Map - Sheet LSZ_006B

Minimum Lot Size (sq m)

- R 750
- V 2000
- X 8000
- Z 2 ha
- A1 1000 ha
- Refer to Clause 4.1 (4A) (750 sq m)

Cadastre

- Cadastre 20/09/2010 © Land and Property Information (LPI)

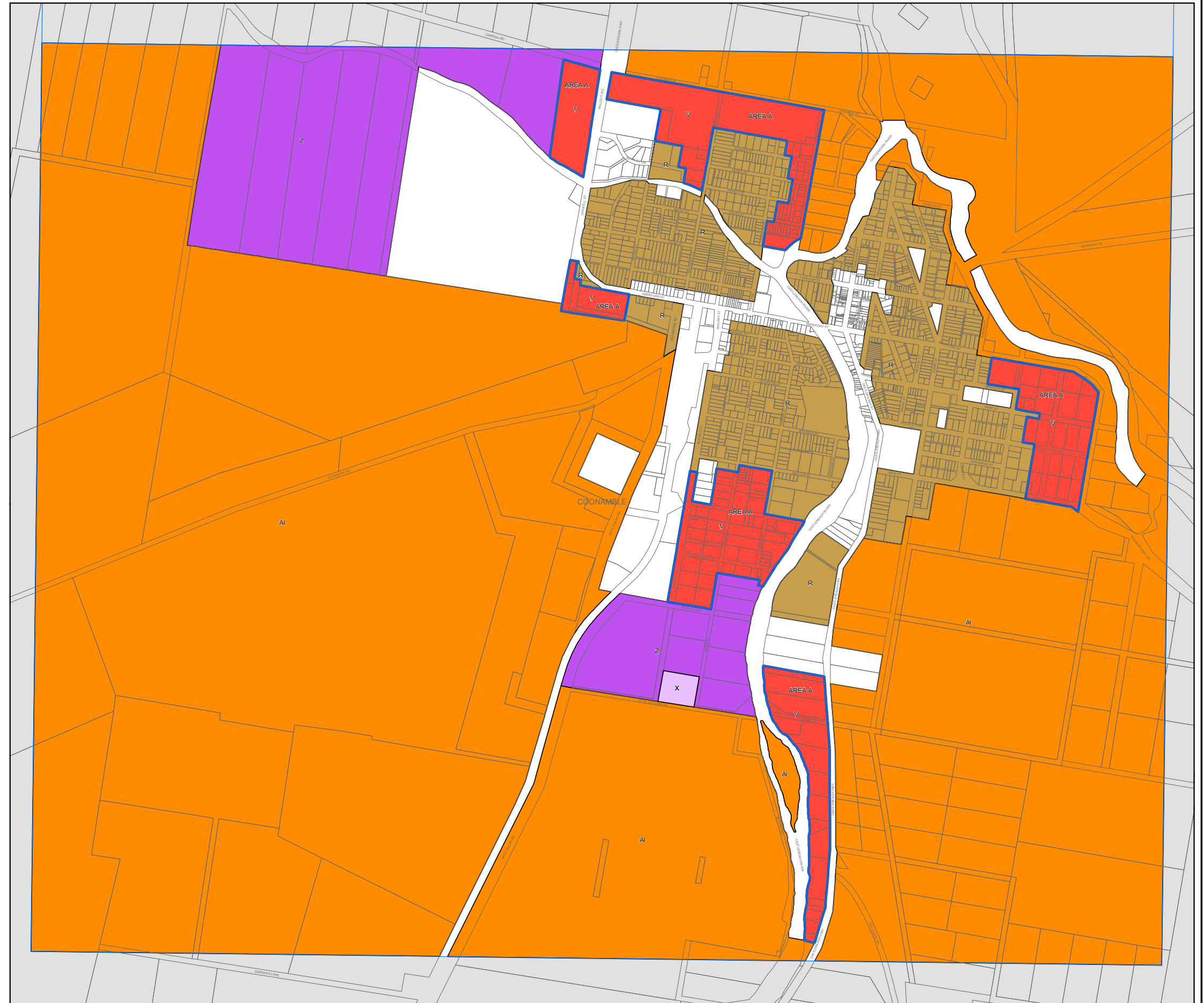


Projection: GDA 1994
MGA Zone 55

Scale: 1:20,000 @ A3

Map identification number:

2150_COM_LSZ_006B_020_20141117

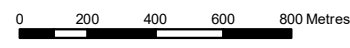
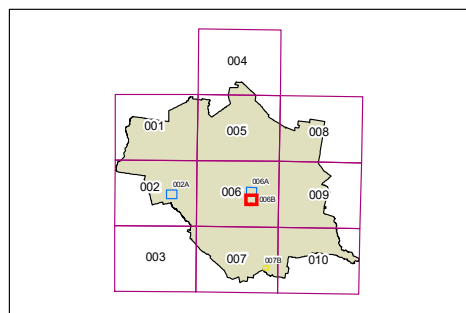
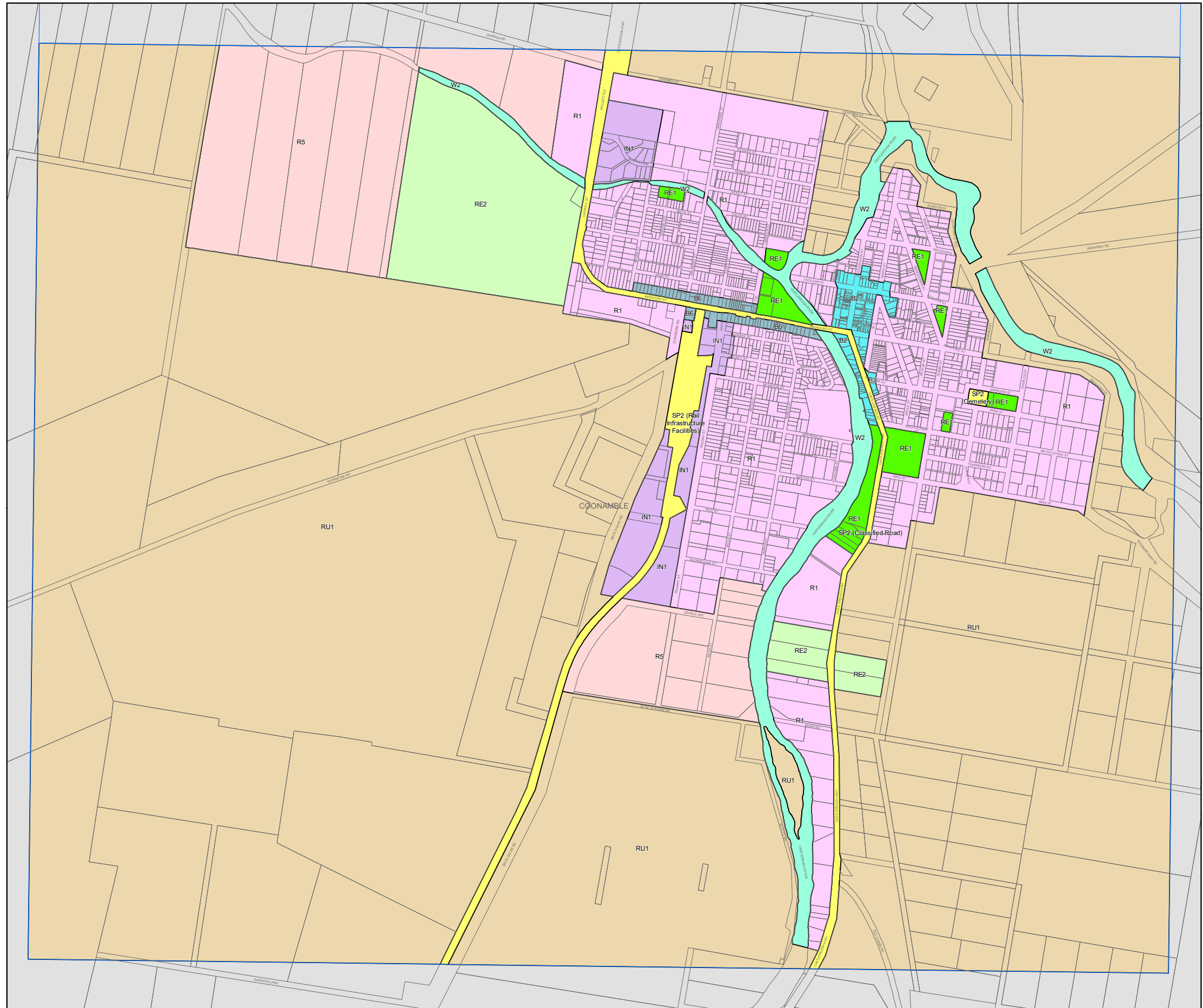




Coonamble Local Environmental Plan 2011

Land Zoning Map - Sheet LZN_006B

- Zone**
- B2 Local Centre
 - B6 Enterprise Corridor
 - E1 National Parks and Nature Reserves
 - IN1 General Industrial
 - R1 General Residential
 - R5 Large Lot Residential
 - RE1 Public Recreation
 - RE2 Private Recreation
 - RU1 Primary Production
 - RU3 Forestry
 - RU5 Village
 - SP2 Infrastructure
 - W2 Recreational Waterways
- Cadastre**
- Cadastre 20/09/2010 © Land and Property Information (LPI)



Projection: GDA 1994
MGA Zone 55

Scale: 1:20,000 @ A3

Map identification number:

2150_COM_LZN_006B_020_20141117



DEVELOPMENT ASSESSMENT REPORT

Environmental Planning and Assessment Act 1979

1. Application Details Summary

Development Application No:	DA037/2024
Description of Development:	Intensive Livestock Agriculture (Cattle Feedlot – increase capacity from 10,000 head to 30,000 head, construction of additional feedlot pens, cattle handling facility, silage pits, flood levee, stock lanes and feed alleys, drains ponds and vehicle access).
Applicant:	Rural Marketing Australia Pty Ltd
Landowner's consent provided:	Yes
Local Government Authority:	Coonamble Shire Council
Determining Authority:	Coonamble Shire Council

2. Property Description Summary

Legal Description:	Lot 113 DP754199, Lot 119 DP754199, Lot 121 DP754199, Lot 124 DP754199 and Lot 1 DP1124929.
Land Area:	1036 ha
Existing Improvements:	Intensive Livestock Agriculture (Cattle Feedlot)
Current land-use:	Zoned RU1 Primary Production

3. Executive Summary

DA037/2024 relates to the an increase in the feedlot capacity from the currently approved 10,000 head to a maximum capacity of 30,000 head of cattle. Consent is also sought for the construction is for the construction of 91 new feedlot pens on the eastern side of the existing feedlot. The site currently comprises the original feedlot comprising 65 pens is located on Lot 119 DP 754199. In 2024 an application (DA040/2023) for the construction of 26 new pens was approved by Council and is currently under construction to the immediate east of the existing pens, and is also contain within Lot 119. The purpose of DA040/2023 was to facilitate ongoing repairs and maintenance to the existing feedlot without the need to destock. Land surrounding the site is zoned RU1 Primary Production under Coonamble Local Environmental Plan 2011.

In accordance with the *Environmental Planning and Assessment Act 1979*, the proposal is designated development and Council is the consent authority. The threshold for designated development for a cattle feedlot is 1,000 head of cattle. The assessment of the proposal concludes the development documentation has been completed to a standard that allows a thorough assessment of the proposed emergency services facility. Site inspection has verified the proposal can be carried out to meet the requirements of the Building Code of Australia. The proposed development is assessed to be consistent with the Coonamble Local Environmental Plan 2011 and all relevant State Environmental Planning Policies. The proposal fits in the locality and there are no significant impacts on the site or on adjacent lands and roads that cannot be properly addressed through appropriate conditions of consent.

It is recommended that the development application be approved, subject to appropriate conditions listed in this report.



4. Site and Locality Description

4.1. General Site Description

The site of the proposed development is freehold land that is described above. Maps showing the subject site in relation to the surrounding road network and locality are shown below.

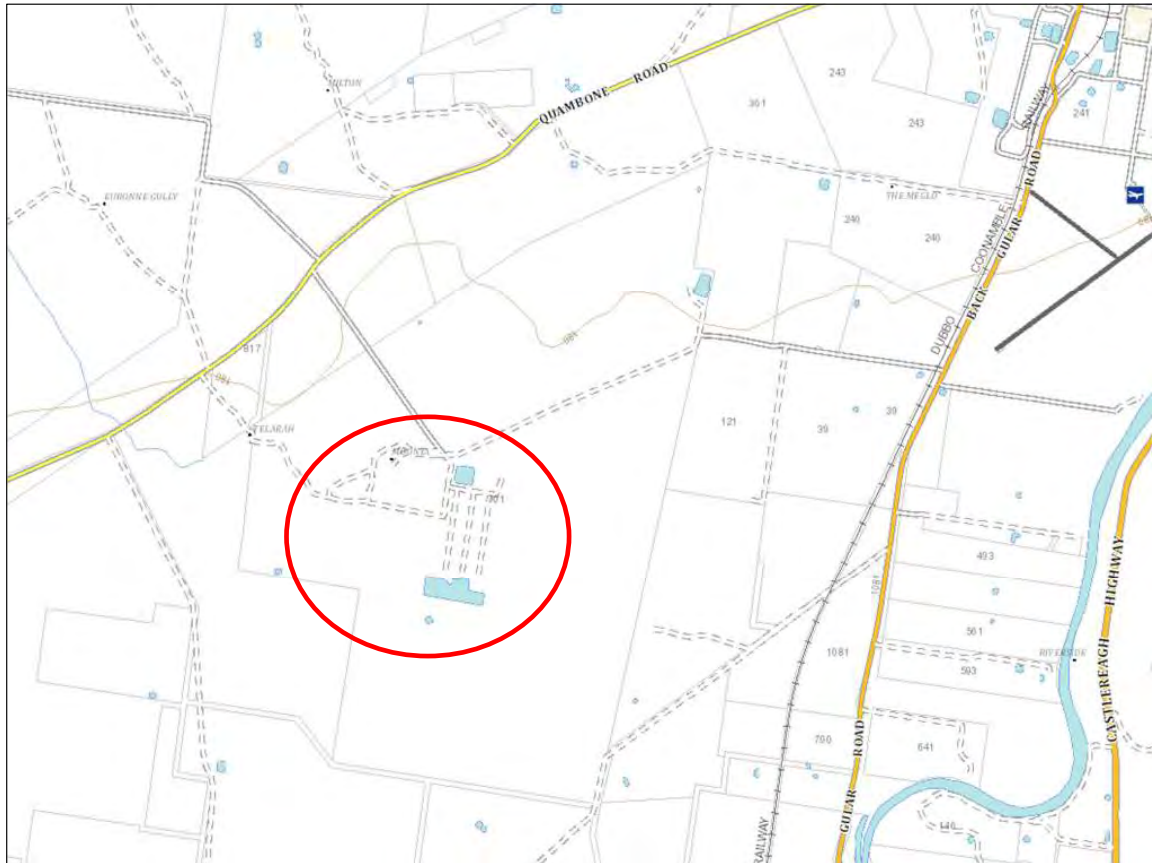


Figure 1 – Site Locality - Source SIX maps



Figure 2: Distance from Coonamble Township - Source: Six Maps

The subject site is approximately 1036 hectares in area. The subject lots currently have access to Quambone Road, which is a sealed classified road. The subject site is relatively flat and contained on the site is a large dam, feed processing shed, weighbridge and office, covered car parking, workshop and manure pad.

The site has sixteen (16) sensitive receptors within proximity to the site. The closest receptor is located approximately 1.5 kilometres from the feedlot. The receptors are generally rural dwellings associated with agricultural activities.

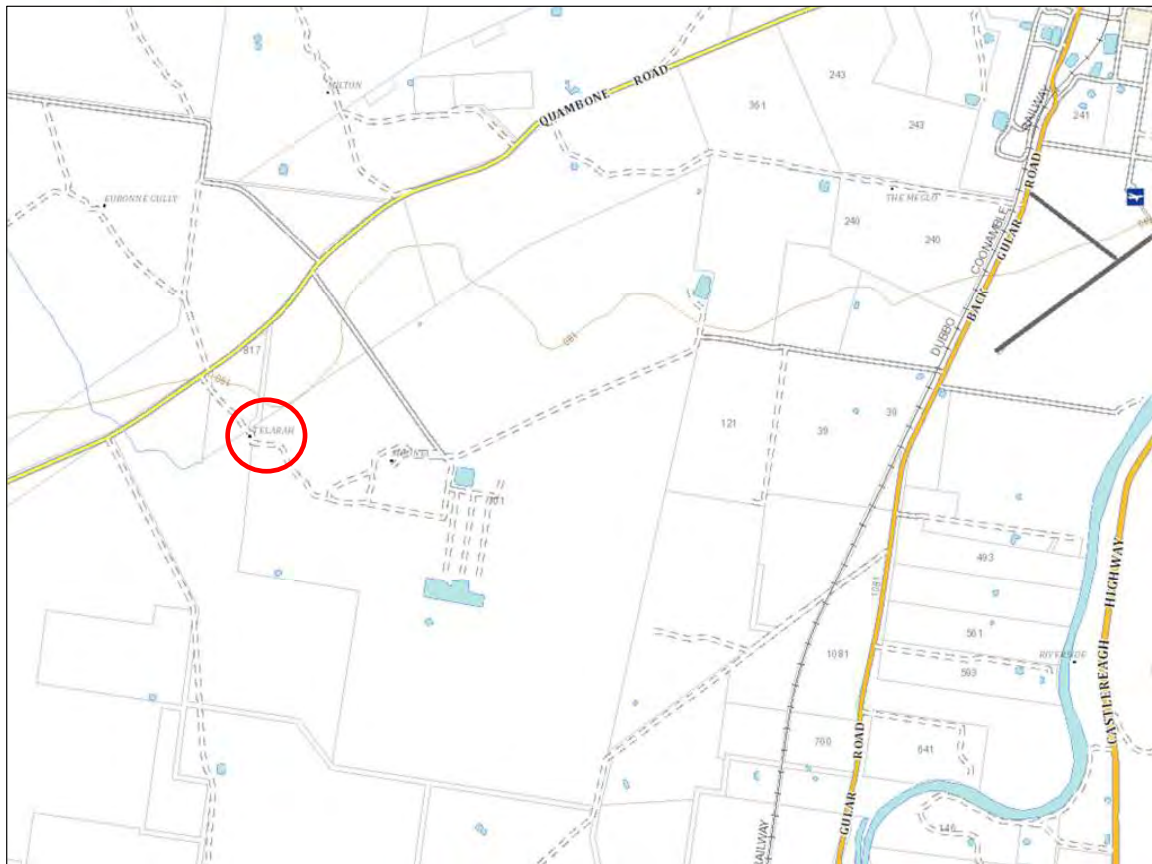


Figure 3: Closest Receptor – Source: Six Maps

4.2. Surrounding Land-use

The subject site and surrounding land are zoned RU1 Primary Production under Coonamble Local Environmental Plan 2011. The site is located on Quambone Road. Adjacent land uses are agricultural and the feedlot facility is located over 5 kilometres from the town of Coonamble.

The site has sixteen (16) sensitive receptors within proximity to the site. The closest receptor is located approximately 1.5 kilometres from the feedlot. The receptors are generally rural dwellings associated with agricultural activities.

5. Description of Proposed Development

The proposal is for an increase in the feedlot capacity from the currently approved 10,000 head to a maximum capacity of 30,000 head of cattle. Consent is also sought for the construction of 95 new feedlot pens on the eastern side of the existing feedlot. The site currently comprises the original feedlot comprising 65 pens is located on Lot 119 DP 754199. In 2024 an application (DA040/2023) for the construction of 26 new pens was approved by Council and is currently under construction to the immediate east of the existing pens and is also contain within Lot 119. The purpose of DA040/2023 was to facilitate ongoing repairs and maintenance to the existing feedlot without the need to destock.



6. Environmental Planning Assessment

Section 4.15 of the *Environmental Planning and Assessment Act 1979* provides the matters for consideration in the assessment of development proposals. An environmental planning assessment of the proposed building is documented in this section.

6.1. S4.15(1)(a)(i) The provisions of any environmental planning instrument

6.1.1. Coonamble Local Environmental Plan 2011

The Coonamble Local Environmental Plan 2011 applies to all land within the Coonamble Local Government Area. The site of the proposed development is zoned RU1 Primary Production under the Coonamble Local Environmental Plan 2011. The Land Use Table for the RU1 Primary Production zone permits feed lots which are a type of intensive livestock agriculture.

Intensive livestock agriculture is defined as:

Intensive livestock agriculture means the keeping or breeding, for commercial purposes, of cattle, poultry, pigs, goats, horses, sheep or other livestock; and includes any of the following:

- (a) *Dairies (restricted),*
- (b) *Feedlots*
- (c) *Pig farms*
- (d) *Poultry farms*

But does not include extensive agriculture, aquaculture or the operation of facilities for drought or similar emergency relief.

The application is further defined as Feedlot, as defined below:

Feedlot means a confined or restricted area that is operated on a commercial basis to rear and fatten cattle, sheep or other animals, but does not include a poultry farm, dairy or pig farm.

Clause 2.3(2) of Coonamble Local Environmental Plan 2011 provides that the consent authority shall have regard to the objectives for development in a zone when determining a development application in respect of land within the zone. The objectives of the RU1 zone are:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

The proposed development seeks to increase the number of cattle by 20,000 head of cattle as well as additional infrastructure.

The following provisions of the Coonamble Local Environmental Plan 2011 have been especially considered in the assessment of the proposal:



Clause 5.10 Heritage Conservation

Review of Schedule 5 of the Coonamble Local Environmental Plan 2011 reveals no heritage sites or heritage conservation areas on the property listed under the local environmental plan, or within close proximity to the site. No Aboriginal sites have been recorded on the property. Visual inspection of the site reveals no evidence of cultural heritage or built heritage items on the property. No adverse effects on the heritage significance of the area or impacts on heritage items, conservation areas, Aboriginal objects or places of heritage significance are assessed to occur.

A basic Aboriginal Heritage Items Management System search was undertaken for the property with no Aboriginal sites or places identified on the land (see attached).

A condition can be applied regarding the discovery of items of heritage significance during excavation works.

5.14 Siding Spring Observatory—maintaining dark sky

(1) The objective of this clause is to protect observing conditions at the Siding Spring Observatory by promoting lighting practices that minimise light pollution.

(2) Light emissions—general considerations for all development. Before granting development consent for development on land to which this Plan applies, the consent authority must consider whether the development is likely to adversely affect observing conditions at the Siding Spring Observatory, taking into account the following matters—

(a) the amount and type of light to be emitted as a result of the development and the measures to be taken to minimise light pollution,

(b) the impact of those light emissions cumulatively with other light emissions and whether the light emissions are likely to cause a critical level to be reached,

(c) whether outside light fittings associated with the development are shielded light fittings,

(d) the measures to be taken to minimise dust associated with the development,

Note—

Dust tends to scatter light and increase light pollution.

(e) the *Dark Sky Planning Guideline* published in the Gazette by the Planning Secretary.

(7) Development on land 18 kilometres or more from observatory

The consent authority must not (except with the concurrence of the Planning Secretary) grant development consent to development on land that is 18 kilometres or more from the Siding Spring Observatory if the consent authority considers that the development is likely to result in the emission of light of 1,000,000 lumens or more.

(8) The consent authority must consult with the observatory director before granting development consent to development for the purposes of a dwelling house, secondary dwelling or dual occupancy on land that is 18 kilometres or more from the Siding Spring Observatory if the consent authority considers that the development is likely to result in a dwelling having—

(a) *an outside light fitting other than a shielded light fitting, or*

(b) *more than 7 shielded outside light fittings or more than 5 such light fittings that are not automatic light fittings.*

(9) The consent authority must consult with the observatory director before granting development consent to development (other than development for the purposes of a dwelling house, secondary dwelling or dual occupancy) on land that is 18 kilometres or more from the Siding Spring Observatory if the consent authority considers that the development is likely to result in the emission of light of 50,000 lumens or more.



The proposed development is approximately 76km from the Siding Springs Observatory and will be conditioned to meet the requirements in section (8) above. There is no need to consult under clause 5.14 of the LEP.

Clause 5.18 Intensive Livestock Agriculture

This clause seeks to ensure that appropriate environmental assessment of development for the purpose of intensive livestock agriculture is undertaken. The matters to be addressed include: adequacy of environmental assessment, odours, pollution of surface water and ground water, degradation of soils and any proposed adverse impacts and provides for intensive livestock agriculture to be carried out without consent in limited circumstances.

Intensive livestock agriculture is permissible with development consent in the RU1 Primary Production zone. As the application has triggered designated development an Environmental Impact Statement was submitted with the application. It is considered that the submitted EIS is sufficient to allow adequate assessment of the proposal. An assessment of odours, surface and ground water, soil degradation is provided below.

Clause 5.21 Flood Planning

This clause seeks to minimise the flood risk to life and property associated with the use of land, allow development on land that is compatible with the flood function and behaviour on the land, and the to allow for safe occupation and efficient evacuation of people during a flood event.

It is considered that the feedlot has operated from the site for a number of years and this operation is not incompatible with the existing flood pattern. It is not considered that the proposed levee will significantly impact the flood levels to neighbouring properties.

A condition will be applied requiring that an application is lodged with WaterNSW for approval under s90(4) of the *Water Management Act 2000*.

6.1 Terrestrial Biodiversity

(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider whether or not the development—

- (a) will cause any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and
- (b) will cause any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and
- (c) has any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and
- (d) will cause any adverse impact on the habitat elements providing connectivity.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

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

The site is mapped under Coonamble LEP 2011 as containing terrestrial biodiversity. The assessment of the likely impact of the proposed additional pens indicates no impacts could be foreseen on the biodiversity values of the land given the site is already cleared of vegetation.



The application has provided a Biodiversity Assessment that concludes that the development does not trigger the requirement for entry into the Biodiversity Offset Scheme. The report recommends that a Vegetation Management Plan (VMP) is prepared to minimise direct, indirect or long-term cumulative impacts to biodiversity. The VMP recommends the following mitigation measures:

- Minimise clearing of native vegetation to only the extent necessary to achieve the development by utilizing irrigation area 2 and consider a minor redesign at the proposed silage bunks.
- Environmental controls are implemented during construction, including: erosion and sedimentation controls, clear demarcation of development footprint, management of significant weeds, pre-clearing surveys, clearing supervision and salvage of habitat features).
- Supplementary plantings (off set area) with a clear rehabilitation plan to be prepared prior to any clearing or construction works taking place.



Figure 4: Terrestrial Biodiversity Map

Clause 6.5 Essential services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the proposed development are available or that adequate arrangements have been made to make them available when required:

- The supply of water.
- The supply of electricity.
- The disposal and management of sewage.
- Stormwater drainage or on-site conservation.
- Suitable road access.

Suitable road access is available from Quambone Road. The application was referred to Transport for NSW (Roads) for their comment.

Stormwater impacts are not considered to be significant and can be managed by the imposition of standard conditions. It is considered that all required utility services are available to the site.



Clause 6.7 Earthworks

The main objective of this clause is to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land. Before granting development consent for earthworks, Clause 6.7(3) requires consideration of the following matters:

- The likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality.
- The effect of the proposed development on the likely future use or redevelopment of the land.
- The quality of the fill or the soil to be excavated, or both.
- The effect of the proposed development on the existing and likely amenity of adjoining properties.
- The source of any fill material and the destination of any excavated material.
- The likelihood of disturbing relics.
- The proximity to and potential for adverse impacts on any waterway, drinking water catchment or environmentally sensitive area.

Earthworks are proposed as part of this application for the construction of the new pens. The matters for consideration are addressed as follows:

- It is considered that the proposed earthworks will not significantly impact soil stability as appropriate sediment and erosion controls will be in place during construction.
- The likely future use of the land is for agricultural purposes, it is considered that the proposed earthworks will facilitate the ongoing use of the land for the purposes of intensive livestock agriculture.
- There will be no fill imported onto the site, all fill will be sourced from the proposed development site.
- It is not considered that the proposed earthworks will have a detrimental effect on the amenity of adjoining properties.
- All fill is proposed to be sourced from the site. No excavated material will leave the site.
- A conditions will be applied that will detail the steps to be taken should any relics be uncovered during the proposed earthworks.
- The site is not within a mapped drinking catchment, environmentally sensitive area or natural watercourse.



6.1.2. State Environmental Planning Policies

The following SEPPs are specifically relevant to the assessment of the proposed development:

SEPP – Planning Systems 2021

The Planning Systems SEPP identifies significant development and infrastructure and confer functions on Regional Planning Panels to determine development applications. The proposal is not classified as 'State Significant Development' or 'Regional Development' and is being assessed and determined by the Coonamble Shire Council as designated development.

Whilst the proposal is designated development in accordance with Schedule 3 of the *Environmental Planning and Assessment Regulation 2000*, it does not meet the criteria of Regional Development. Accordingly, the application is not required to be referred to the Western Regional Planning Panel.

SEPP – Biodiversity and Conservation 2021

The Biodiversity and Conservation SEPP aims to protect the biodiversity values of trees and other vegetation in non-rural areas of the State and preserve the amenity of non-rural areas of the State through the preservation of trees and other vegetation. Provisions protecting bushland, trees, heritage items, waterways, wetlands and koalas are included in the SEPP. There are no issues or requirements under the SEPP that apply to the proposed development.

SEPP – Transport and Infrastructure 2021

The Transport and Infrastructure SEPP provides a consistent planning regime for infrastructure and the provision of services and public works across NSW, along with providing for consultation with relevant public authorities during the development assessment process.

The proposed development is not traffic generating development as defined under Schedule 3 of the SEPP and is not development that has implications for main roads or railways. Consultation with Transport for NSW is not a requirement under the SEPP. A courtesy referral was submitted to TfNSW who have provided the following comment:

...Transport for NSW has reviewed the information and has no objection to the proposed development, subject to Council's consideration of comments as set out in Attachment 1....

The comments in Attachment 1 are discussed later in this report.

Section 2.48 the SEPP requires consideration of electricity supply requirements, where the development is:

- Within or immediately adjacent to an easement for electricity purposes (whether the electricity infrastructure exists).
- Immediately adjacent to an electricity substation.
- Within 5m of an overhead power line.
- Includes installation of a swimming pool any part of which is: within 30m of a structure supporting an overhead electricity transmission line and/or within 5m of an overhead electricity power line.
- Placement of power lines underground.

There are no issues or requirements under the SEPP that apply to the proposed development. Arrangements are in place to relocated the overhead electricity transmission line that traverses the site of the new pens.



SEPP – Primary Production 2021

This SEPP contains provisions: to manage primary production land and rural development including supporting sustainable agriculture, to protect prime agricultural land of state and regional significance as well as regionally significant mining and extractive industries.

The subject land is not identified as State Significant Agricultural Land. The provisions relating to livestock industries relate only to the temporary containment and to development in the Western Division. There are no issues or requirements under the SEPP that apply to the proposed development. No further investigations / actions are considered necessary.

SEPP – Resilience and Hazards 2021

This SEPP requires that a consent authority must consider the contamination potential of the land, and if the land is contaminated, it is satisfied that the land is suitable for the development in its contaminated state, or that appropriate arrangements have been made to remediate the site prior to the development being carried out. A search of the NSW contaminated land register does not show the site as contaminated land. There are no issues or requirements under the SEPP that apply to the proposed development. No further investigations / actions are considered necessary.

6.2. S4.15(1)(a)(ii) any proposed environmental planning instrument

There are no draft LEPs or draft SEPPs that apply to the subject land.

6.3. S4.15(1)(a)(iii) any development control plan

The Coonamble Shire Council Development Control Plan No. 3 – Small Cattle Feed lots applies to the subject land. Assessment of the proposal against the DCPs reveals the proposed complies with all relevant standards and requirements.

The minimum requirements of the DCP are addressed below:

Minimum Requirements		
Buffer Zones		
Development Type	DCP Requirement	Development
Nearest Occupied Dwelling	1 km	1.5 km
Nearest Urban Area	3 km	5.7 km
Existing or New Feedlot	5 km	N/A
Proximity to Waterways and Underground Supplies		
Ground and Soil Conditions	DCP Requirement	Development



Dry Watercourse		
Impervious and site slopes away from watercourse	100 metres	300 metres
Impervious and site slopes toward watercourse	200 metres	N/A
Pervious	2 km	N/A
Permanent Watercourse		
All ground and soil conditions	2 km	3.9 km
Topography		
Description	Comment	
Minimum slope 1 %	No changes are proposed to the existing landform and detention ponds.	
Feedlots are to be surrounded by a bank to contain runoff	Drainage works are proposed that will comply with this requirement.	
Plans & Calculations provided for construction of detention and siltation ponds.	The proposed development does not involve the construction of additional ponds.	
Waste Management and Feedlot Operation		
Description	Comment	
Development is to be carried out in accordance with EPA guidelines and the Feedlot Advisory Manual issue by DPI.	The proposed development will continue to operate in accordance with the existing Environmental Protection Licence and State Govt requirements.	
Other Considerations		
Description	Comment	
Consideration of State and Federal authorities in respect of air and water pollution, planning, traffic management and any other matter.	The application has been assessed under the requirements of s4.15 of the Environmental Planning and Assessment Act 1979 and as such State and Federal Government interests are considered.	
Statement of Environmental Effects		
Description	Comment	
An Statement of Environmental Effects is to be presented to Council.	An Environmental Impact Statement was submitted with the development application.	



6.4. S4.15(1)(a)(iia) any planning agreement or any draft planning agreement

There are no formal planning agreements relating to the site. The applicant has not requested Council to enter into any form of planning agreement.

6.5. S4.15(a)(iv) the regulation

Section 61 of the Environmental Planning and Assessment Regulation 2021 specifies additional matters that must be taken into consideration by a consent authority in determining a development application. Consideration of these matters is included below:

- Building Demolition – N/A
- Subdivision order – N/A
- Dark Sky Guidelines – Standard condition to be applied.
- Manor House or Multi Dwelling Housing – N/A
- Ancillary aspects of development - Not relevant to the proposal.
- Fulfilment of BASIX commitments - The proposal is not a BASIX affected development.

6.6. S4.15(1)(b) the likely impacts on the natural and built environment(s) and the likely social and/or economic impact on the locality.

6.6.1. Context and Setting

The proposal is for the construction of an additional 95 pens at an existing cattle feedlot. The site is located approximately 5.7 kilometres from Coonamble (as the crow flies). Surrounding land uses are agricultural with broadacre farming and cattle grazing being predominant land uses. The landscape in the vicinity of the site is relatively flat, and the site is located approximately 4 kilometres from the Castlereagh River. It is not considered that the proposed development will have a significant impact on the visual amenity of the area given that it is setback 2 kilometres from Quambone Road. It is assessed that the proposal does not significantly alter the existing context and setting of the area.

6.6.2. Land Use Conflict

The subject land is zoned RU1 Primary Production. Potential land-use conflicts with sensitive receptors are typically caused by environmental nuisance in the form of dust, noise, odour, and visual impacts.

The applicant has provided the following studies to support the application: Noise and Vibration Impact Assessment (NVIA) -discussed in 6.6.13 below; Visual Impact Assessment (VIA) and Odour Impact Assessment (OIA).

Odour

A Level 3 air quality assessment was undertaken on behalf of the applicant by Assured Environmental. The assessment was undertaken in accordance with the Environmental Protection Authority's "Technical Framework – Assessment and management of odour from stationary sources in NSW" with odour assessment rates developed from "Development of an odour emissions for Australian feedlots, Part F: Emissions estimation and model application" using the Model for Effluent Disposal Using Land Irrigation program.

Sixteen (16) sensitive receptors were identified and the modelling indicates that the predicted ground-level concentrations of odour due to the increase from 10,000 head of cattle to 30,000 head will comply



with the assessment criterion of 5.6 ou 1-second 99th percentile at all sensitive receivers except R16. The township of Coonamble will comply with the 2-ou contour which is applicable to urban areas.

Where odour concentrations exceeds the established odour criteria mitigation measures will be required. The report recommends that a vegetation buffer be installed as buffer to promote odour dispersion. This will be required as a condition of consent to minimise potential impacts.

Visual Amenity

A Visual Impact Assessment was undertaken and submitted with the application. The report provides a number of mitigation measures that can be imposed as conditions of development consent to minimise visual impacts. These include:

- Retention and protection of existing trees
- Temporary and permanent access designed to minimise vegetation removal
- Lighting to comply with AS4282-2019 Control of obtrusive effects of outdoor lighting.
- Tree protection zone of retained trees implemented during construction.

6.6.3. Access and Traffic

The types of vehicles expected property include light vehicles (staff and contractors), non-articulated heavy vehicles, 19 metre semi-trailers and truck and dog combinations.

The submitted Traffic Impact Assessment provides that there will be a 5.6% increase in traffic movements on Quambone Road during peak hours.

Average vehicle movements estimated to be:

- 8 trucks a day for cattle and commodities arrival and departure from the site which is 16 truck movements per day
- 23 workers (10 on 4 off roster). Workers not living on site are assumed to be travelling in their own vehicles meaning a daily average of two (2) vehicles movements per day with an average increase of nineteen (19) light vehicle movements.

In summary, the Average Annual Daily Traffic generated for the feedlot will be:

- 38 light vehicles
- 16 heavy vehicles
- Total: 54 vehicles/day

The application was referred to the Transport for NSW who has provided the following recommendation:

- That the access be upgraded to the minimum required intersection treatment, being a rural Basic Auxiliary Left/Basic Auxiliary Right (BAL/BAR), as per *Austroads Guide to Road Design – Part 4a Unsignalised and Signalised Intersections* to facilitate safe and efficient movement of vehicles accessing the site. A detailed design is to be provided to Council prior to the commencement of any works within the road corridor.

6.6.4. Public Domain

The proposed development will not compromise the availability and enjoyment of public recreational opportunities in the locality. No adverse impacts are assessed.



6.6.5. Utilities

No adverse impacts are assessed.

6.6.6. Heritage

The applicant has provided an Aboriginal Heritage Due Diligence Assessment. A desktop assessment has identified that no previously recorded Aboriginal sites are located within the study area.

It is assessed that the proposed development will have no adverse effects on the heritage significance of the area or impacts on heritage items, conservation areas or Aboriginal objects or places of heritage significance. A condition will be applied that details steps to be undertaken should any Aboriginal artefacts be discovered during construction.

6.6.7. Other land resources

The proposal will not alter the topography and soil resource because of the disturbance activities. The proposed development will not affect any water supply catchments.

6.6.8. Bushfire

The site is not mapped as comprising bushfire prone land.

6.6.9. Surface Water

The feedlot is located three (3) kilometres west of the Castlereagh River.

The Gidgenbar Watercourse is located 300 metres to the west of the existing feedlot. No adverse impacts are assessed. A hydroline is located 50m to the north east.

The submitted soil and water impact assessment and Waste and Wastewater Management document submitted with the application proposes a number of mitigation measures that will lessen potential impacts.

6.6.10. Groundwater

The proposal does not include the extraction of groundwater.

There are no bores located within 250 metres of the manure spreading areas which is the minimum separation buffer identified in Use of Effluent by Irrigation guidelines and the 100 metre buffer required in dairy guidelines for land application of effluent.

Quarterly groundwater monitoring is carried out presently in accordance with the Environmental Protection Licence issued by the Environmental Protection Agency.

6.6.11. Soils

Erosion and sedimentation controls will be required during construction.



6.6.12. Air & Microclimate

There are no operations proposed that would generate air pollution or dust nuisance. No adverse impacts are assessed. Condition to be applied to manage dust during construction.

6.6.13. Noise and Vibration

A Noise and Vibration Assessment has been submitted to support the application. Review of the report has not identified any area where noise from construction or the operation of the feedlot at capacity will cause a significant negative impact on adjoining properties. Construction noise will be restricted to the times specified in the EPA's Construction Noise Guidelines.

6.6.14. Flora and Fauna

The application has provided a Biodiversity Assessment that concludes that the development does not trigger the requirement for entry into the Biodiversity Offset Scheme. The report recommends that a Vegetation Management Plan (VMP) is prepared to minimise direct, indirect or long-term cumulative impacts to biodiversity. The VMP recommends the following mitigation measures:

- Minimise clearing of native vegetation to only the extent necessary to achieve the development by utilizing irrigation area 2 and consider a minor redesign at the proposed silage bunks.
- Environmental controls are implemented during construction, including: erosion and sedimentation controls, clear demarcation of development footprint, management of significant weeds, pre-clearing surveys, clearing supervision and salvage of habitat features).
- Supplementary plantings (off set area) with a clear rehabilitation plan to be prepared prior to any clearing or construction works taking place.

6.6.15. Waste

A condition will be applied to address waste generated during construction.

The current sedimentation basin (volume = 4100 m³) together with a new sedimentation basin approved under DA040/2023 (volume = 1800m³) exceeds the volume required to cater for the peak flow rate from a 20 year ARI.

6.6.16. Natural Hazards

The site is not identified as flood prone or prone to landslip by any planning instrument. No impacts are assessed.

6.6.17. Technological Hazards

There have been no technological hazards identified on the site.

6.6.18. Safety Security and Crime Prevention

Public safety risks associated with unauthorized access to the site are low. The proposal does not pose a safety security or crime prevention risk.



6.6.19. Social and Economic Impact in the Locality

The feedlot is major employer in the Coonamble LGA. The proposed development is estimated to employ 40 full time staff. The feedlot will have broader economic benefits to the LGA and the wider region with most cattle sourced within 200 kilometres of Coonamble.

New employees and their families moving to Coonamble will create increased spending in Coonamble and additional enrolments in local schools. This increase in potential new residents will have positive social impact on community with more people to join local sporting teams and the like.

6.6.20. Site Design and Internal Design

The proposed site is existing farmland, adjacent to an existing cattle feedlot. The proposed extension will make use of the existing feed lot infrastructure. The design is considered suitable for the proposal.

6.6.21. Cumulative Impacts

It is assessed that the cumulative impacts of the proposed development are minimal and manageable.

6.6.22. Site Suitability Assessment:

A feedlot has operated on the site since 2007. The proposal is consistent with the Coonamble Local Environmental Plan 2011 and the site is zoned for rural purposes. It is assessed that the site has the capacity to support the proposal without creating significant adverse impacts on the site and adjoining land.

7. Submissions Review and Assessment

The application was notified to adjoining land owner within 5 kilometres of the feedlot for a period of 28 days from 6 November 2024 to 4 December 2024. The proposal was advertised in the Coonamble Times on two (2) occasions during the exhibition. Further to this Council issued a Media Release on 30 November 2024 further advising the community of the exhibition period. Four submissions were received. One (1) submission objected to the proposal, one (1) provided in principle support with some areas of concern and two (2) submissions supported the application.

Submission 1

As a town resident I object to the expansion due to the smell we have to put up with. It is very hard to explain to new residents why the town stinks from the smell of the feedlot. Way too close to town. Why are they not utilising the other property they have just purchased.

Comment – The odour assessment indicates that the proposed increase in stock numbers will operate within acceptable parameters. Other property which the applicant may own is not relevant to the development assessment process.

Submission 2

I am in strong support of the proposed expansion of the Coonamble Feedlot. Some of my reasons are: I sell all my steers to the feedlot at present, increasing the size of the feedlot wouldn't necessarily mean I have more cattle, but it would increase the efficiency of placement ie correct weight and timing which in turn will allow better utilization (sic) of resources on farm this lowers the risks in dry times and should increase profitability which will be used in R&M, debt reduction and to offset climate change threats. Making beef cattle production profitable will slow, if not reduce, the amount of country



being farmed for the first time helping to maintain biodiversity over the broader community this fits in well with Macquarie Marshes Environmental Landowners assoc theme "Fat Ducks means Fat Cattle". Most other rural shires depend on irrigation for their growth and employment their irrigators receive water for free and only pay a fraction of the admin and delivery charges, Coonamble does not have that luxury so when a big business opportunity like this (privately funded non government subsidized) is proposed it should not be missed. If this opportunity is missed another feedlot in a neighbouring shire will seize the opportunity and that will do harm to our producers, decrease profitability and drain population. I encourage you to hasten the proposed development of the feedlot where ever possible.

Comment – The submitter supports the expansion of the feedlot.

Submission 3

Thank you for the opportunity to make a submission regarding the Moonya feedlot expansion.

The Coonamble Feedlot is an important local business and employer and we support any business that is trying to expand in our shire.

Our family run a livestock and cropping business comprising 8000 ac in the Coonamble Shire and 9000 ac in the Warren shire. It is run by (redacted), and our two eldest boys (redacted). Three other sons are currently off farm.

Our farm (redacted) which has been owned by our family since 1911 lies to the south of the Moonya feedlot and we share a common boundary. Our son (redacted) and his partner are engaged to be married and have renovated their home recently. Their home is 2.1km from the feedlot site At the time of renovation in 2023, we were unaware of any expansion plans.

At the same location we also have stock and domestic bore which provides water for half of the property.

OUR CONCERNS

1. Water

Obviously, increasing cattle numbers from 10,000hd to 30,000hd will greatly affect the amount of water consumed and drawn from the aquifer. Our main concern is the impact this may have on our own bore.

2. Odour

Our son currently experiences offensive odour during and after rain, and when the wind blows directly from the north. This is not frequent but can be hard to tolerate when conditions are right. Expanding the feedlot may make this intolerable.

3. Market Value

If the feedlot expansion is to go ahead, and our son and fiancé have to relocate, any future sale of that parcel of land will be affected by the presence of a bigger feedlot.

POSSIBLE SOLUTIONS

1. Water



We would like our own bore to be baseline tested by the proponents and agreements put in place should it be adversely affected in the future.

2. Odour

The only real tool in minimizing feedlot odour for use would be the establishment of a considerable vegetation belt of trees and shrubs along our shared boundary by the proponents.

As mentioned previously, our family fully support any local business trying to expand, as long as we are not adversely impacted from a business/environmental or personal point of view. We love where we live as do most of the people that live in our community. It is important that there are checks and balances with all of these types of developments so we can retain that quality of rural life.

Comment - The feedlot will operate under an Environmental Protection Licence that is overseen by the Environmental Protection Agency. As part of the EPL ground water monitoring is required on a quarterly basis. There are four (4) groundwater monitoring bores located at the site. Current monitoring samples indicate that there is negligible impact from feedlot operations. Sedimentation basins and holding are proposed to be lined with clay to prevent leachate.

The Odour Impact Assessment indicates that odour will be within acceptable parameters at this property.

Submission 4

I'm a beef cattle breeder in the Macquarie Marshes; our cattle enterprise is designed around the production of steers to be sold to the feedlot industry. I support the expansion of the Coonamble feedlot as it can only assist with marketing opportunities for the feeder weight steers. It seems to me that a development of the feedlot to that scale can only benefit the local economy, while not residing in Coonamble shire our business does benefit from Coonamble as a service centre and any growth in the feedlot industry has flow on benefits to the Coonamble local government area.

Comment – The submitter supports the expansion of the feedlot.

8. Public Interest Assessment

The proposed development is permitted in the RU1 Primary Production Zone. There are no specific policy statements from either Federal or State Government that are relevant to this proposal, nor any planning studies or strategies. There is no management plan, planning guideline or advisory document that is applicable to the development. There are no covenants, easements, or agreements that affect the proposal.

9. Contributions Assessment

The development proposal is not subject to any contribution plans adopted by Coonamble Shire Council.

10. Assessment Conclusion / Recommendation

Consent be granted subject to condition(s) detailed below:

Approved Plans and Documents



1. The development being carried out in accordance with the development application and supporting documentation except where amended by the following conditions:

Plan Title	Drawing No.	Rev.	Date
Development Application Plans and Documentation prepared by Premise			
Title Sheet & Schedule of Drawings	C001	D	22/10/2024
Existing Layout Plan	C002	D	22/10/2024
Proposed Layout Plan	C003	D	22/10/2024
Bulk Earthworks Proposed Feedlot Pens Layout	C004	D	22/10/2024
Preliminary Concept Bulk Earthworks Cut-Fill Plan	C005	D	22/10/2024
Environmental Impact Statement	-	C	22/10/2024
Soil and Water Impact Assessment	-	B	8/10/2024
Visual Impact Assessment	-	B	30/9/2024
Traffic Impact Assessment	-	B	4/10/2024
Aboriginal Cultural Heritage Due Diligence Assessment (redacted)	-	B	4/10/2024
Flood Impact Assessment	-	C	22/10/2024
Report prepared by Assured Environmental			
Noise and Vibration Impact Assessment	-	R0	19/06/2024
Odour Impact Assessment	-	R1	13/08/2024
Report prepared by Ecology Consulting			
Biodiversity Assessment Report	-	v1.0	24/05/2024

Capacity

2. The approved capacity of the feedlot is limited to 30,000 head of cattle

Prior to Issue of a Construction Certificate

3. Construction work with a value greater than \$25,000 or more requires payment of the NSW Governments Long Service Levy prior to release of any construction certificate. Evidence of payment must be provided to the registered certifier to allow release of any construction certificate. Payments should be made direct to the corporation at the following website <https://www.longservice.nsw.gov.au/>

Prior to Commencement of Works

4. Prior to the commencement of construction works, the Applicant is to obtain a Construction Certificate from either Council or Registered Certifier, certifying that the proposed works are in accordance with the *Building Code of Australia* and applicable Council Standards prior to any building works commencing.



Note: It is the responsibility of the Applicant to ensure that the development complies with the *Building Code of Australia* and applicable Council Standards in the case of building work. This may entail alterations to the proposal so that it complies with these standards.

5. The applicant is to submit to Coonamble Shire Council, at least two days prior to the commencement of any works, a 'Notice of Commencement of Building or Subdivision Works' and 'Appointment of Principal Certifier'.

During Construction

6. No nuisance or interference with the amenity of the area is to be created by reason of any process or operation on the premises causing the emission of noise, dust, smoke or any polluted discharge whatsoever.
7. Construction work involving the use of electric or pneumatic tools or other noisy operations shall be carried out only between 7.00 am and 6.00 pm on weekdays and 8.00 am and 1.00 pm on Saturdays. No work on Sundays or Public Holidays is permitted.
8. Throughout the course of construction operations on the land, toilet facilities are to be provided, at or in the vicinity of the work site. Toilet facilities are to be provided at a rate of one toilet for every 20 persons or part of 20 persons employed at the site.
9. All building rubbish and debris, including that which can be windblown, shall be contained on site in a suitable container for disposal at an approved Coonamble Shire Council Waste Landfill Depot. The container shall be erected on the building site prior to work commencing and shall be maintained for the term of the construction to the completion of the project.

Note: No building rubbish or debris shall be placed or permitted to be placed on any adjoining public reserve, footway or road.

Note: The waste container shall be regularly cleaned to ensure proper containment of the building wastes generated on the construction site.

Upgrade to Intersection with Quambone Road

10. The access from Quambone Road is to be upgraded to the minimum required intersection treatment, being a rural Basic Auxiliary Left/Basic Auxiliary Right (BAL/BAR), as per *Austrroads Guide to Road Design – Part 4a Unsignalised and Signalised Intersections* to facilitate safe and efficient movement of vehicles accessing the site. The applicant is to submit to Council detailed plans of the proposed road construction works together with an application under s138 of the *Roads Act 1993* prior to the commencement of any works within the road corridor.

Protection of Aboriginal relics

11. Should Aboriginal relics be discovered work shall cease immediately and application be made for an Aboriginal Heritage Impact Permit under the provisions of the NSW National Parks and Wildlife Act 1974.

Siding Springs Observatory – Maintaining Dark Sky

12. The development shall **not** contain:



- (a) Outside light fittings other than shielded light fittings, or
- (b) More than 7 shielded light fittings or more than 5 such light fittings that are not automatic light fittings, and
- (c) Be likely to result in the emission of light of 50,000 lumens or more.

Outside light fitting means a light fitting that is attached or fixed outside, including on the exterior of a building.

Shielded light fitting means a light fitting that does not permit light to shine above the horizontal plane.

Vegetation Buffer

13. A vegetation buffer is to be installed in accordance with the Odour Impact Assessment prepared by Assured Environmental and dated 13 August 2024. Detailed plans showing the layout and species of tree are to be submitted to Council prior to commencement of any vegetation planting.

Visual Amenity

14. Mitigation works are to be carried out as detailed in Part 5 of the Visual Impact Assessment (VIA) prepared by Premise and dated 30 September 2024. The following plans are required to be submitted to Council prior to any commencement the works identified in the VIA:
 - a. Plan showing trees to be retained
 - b. Plan of temporary and permanent access. All access roads are to minimise vegetation removal, changes to landform and visual impacts.
 - c. Lighting plan for construction compound that complies with AS4282-2019 Control of obtrusive effects of outdoor lighting and complies the requirements of s.5.14 Siding Spring Observatory – maintaining dark sky.

Flood Levee

15. Prior to the commencement of any works on the flood levee, the applicant is to consult with Water NSW and obtain approval under s90(4) of the *Water Management Act 2000*. If approval under the Water Management Act 2000 is not required, documentary evidence is to be provided to Council.

Odour

16. A vegetation buffer a minimum of 10 m wide is to be planted as detailed in section 7.3 Buffer Design in the Odour Impact Assessment prepared by Assured Environmental and dated 13 August 2024. The vegetation buffer is to be planted along the southern, eastern and north-eastern sides of the facility. A detailed plan of the vegetation buffer is to be provided to Council for approval prior to any planting taking place.

Prior to Occupation or Commencement of Use

1. Prior to the occupation or use of the development, an Occupation Certificate must be obtained from the Principal Certifier for the subject development and all conditions of development consent fully complied with.

Prescribed Conditions under the Environmental Planning and Assessment Regulation 2000



2. A development consent for development that involves any building work must be issued subject to the following conditions:

- (a) that the work must be carried out in accordance with the requirements of the *Building Code of Australia*, in force on the date of the application.
- (b) in the case of residential building work for which the Home Building Act 1989 requires there to be a contract of insurance in force in accordance with Part 6 of that Act, that such a contract of insurance must be entered into and be in force before any building work authorised to be carried out by the certificate commences.

Note: This condition does not limit any other conditions to which a complying development certificate may be subject, as referred to in section 85A (6) (a) of the Act.

Note: This condition does not apply:

- (a) to the extent to which an exemption is in force under clause 187 or 188, subject to the terms of any condition or requirement referred to in clause 187 (6) or 188 (4), of the Environmental Planning and Assessment Regulation 2000, or
- (b) to the erection of a temporary building, other than a temporary structure that is used as an entertainment venue.

Note: In this condition, a reference to the *Building Code of Australia* is a reference to that Code as in force on the date the application for the relevant complying development certificate is made.

3. A sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

- (a) showing the name, address and telephone number of the principal certifying authority for the work, and
- (b) showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and
- (c) stating that unauthorised entry to the site is prohibited.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

Note: This condition does not apply in relation to building work, subdivision work or demolition work that is carried out inside an existing building, that does not affect the external walls of the building.

Note: This condition does not apply in relation to Crown building work that is certified, in accordance with section 109R of the Act, to comply with the technical provisions of the State's building laws.

Note: This condition applies to a complying development certificate issued before 1 July 2004 only if the building work, subdivision work or demolition work involved had not been commenced by that date.

Note: Principal certifying authorities and principal contractors must also ensure that signs required by this clause are erected and maintained (see clause 227A which currently imposes a maximum penalty of \$1,100).

EPA General Terms of Approval



See Attachment A

Protection of the Environment Operations Act 1997

General Terms of Approval

Notice No: 1645336



Ms Lesley Duncan
Manager of Planning, Regulation and Compliance
Coonamble Shire Council
PO Box 249,
Coonamble, NSW 2829
By email: bcmanager@coonambleshire.nsw.gov.au

Attention: Ms Lesley Duncan

Notice Number 1645336
File Number "File Number" | DOC24/985477
Date 04-Dec-2024

Re: Expansion of 'Moonya Feedlot' Coonamble - EPL 12467 - DA037/2024

Issued pursuant to Section 4.46 Environmental Planning and Assessment Act 1979

Dear Ms Duncan

I refer to the Development Application and accompanying information provided for the Expansion of 'Moonya Feedlot' Coonamble received by the Environment Protection Authority (EPA) on 6 November 2024.

The EPA has reviewed the information provided and has determined that it is able to issue an Environment Protection Licence for the proposal under Chapter 3 of the Protection of the Environment Operations Act 1997 (POEO Act), subject to conditions. The applicant will need to make a separate application to the EPA to vary the current licence, should approval for the Proposal be granted. If approval is granted, applications for an environment protection licence variation can be made via the EPA's eConnect Portal.

I also draw your attention to the General Terms of Approval (GTA's) at Attachment A, which are current conditions under the Environment Protection Licence (EPL) 12467, for this proposal. Attachment A includes conditions specific to this proposal, including mandatory conditions for all EPA licences. The applicant is proposing a number of modification which will trigger a licence variation with the EPA. Attachment A, should not be attached as conditions of consent.

These GTA's relate to the development as proposed in the documents and information currently provided to the EPA. If the development is modified either by the applicant prior to the granting of consent or as a result of the conditions proposed to be attached to the consent, it will be necessary to consult with the EPA about the changes before the consent is issued. This will enable the EPA to determine whether its GTA's need to be modified.

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The EPA advise that the modifications to the Development Application does not trigger the requirement for a Greenhouse Gas Assessment with the estimation Greenhouse Gas Emissions (GHG) under 25,000 tonnes per annum of scope 1 and scope 2 emissions.

In assessing the proposal the EPA has identified issues relating to the amount of manure forecast to be removed from site, '*8,344 tonnes of manure to be exported annually*'. *The Proponent has not identified their ability to accommodate and dispose of this quantity of manure in a timely manner.* The statement of Environmental Effects also outlines, 'there is still a likelihood that odours from the feedlot may occasionally be detected in Coonamble'. The concerns raised can be managed through the EPL.

The key environmental risks from an environment perspective are in relation to:

1. Discharge to Air- Odour
2. Discharge to Water - Effluent runoff to waters

If you have any questions or wish to discuss this matter, further please contact Matthew Quinn on 0447 232 394 or info@EPA.nsw.gov.au

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Matthew Quinn', is positioned above a horizontal dotted line.

Matthew Quinn

Unit Head

Environment Protection Authority

(by Delegation)

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Attachment A – Specific conditions for DA037/2024

Administrative conditions

A1. Information supplied to the EPA

A1.1 Except as expressly provided by these general terms of approval, works and activities must be carried out in accordance with the proposal contained in:

- the development application DA037/2024 submitted to Department of Planning and Environment on 6 November 2024;
- any environmental impact statement "RURAL MARKETING AUSTRALIA PTY LTD MOONYA FEEDLOT EXPANSION ENVIRONMENTAL IMPACT STATEMENT" 22 October 2022 relating to the development; and
- all additional documents supplied to the EPA in relation to the development, including:
 - Appendix C - Soil and Water Impact Assessment_PAN-481262.pdf
 - Appendix F - Odour_PAN-481262.pdf
 - DA form_1729848295_PAN-481262.pdf

A2. Fit and Proper Person

A2.1 The applicant must, in the opinion of the EPA, be a fit and proper person to hold a licence under the Protection of the Environment Operations Act 1997, having regard to the matters in s.83 of that Act.

Discharges to Air and Water and Application to Land

P1. Location of monitoring/discharge points and areas

P1.1 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.2 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

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Water and Land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
3	Soil Quality Monitoring		Effluent Utilisation Area labelled 'New Effluent Irrigation Area and point 3 on map titled "Monitoring and discharge point map" received by EPA on 15/07/2021 (DOC21/581802)
5	Soil Quality Monitoring		Manure Utilisation Area labelled point 5 on map titled "Monitoring and discharge point map" received by EPA on 15/07/2021 (DOC21/581802)
6	Soil Quality Monitoring		Manure Utilisation Area labelled point 6 on map titled "Monitoring and discharge point map" received by EPA on 15/07/2021 (DOC21/581802)
7	Soil Quality Monitoring		Manure Utilisation Area labelled point 7 on map titled "Monitoring and discharge point map" received by EPA on 15/07/2021 (DOC21/581802)
8	Soil Quality Monitoring		Manure Utilisation Area labelled point 8 on map titled "Monitoring and discharge point map" received by EPA on 15/07/2021 (DOC21/581802)

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9	Groundwater Quality Monitoring	Groundwater Monitoring piezometer labelled point 9 on map titled "Monitoring and Discharge Point Map" received by EPA on 15/07/2021 (DOC21/581802)
10	Groundwater Quality Monitoring	Groundwater Monitoring piezometer labelled point 10 on map titled "Monitoring and Discharge Point Map" received by EPA on 15/07/2021 (DOC21/581802)
11	Groundwater Quality Monitoring	Groundwater Monitoring piezometer labelled 'Back-up Manure Stockpile Area' and point 11 on map titled "Monitoring and Discharge Point Map" received by EPA on 15/07/2021 (DOC21/581802)
12	Groundwater Quality Monitoring	Groundwater Monitoring piezometer labelled point 12 on map titled "Monitoring and Discharge Point Map" received by EPA on 15/07/2021 (DOC21/581802)

P1.3 The following point in the table are identified in this licence for the purpose of the monitoring of weather parameters at the point.

EPA identification number	Type of Monitoring Point	Description of Location
13	Weather Monitoring	Weather Station on Moonya Station

Limit Conditions

L1.1 Pollution of waters

L.1.1 Except as may be expressly provided by a licence under the Protection of the Environment Operations Act 1997 in relation of the development, section 120 of the Protection of the Environment Operations Act 1997 must be complied with in and in connection with the carrying out of the development.

L2 Waste

L2.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence. The condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

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L3 Potentially offensive odour

L3.1 The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

L4 Other limit conditions

L4.1 The number of cattle permitted to be held in the feedlot must not exceed 10 000 head, (30 000 after DA approval and EPL Licence variation).

Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity;
- and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner

O3 Dust

O3.1 All operations and activities occurring at the premises must be carried out in a manner that will minimise dust at the boundary of the premises.

O4 Effluent application to land

O4.1 Effluent application must not occur in a manner that causes surface runoff.

O4.2 Spray from effluent application must not drift beyond the boundary of the premises.

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O4.3 Livestock access to any effluent application area must be denied during irrigation and until the applied effluent has dried.

O4.4 The licensee must retain the utilisation area.

O4.5 At least 14 days prior to a utilisation area being rendered unavailable for use, the EPA must be advised in writing of this intention.

O4.6 The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids.

For the purposes of this condition, 'effectively utilise' includes the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material

O5 Processes and management

O5.1 The feedlot pen surface must be maintained to prevent infiltration.

O5.2 The holding ponds must be maintained to ensure that sedimentation does not reduce their capacity by more than 20% of the design capacity.

O5.3 Solids must be stored on an impermeable pad within the controlled drainage area.

O6 Waste management

O6.1 If solids are removed from the premises, the licensee must record:

- a) the date of removing the solids;
- b) the estimated weight of the solids removed; and
- c) the identity of the person removing the solids.

Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and

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c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Water and/ or Land Monitoring Requirements

Point 1

Pollutant	Units of measure	Frequency	Sampling Method
Calcium	milligrams per litre	Quarterly	Representative sample
Chloride	milligrams per litre	Quarterly	Representative sample
Conductivity	microsiemens per centimetre	Quarterly	In situ
Magnesium	milligrams per litre	Quarterly	Representative sample
Nitrate	milligrams per litre	Quarterly	Representative sample
Nitrogen (ammonia)	milligrams per litre	Quarterly	Representative sample
Nitrogen (total)	milligrams per litre	Quarterly	Representative sample
pH	pH	Quarterly	Representative sample
Phosphorus (total)	milligrams per litre	Quarterly	Representative sample
Potassium	milligrams per litre	Quarterly	Representative sample
Reactive Phosphorus	milligrams per litre	Quarterly	Representative sample
Sodium	milligrams per litre	Quarterly	Representative sample
Sodium Adsorption Ratio	sodium adsorption ratio	Quarterly	Representative sample

Point 2

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Pollutant	Units of measure	Frequency	Sampling Method
Chloride	milligrams per kilogram	Quarterly	Representative sample
Conductivity	microsiemens per centimetre	Quarterly	Representative sample
Magnesium	milligrams per kilogram	Quarterly	Representative sample
Nitrate	milligrams per kilogram	Quarterly	Representative sample
Nitrogen (total)	milligrams per kilogram	Quarterly	Representative sample
Organic carbon	percent	Quarterly	Representative sample
pH	pH	Quarterly	Representative sample
Phosphorus (total)	milligrams per kilogram	Quarterly	Representative sample
Potassium	milligrams per kilogram	Quarterly	Representative sample
Sodium	milligrams per kilogram	Quarterly	Representative sample
Sulfur	milligrams per kilogram	Quarterly	Representative sample

Point 3,5,6,7,8

Pollutant	Units of measure	Frequency	Sampling Method
Available phosphorus	milligrams per kilogram	Yearly	Special Method 1
Cation Exchange Capacity	centimoles of positive charge per kilogram of soil	Yearly	Special Method 1
Conductivity	microsiemens per centimetre	Yearly	Special Method 1
Exchangeable calcium	centimoles of positive charge per kilogram of soil	Yearly	Special Method 1
Exchangeable magnesium	centimoles of positive charge per kilogram of soil	Yearly	Special Method 1
Exchangeable potassium	centimoles of positive charge per kilogram of soil	Yearly	Special Method 1
Exchangeable sodium	centimoles of positive charge per kilogram of soil	Yearly	Special Method 1
Nitrate	milligrams per kilogram	Yearly	Special Method 1
Nitrogen (total)	milligrams per kilogram	Yearly	Special Method 2
Organic carbon	percent	Yearly	Special Method 2
pH	pH	Yearly	Special Method 1
Phosphorus Sorption Capacity	kilograms per hectare	Yearly	Special Method 1

Point 9,10,11,12

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Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Quarterly	In situ
Nitrate	milligrams per litre	Quarterly	Representative sample
Nitrogen (ammonia)	milligrams per litre	Quarterly	Representative sample
Nitrogen (total)	milligrams per litre	Quarterly	Representative sample
pH	pH	Quarterly	In situ
Phosphorus (total)	milligrams per litre	Quarterly	Representative sample
Reactive Phosphorus	milligrams per litre	Quarterly	Representative sample

Point 11,10,9

Pollutant	Units of measure	Frequency	Sampling Method
Standing Water Level	metres	Quarterly	In situ

M2.3 For the purpose of the table(s) above Special Method 1 means that representative composite soil samples must be taken of the top soil and representative composite soil samples must be taken of the sub soil if effluent or manure is applied to the utilisation area.

M2.4 For the purposes of the table(s) above Special Method 2 means that representative composite soil samples must be taken of the top soil if effluent or manure is applied to the utilisation area.

M3 Testing methods - concentration limits

M3.1 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Weather monitoring

M4.1 Requirements to monitor weather for monitoring point 13. The licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

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Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm	Continuous	24 hour	AM-4
Wind Speed & Direction	m/s & degrees	Continuous	15 minutes	AM-2 & AM-4
Temperature	degrees (C)	Continuous	15 minutes	AM-4

M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

M7 Requirement to monitor volume or mass

M7.1 For each discharge point or utilisation area specified below, the licensee must monitor:

- a) the volume of liquids discharged to water or applied to the area;

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- b) the mass of solids applied to the area;
 - c) the mass of pollutants emitted to the air;
- at the frequency and using the method and units of measure, specified below.

Point 1

Frequency	Unit of Measure	Sampling Method
Weekly	megalitres per week	By Calculation (volume flow rate or pump capacity multiplied by operating time)

Point 2

Frequency	Unit of Measure	Sampling Method
Yearly	tonnes	Special Method 3

M7.2 For the purposes of the table(s) above Special Method 3 means the amount of solids taken from the manure stockpile is to be estimated or weighed (labelled as 'Manure Stockpile' on map titled 'Licence Monitoring Points' and received by the EPA on 24/05/2011).

Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting

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period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.8 Monitoring report

The licensee must supply with the Annual Return a report, which provides:

- a) an analysis and interpretation of monitoring results; and
- b) actions to correct identified adverse trends.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which they

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became aware of the incident.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
- b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- a) the cause, time and duration of the event;
- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

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General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

G2 Contact number for incidents and responsible employees

G2.1 The licensee must operate one 24-hour telephone contact line for the purpose of enabling the EPA:

a) to contact the licensee or a representative of the licensee who can respond at all times to incidents relating to individual premises, and

b) to contact the licensee's senior employees or agents authorised at all times to:

- i) speak on behalf of the licensee, and
- ii) provide any information or document required under licence.

G2.2 The licensee is to inform the EPA of the contact number within 3 months of this condition taking effect.

G3 Signage

G3.1 Each monitoring and discharge point must be clearly marked by a sign that indicates the EPA point identification number.



RURAL MARKETING AUSTRALIA PTY LTD

Moonya Feedlot Expansion

ENVIRONMENTAL IMPACT STATEMENT



Report No: 222230

Rev: C

22 October 2024



RURAL MARKETING AUSTRALIA PTY LTD
 MOONYA FEEDLOT EXPANSION
 ENVIRONMENTAL IMPACT STATEMENT

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DOCUMENT AUTHORISATION		
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A	19/09/24	Internal review
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Daniel Drum		Rural Marketing Australia Pty Ltd
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CREATING  GREATERRURAL MARKETING AUSTRALIA PTY LTD
MOONYA FEEDLOT EXPANSION
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EXECUTIVE SUMMARY

Introduction

Rural Marketing Australia Pty Ltd (RMA) (ABN: 28 100 829 927) is an Australian, family owned and operated company.

RMA has operated the existing Moonya Feedlot at 701 Quambone Road, Coonamble (the 'site') since 2006 in accordance with Development Consent 14/97 and Environment Protection Licence 12467 (EPL 12467).

The existing Moonya Feedlot is a Level 1 feedlot accredited under the National Feedlot Accreditation Scheme (NFAS), a quality assurance scheme independently managed and audited by AUS-MEAT. Accreditation through the NFAS ensures ongoing compliance with best practice animal welfare and environmental standards.

The NSW Environment Protection Authority (NSW EPA) identifies EPL 12467 as a level 1 licence. A level 1 licence is only granted for an activity that poses a low risk to the environment because it generates minimal or no discharges due to its nature, and because there are good environmental controls and management procedures in place.

RMA seeks to expand the capacity of the existing Moonya Feedlot from 10,000 head to a capacity of 30,000 head. The key elements of the proposed expansion include additional pens and a cattle handling facility. Other ancillary components of the proposed expansion include stock lanes and feed alleys, drains, ponds and vehicle access.

The key elements of the proposed expansion are illustrated in the detailed project drawings at **Appendix A**.

The expanded Moonya Feedlot would continue to source cattle from up to 17 saleyards each week from Queensland through to South Australia and custom feed them for an average of 120 days. Finished cattle would be processed at abattoirs in Queensland and New South Wales. RMA estimates that the expanded Moonya Feedlot would contribute over \$22.8 million per year to the local economy. A large portion of local spending would be through the purchase of materials and supplies. It is anticipated that up to ~80% of materials and supplies would be purchased locally.

Additional workforce requirements associated with the expanded feedlot operation would result in creation of 19 new jobs, with the construction phase providing opportunities for a range of locally based contractors. Positive multiplier effects would further benefit the community by creating additional demand and opportunities for goods and services.



Designated development

The proposed expansion of the existing Moonya Feedlot is designated development pursuant to section 4.10 of the *Environmental Planning and Assessment Act 1979* (the 'Act') and schedule 3 of the *Environmental Planning and Assessment Regulation 2021* (the 'Regulation') as it is it will accommodate more than 1000 head of cattle.

As designated development, the development application for the proposed expansion must be accompanied by an Environmental Impact Statement (EIS) prepared in the form prescribed by the Regulation.

This document and the accompanying appendices have been prepared in accordance with the form prescribed by the Regulation and satisfy the requirement for the development application to be accompanied by an EIS. A compliance table addressing the requirements of the Regulation is provided at **Appendix B**.

As part of the EIS process, the Director of Industry Assessments, as delegate for the Planning Secretary, Department of Planning and Environment, has issued the Secretary's Environmental Assessment Requirements 1848 (SEARs). SEARs are specific matters that must be addressed as part of the EIS. A compliance table addressing the requirements of the SEARs are provided at **Appendix B**.

The SEARs require that the EIS include an assessment of all potential impacts of the proposed expansion, including the strategic context of the proposed development, waste management; animal welfare, biosecurity and disease management; soil and water; air quality; noise and vibration; traffic and transport; biodiversity; bushfire; heritage; and visual impact.

These issues are addressed in **Section 6** of this report under the heading *Assessment and Mitigation of Impacts*.

Environmental impact assessment

An analysis of site constraints via an environmental risk assessment process has identified the following key environmental issues for which specialist technical reports have been prepared:

- > Biodiversity;
- > Traffic and access;
- > Visual impacts;
- > Noise and vibration;
- > Aboriginal cultural heritage and historic heritage;
- > Water and soils; and
- > Social and economic impacts.

Preliminary engagement has been undertaken with the adjoining landowners, agencies and other relevant stakeholders to ensure that the project objectives are clearly understood and so that any feedback on the project can be considered and incorporated where necessary.

The following sections provide a high-level summary of each key impact area.

BIODIVERSITY

A Biodiversity Assessment Report (BAR) (Ecology Consulting, 2024) is provided at **Appendix D**.

Ecology consulting undertook a desktop assessment and field inspections to identify site characteristics and accurately describe existing biodiversity values.

The BAR identifies that vegetation across the study area has been extensively modified and no longer represents its original native composition and extent. Further, the BAR identifies that the study area predominately comprises Category 1-exempt land, with scatterings of Category 2 – regulated land present.

The BAR confirms that proposed expansion does not trigger entry into the Biodiversity Offset Scheme or requirements for further assessment under key biodiversity legislation.

TRAFFIC AND ACCESS

A Traffic Impact Assessment (TIA) (Premise, 2024) is provided at **Appendix E**.

The TIA has been prepared to assess the construction and operational traffic impacts of the proposed expansion, and the existing access arrangements from Quambone Road.

The TIA identifies that the proposed expansion will not have any additional impact on safety through the increase of traffic using the existing vehicle access from Quambone Road.

VISUAL IMPACTS

A Visual Impact Assessment (VIA) (Premise, 2024) is provided at **Appendix I**.

The VIA has been prepared to assess the visual impacts of the proposed expansion.

The VIA concludes that the expansion of the existing feedlot has minimised the visual impact relative to a greenfield development. Further, the VIA notes that the proposed expansion is set back from the boundaries of the site, minimising visual impact to residents and others travelling within the surrounding area.

ODOUR

An Odour Impact Assessment (OIA) (Assured Environmental, 2024) is provided at **Appendix F**.

The OIA has been prepared to assess the potential odour impacts relating to the proposed expansion of the feedlot capacity from 10,000 to 30,000 head, including impacts during construction works.

The OIA concludes that predicted ground-level concentrations of odour due to the proposed expansion comply with the assessment criterion of 5.6 ou 1-second 99th percentile at all sensitive receptors except R16, which is a recent development. The predicted ground-level concentrations of odour due to the expanded feedlot would exceed the criteria by 0.1 ou 1-second 99th percentile.

Given the minor exceedance of the criteria, RMA has obtained a letter of support from the landowner of R16. The letter of support acknowledges the minor exceedance and confirms that negotiated solution is not warranted in this circumstance.

Further, the letter of support confirms that the landowner of R16 understands that Environment Protection Licence 12467 for the Moonya Feedlot will continue to contain a condition that requires that the licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

NOISE AND VIBRATION

A Noise and Vibration Impact Assessment (NVIA) (Assured Environmental, 2024) is provided at **Appendix G**.

The NVIA has been prepared to assess the potential noise and vibration impacts associated with the construction and operation of the proposed expansion. Specifically, the NVIA has considered the potential for adverse impacts upon existing residential land uses due to noise emissions associated with the feedlot.

A detailed assessment of construction noise identifies that reasonable and feasible mitigation measures are warranted to minimise the impact of construction activities on surrounding residential receptors.

Construction vibration was also reviewed, and no impacts are predicted. Increases in on-road vehicle volumes as a result of the expansion have also been reviewed and the analysis suggests that the development will remain compliant with the relevant limits.

ABORIGINAL CULTURAL HERITAGE

An Aboriginal Heritage Due Diligence Assessment (AHDDA) (Premise, 2024) is provided at **Appendix H**.

The AHDDA has been prepared to identify any potential impacts to Aboriginal cultural heritage as a result of the proposed feedlot expansion.

The AHDDA includes detailed site survey, desktop assessment, a basic search of the AHIMS database of the study area with an approximate buffer area of 3 km and an extensive search of the AHIMS database

The AHDDA confirms that the proposed expansion is not likely to result in adverse impacts to items of Aboriginal cultural heritage or to cultural heritage values.

WATER AND SOILS

A Soil and Water Impact Assessment (SWIA) (Premise, 2024) is provided at **Appendix C**.



The purpose of the SWIA is to assess the potential impacts of the proposed expansion on soil, surface water and groundwater which may arise as a result of the proposed feedlot expansion.

The SWIA concludes that the proposed expansion is unlikely to have a detrimental impact of soil, surface water and groundwater resources.

FLOOD

A Flood Impact Assessment (FIA) (Premise, 2024) is provided at **Appendix J**.

The purpose of the FIA is to assess the impacts of the proposed expansion and associated mitigation measures on existing flood patterns, including offsite impacts.

The FIA concludes that the proposed feedlot expansion can be undertaken and can incorporate measures to minimise surface water impact without having a detrimental impact on flood levels and peak velocity outside of the property boundary during a 1% AEP flood.

SOCIAL AND ECONOMIC IMPACTS

RMA has sought advice regarding the likely social and economic impacts of the proposed feedlot expansion.

The likely impacts of the proposed feedlot expansion were assessed using both Cost-Benefit Analysis (CBA) and Economic Impact Analysis (EIA) to thoroughly evaluate its impact. The CBA and EIA methods complement each other by focusing on different aspects of the project's effects, providing a more complete understanding of its overall significance.

The CBA and EIA identify that the proposed feedlot expansion will result in the following impacts:

- > **Regional Impact:** The capital investment in Far West and Orana will drive infrastructure development, job creation, and local business growth, with total capital impacts reaching \$91.1 million. The annual operational spend of \$11.6 million will stimulate ongoing regional economic activity, with a total annual impact of \$22.5 million.
- > **State Impact:** At the state level, the total capital impact is projected to be \$156.5 million, with the annual operational impact increasing to \$37.4 million as the project engages suppliers and service providers from across NSW.
- > **National Impact:** Nationally, the capital impact will reach \$172.9 million, while the annual operational impact will be \$41.3 million, reflecting the involvement of businesses and industries throughout Australia.

These results demonstrate that the proposed feedlot expansion is a major driver of regional and statewide economic growth.

1. INTRODUCTION

1.1 The applicant

Rural Marketing Australia Pty Ltd (RMA) (ABN: 28 100 829 927) is an Australian, family owned and operated company. RMA has operated the existing Moonya Feedlot at 701 Quambone Road, Coonamble (the 'site') (**Figure 1** and **Figure 2**) since 2006 in accordance with Development Consent 14/97 and Environment Protection Licence 12467 (EPL 12467).

The existing Moonya Feedlot is a Level 1 feedlot accredited under the National Feedlot Accreditation Scheme (NFAS), a quality assurance scheme independently managed and audited by AUS-MEAT. Accreditation through the NFAS scheme ensures ongoing compliance with best practice animal welfare and environmental standards.

The NSW Environment Protection Authority (NSW EPA) identifies EPL 12467 as a level 1 licence. A level 1 licence is only granted for an activity that poses a low risk to the environment because it generates minimal or no discharges due to its nature, or because there are good environmental controls and management procedures in place.

1.2 Simple description of the project

RMA seeks to expand the capacity of the existing Moonya Feedlot from 10,000 head to a capacity of 30,000 head.

The key elements of the proposed expansion include additional feedlot pens and a cattle handling facility.

Other ancillary components of the proposed expansion include a silage pits, flood levee, stock lanes and feed alleys, drains and ponds and vehicle access.

The proposed expansion also includes a manure management system to effectively manage the collection, treatment and reuse of the liquids, organic matter and nutrients contained in the manure from the feedlot. Manure includes both the liquid and solids fractions of manure (moist) and urine.

Fill required for the purpose of construction will be obtained from a borrow pit adjacent to the feedlot.

The key elements of the proposed expansion are illustrated in **Figure 3** and the detailed project drawings at **Appendix A**.

As shown in the detailed project drawings, the proposed expansion has been designed as a series of stages. It is requested that the development consent is structured in a manner which will ensure that the approved expansion could be constructed and operated as a series of stages, or a single stage, without the requirement for a modification of the development consent.

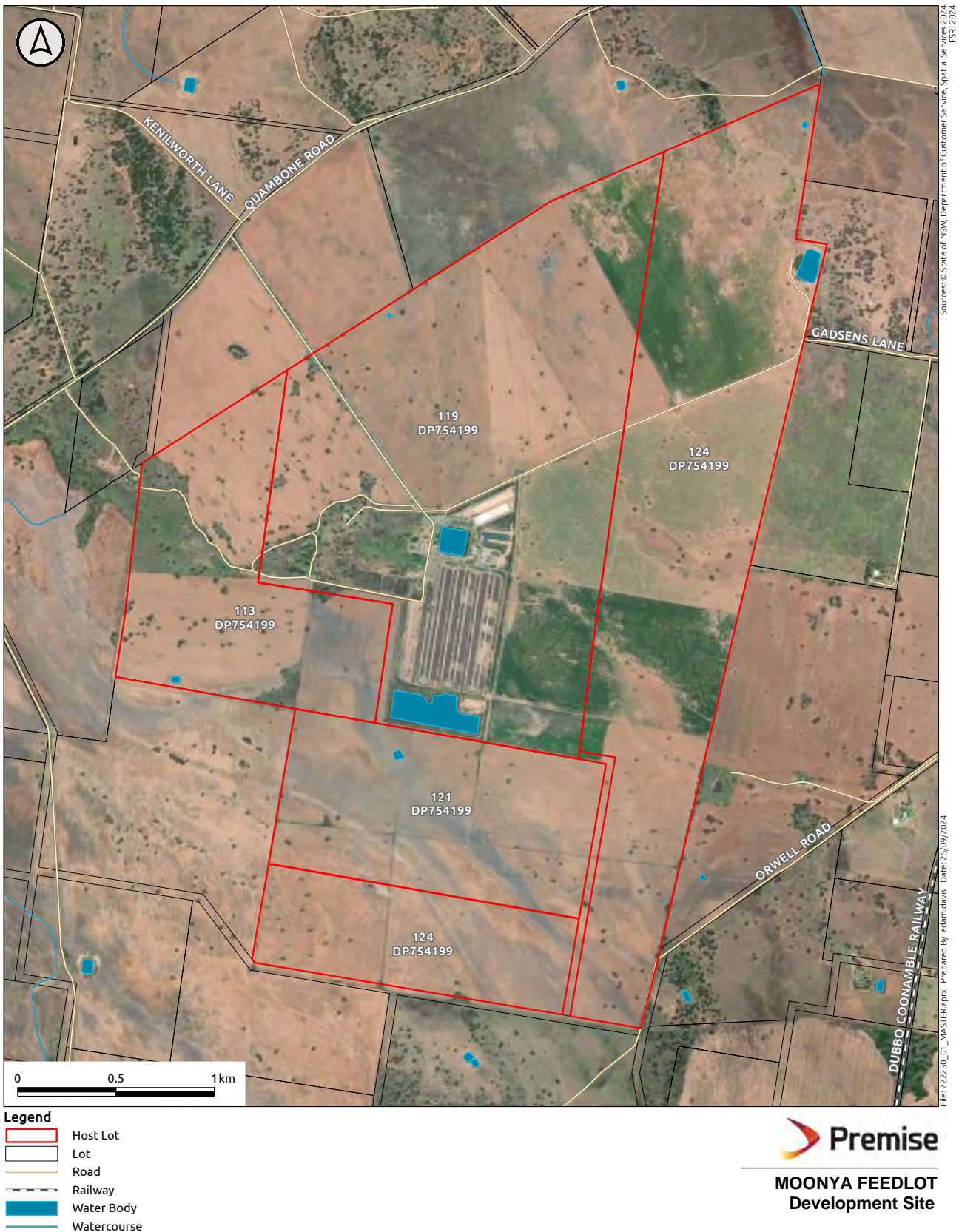


Figure 1

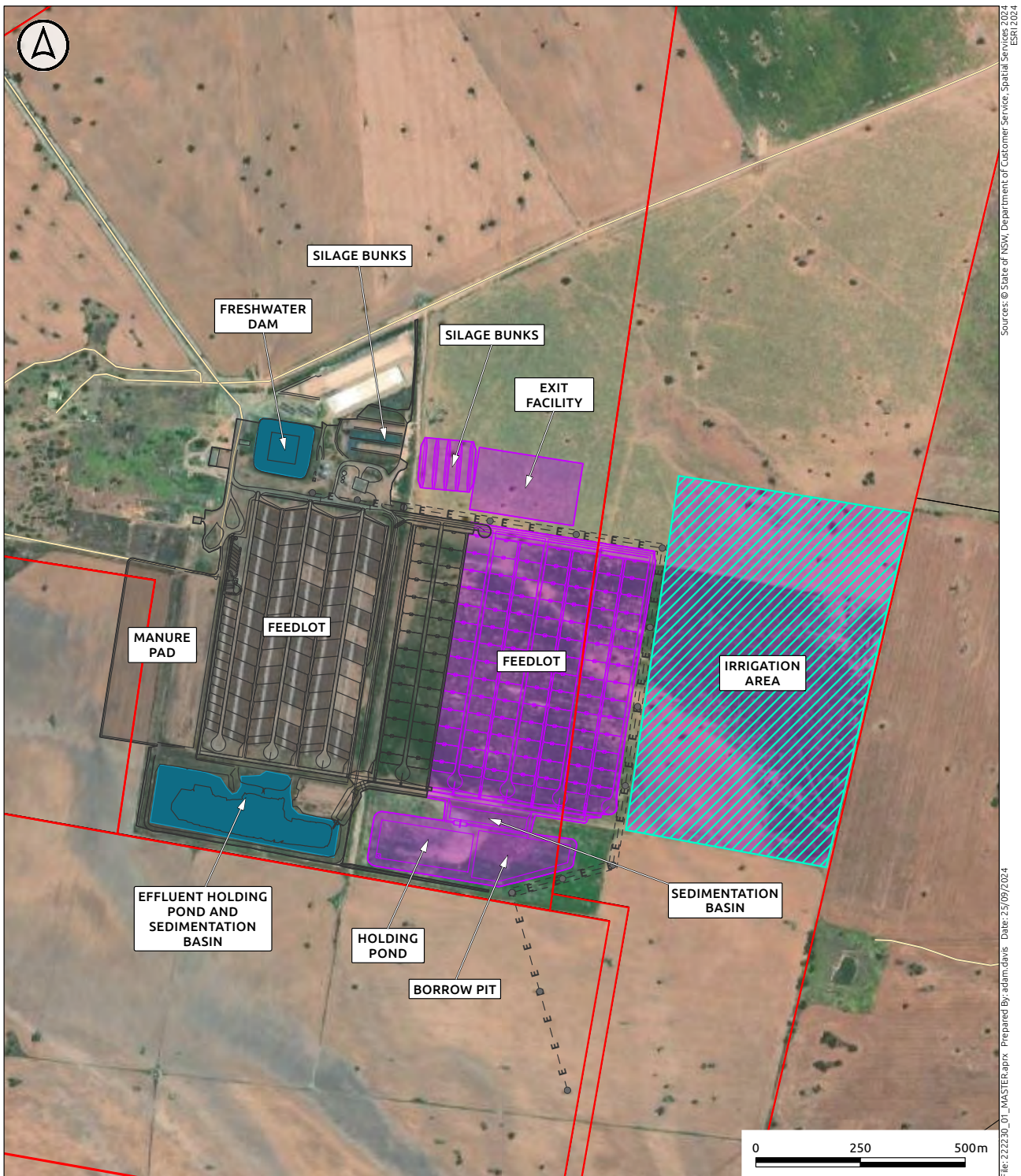


Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
ESRI 2024
File: 222230_01_MASTER.aprx Prepared By: adam.davis Date: 25/09/2024

- Legend**
- Host Lot
 - Major Road
 - Railway
 - Runway
 - Major Water Body
 - Major Watercourse

Premise
MOONYA FEEDLOT
Local Context Plan

Figure 2



Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
ESRI 2024
File: 222230_01_MASTER.aprx Prepared By: adam.davie Date: 25/09/2024

- Legend**
- Host Lot
 - Existing Development Footprint
 - Proposed Development Footprint
 - Proposed Irrigation Area
 - Lot
 - Road
 - Water Body



Figure 3

CREATING  GREATERRURAL MARKETING AUSTRALIA PTY LTD
MOONYA FEEDLOT EXPANSION
ENVIRONMENTAL IMPACT STATEMENT

1.3 Background to the project

The existing Moonya Feedlot was conceived by the Coonamble Feedlot and Beef Marketing Cooperative (CFBMC), a company consisting of local landowners, based on the growth of the beef feedlot industry between 1980 and the mid 1990's. The Moonya Feedlot was acquired by RMA in 2006.

The existing feedlot comprises 65 pens arranged in rows of 13, each with separate access roads and drains. Pens typically comprise a total area of 1,142 – 2,285m² with a total capacity of 10,000 cattle at a stocking density unit of 15m² / head.

In early 2024, RMA obtained development consent for alterations and additions to the existing feedlot. The approved 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.

The purpose of the approved alterations and additions is to facilitate ongoing repairs and upgrades to the existing feedlot facility without the need to de-stock. It is anticipated that the approved alterations and additions will be constructed in late 2024.

1.4 Project refinements

The concept layout and design of the proposed expansion has been considered in detail since 2021, with the aim of improving average daily gain and feed efficiency, enhancing animal welfare and minimising the likelihood of impacts on the natural environment and amenity of the local community.

The proposed expansion has been refined extensively in response to technical assessment of potential environmental impacts and herd management.

The benefit of project refinement is illustrated in **Section 6** of this report, which demonstrates that the proposed expansion has been designed to avoid and mitigate against all potential environmental impacts, including potential impacts on the natural environment and amenity of the local community.



2. EXISTING ENVIRONMENT

2.1 Overview

The Moonya Feedlot is located at 701 Quambone Road, Coonamble, being Lots 113, 119, 121 and 124 DP 754199 (the 'site') (**Figure 1**).

Key elements of the existing environment relevant to the design and operation of a cattle feedlot include climate, topography and landscape, surface water, groundwater, soils and the proximity of sensitive receptors (i.e. dwellings not associated with the Moonya Feedlot).

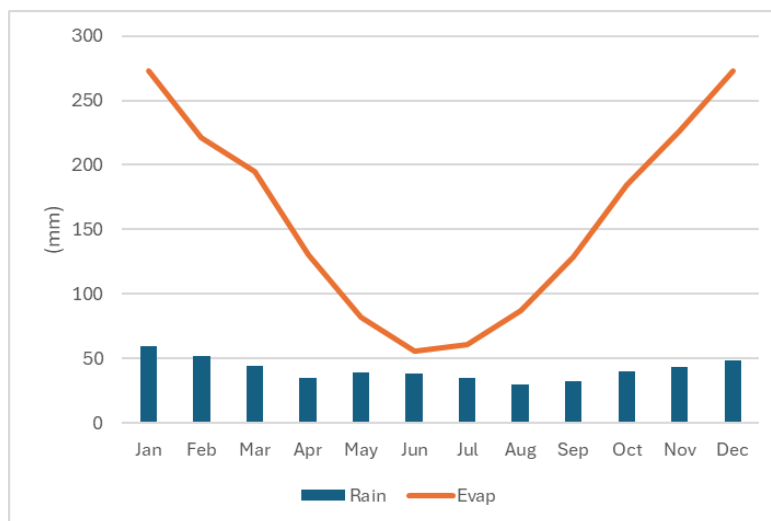
The key elements of the existing environment are shown at Figure 2 and described in Sections 2.2 - 2.7.

2.2 Climate

Coonamble is located within the central-western plains of NSW.

Rainfall in the region is mainly summer dominant, with an average annual rainfall of approximately 497 millimetres (mm). The mean annual pan evaporation is 1,916 mm. Average monthly evaporation exceeds average monthly rainfall throughout the year (**Figure 4**).

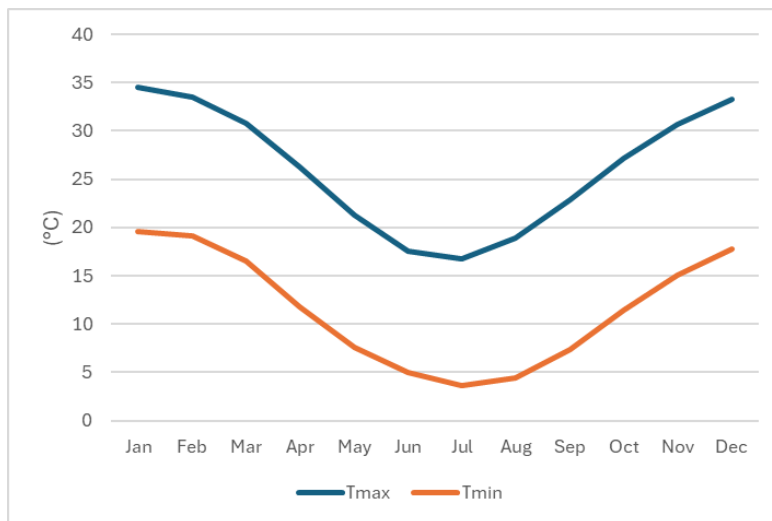
Figure 4 - Monthly average rainfall and evaporation



The region experiences seven warm months (October to April) and five cool months (May to September) annually, with average minimum temperatures above 11.5°C and average maximum temperatures above 25.5°C (**Figure 5**).



Figure 5 - Monthly average temperature



2.3 Topography and landscape

The region is typically characterised by a semi-arid landscape, featuring vast plains, sparse vegetation and occasional shrubbery. The terrain is typically flat or gently undulating, with dry conditions prevailing for much of the year.

The topography of the feedlot site is characterised as flat (**Figure 6**). The elevation within the feedlot site is constant, varying between a minimum of 175 m Australian Height Datum (AHD) in the north-east portion of the site and a maximum of 187 m on the south-east boundary. The existing Moonya Feedlot sits between 181 m to 184 m AHD (**Figure 7**).

Figure 6 – Moonya feedlot landscape



2.4 Surface water

The feedlot is located approximately 3 km west of the Castlereagh River. There are no other mapped watercourses within the site (**Figure 8**).

The *West Coonamble Floodplain Risk Management Study and Plan* (Jacobs, 2021) (West Coonamble FRMSP) and modelling undertaken by Jacobs demonstrate that the site is partly impacted by the 5% AEP flood. Flooding of the site is typically associated with the Castlereagh River.

The West Coonamble FRMSP identifies that the flattening of the terrain upstream of Coonamble township results in decreased flow velocity and thus a greater flow area. This is evidenced through known and identified overbank breakouts from the Castlereagh River to both the east and west in the vicinity of Coonamble.

2.5 Soils

Soil samples were collected across the site in July 2024 (Premise, 2024). Samples were collected from three depths: 0–300 mm, 300–700 mm and 700–1000 mm.

Detailed analysis of soils samples (Premise, 2024) demonstrates the following characteristics:

- > The soil profile is non-saline;
- > Soil surface (0-300 mm) presents ideal pH range for plant growth;
- > The effective cation exchange capacity (eCEC) of the soil presents moderate limitation, indicating a moderate capacity of these soils to hold nutrients. If required, gypsum application will improve soil eCEC;
- > Soils provide a non-sodic profile which indicate a reduced potential for structural degradation and waterlogging;
- > Soils are generally slightly dispersible;
- > The subsoil phosphorus sorption capacity is rated as moderate to high; and
- > Soils have an available water capacity with moderate restrictions.

Detailed analysis of soil samples did not identify any significant limitation to the proposed expansion.

2.6 Groundwater

Two groundwater bores are located within the site, with a further seven bores located in close proximity (**Table 1** and **Figure 10**).

All bores located outside the site are at greater distance than 250 m from the proposed feedlot expansion.

Based on the Water NSW Work Summary for each bore, the water bearing zones below the site are first encountered at 215.8 m for GW039301 and 461 m for GW041028.

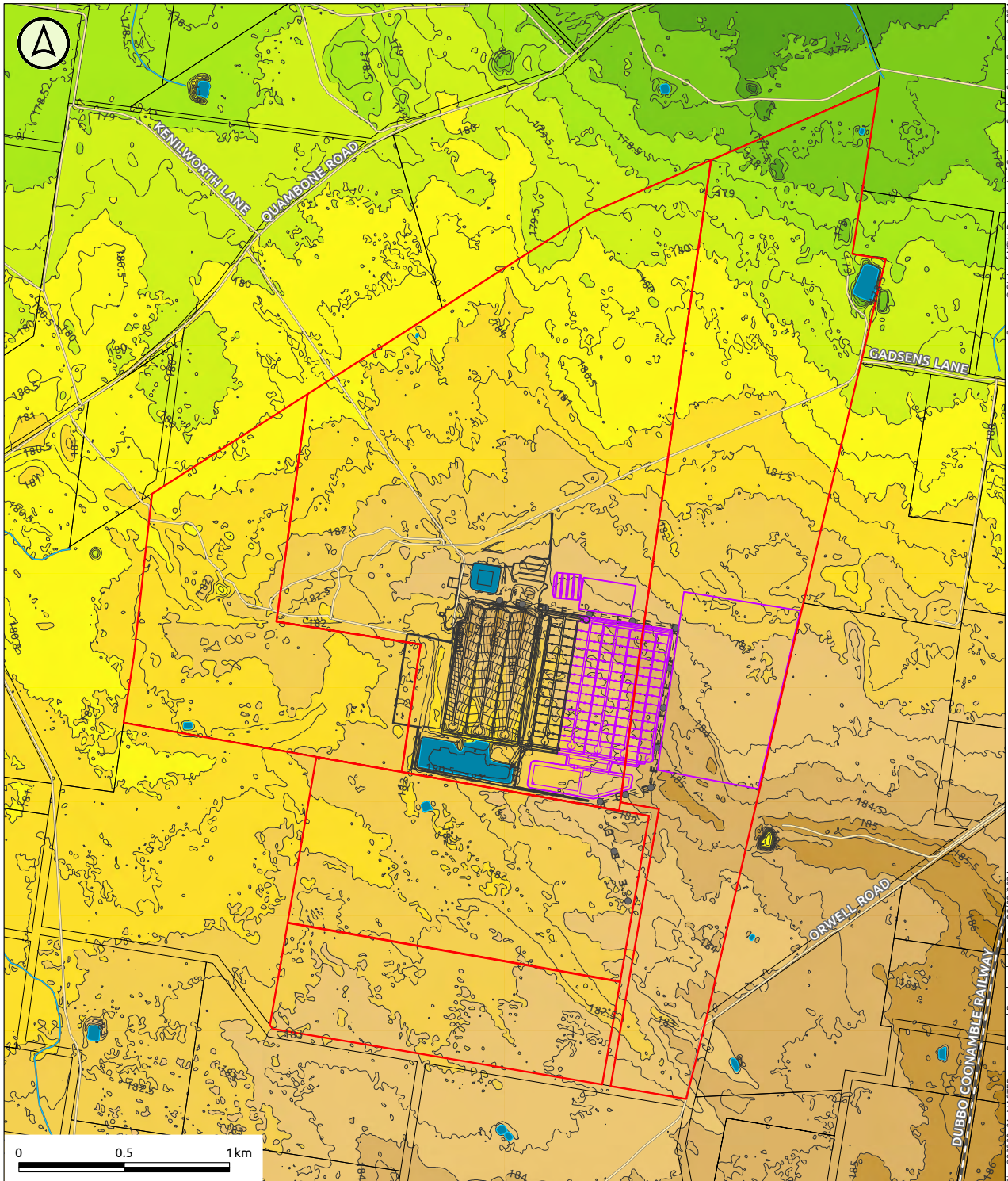
Table 1 – Groundwater bores

Location	Bore ID	Purpose	Standing water level (SWL) (m)	Water bearing zone first encounter (m)
Within the site	GW041028	Stock/domestic	NA	461
	GW039301	Stock/domestic	8.6	215.8
Outside of the site	GW030524	Stock	2.9	37.2
	GW039504	Stock, farming, domestic, industrial, commercial	NA	452
	GW004158	Stock/domestic	44.8	44.8
	GW004630	General use	NA	43
	GW045278	Stock/domestic	12.8	73.1
	GW004628	Unknown	3.6	6
	GW273222	Stock/domestic	NA	345
NA: Not available				

2.7 Sensitive receptors

There are 16 sensitive receptors located within proximity to the site. In each case, the sensitive receptor is identified as a dwelling associated with a rural property used for agriculture. The location of sensitive receptors and distance from the proposed feedlot expansion are identified at **Figure 11**.





Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
ESRI 2024
File: 222230_01_MASTER.aprx Prepared By: adam.davis Date: 23/09/2024


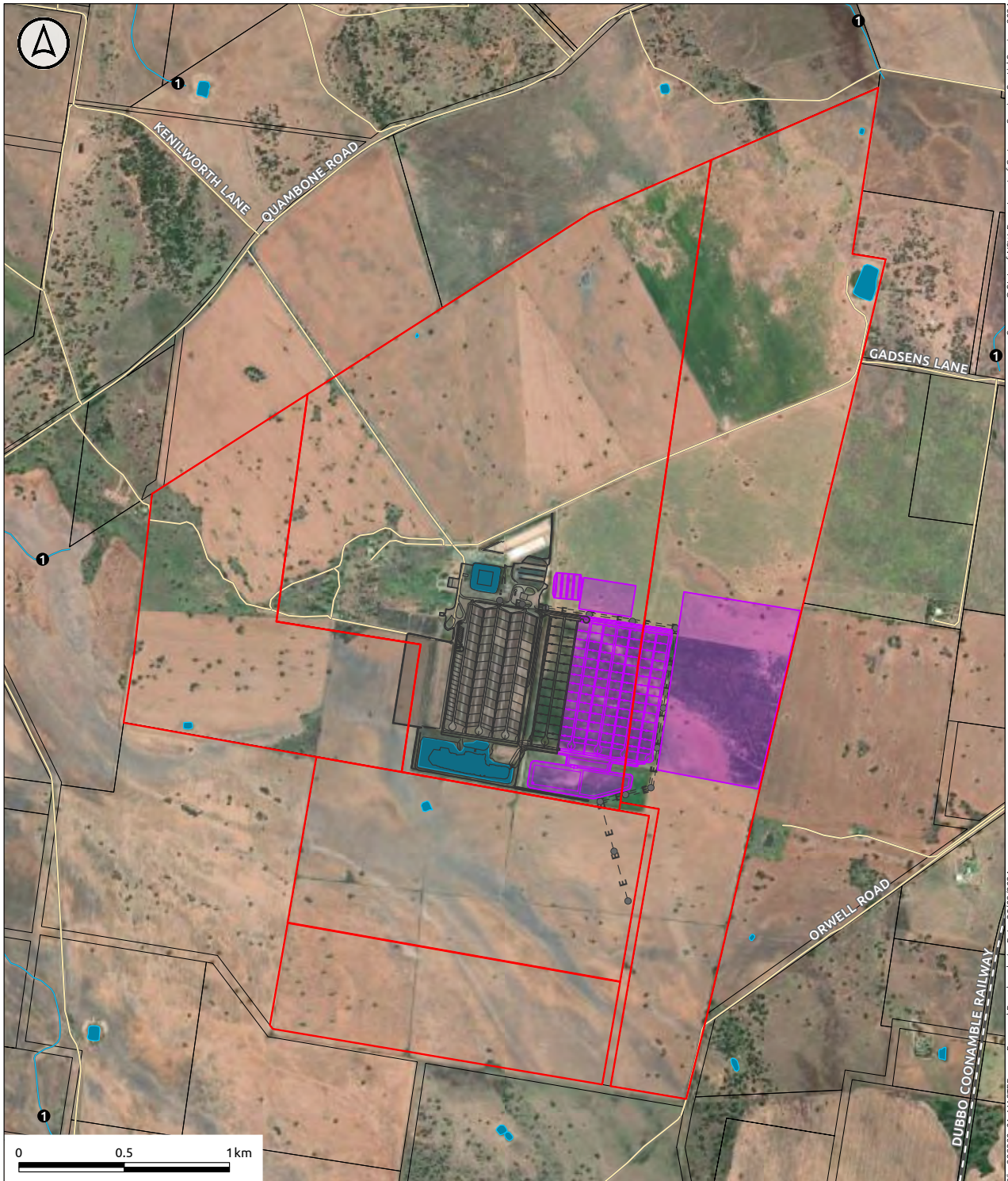
Legend			
 Host Lot	Elevation (m)	 182 - 183	 MOONYA FEEDLOT Elevation AHD
 Existing Development	 175 - 176	 183 - 184	
 Proposed Development	 176 - 177	 184 - 185	
 Lot	 177 - 178	 185 - 186	
 Road	 178 - 179	 186 - 187	
 Railway	 179 - 180	 Natural Contours (0.5m Interval)	
 Water Body	 180 - 181		
 Watercourse	 181 - 182		

Figure 7

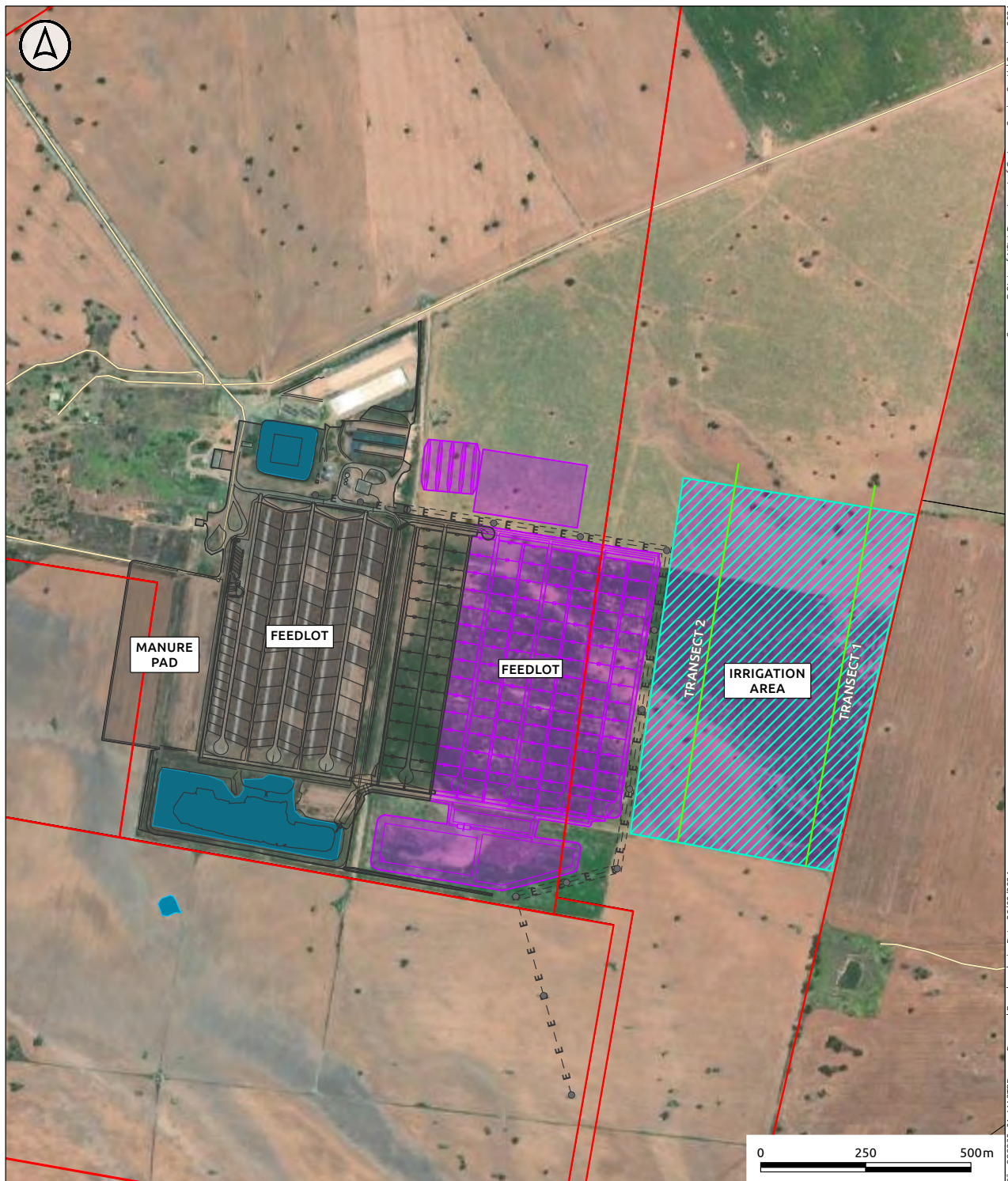


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 EPR1 2024
 File: 222230_01_MASTER.aprx Prepared By: adam.dave Date: 25/09/2024

- Legend**
- Host Lot
 - Existing Development Footprint
 - Proposed Development Footprint
 - Lot
 - Road
 - Railway
 - Water Body
 - 1 Watercourse (Strahler Stream Order)

Premise
MOONYA FEEDLOT
Hydrolines

Figure 8

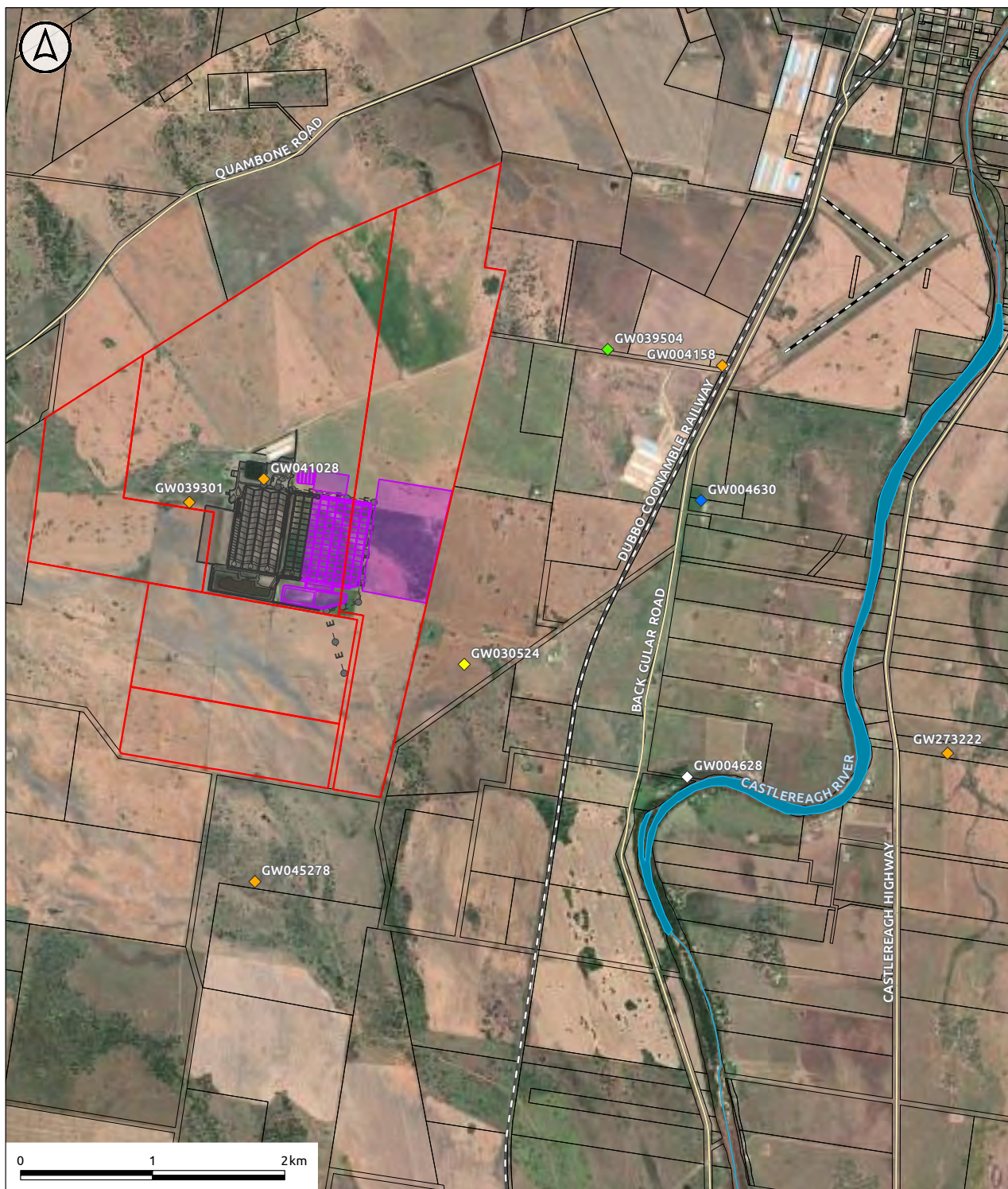


Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
 ESR1 2024
 File: 222230_01_MASTER.aprx Prepared By: adam.davis Date: 25/09/2024

- Legend**
- Host Lot
 - Existing Development Footprint
 - Proposed Development Footprint
 - Proposed Irrigation Area
 - Lot
 - Road
 - Water Body
 - Soil Sampling Transects

 **Premise**
MOONYA FEEDLOT
Soil Sampling Transects

Figure 9

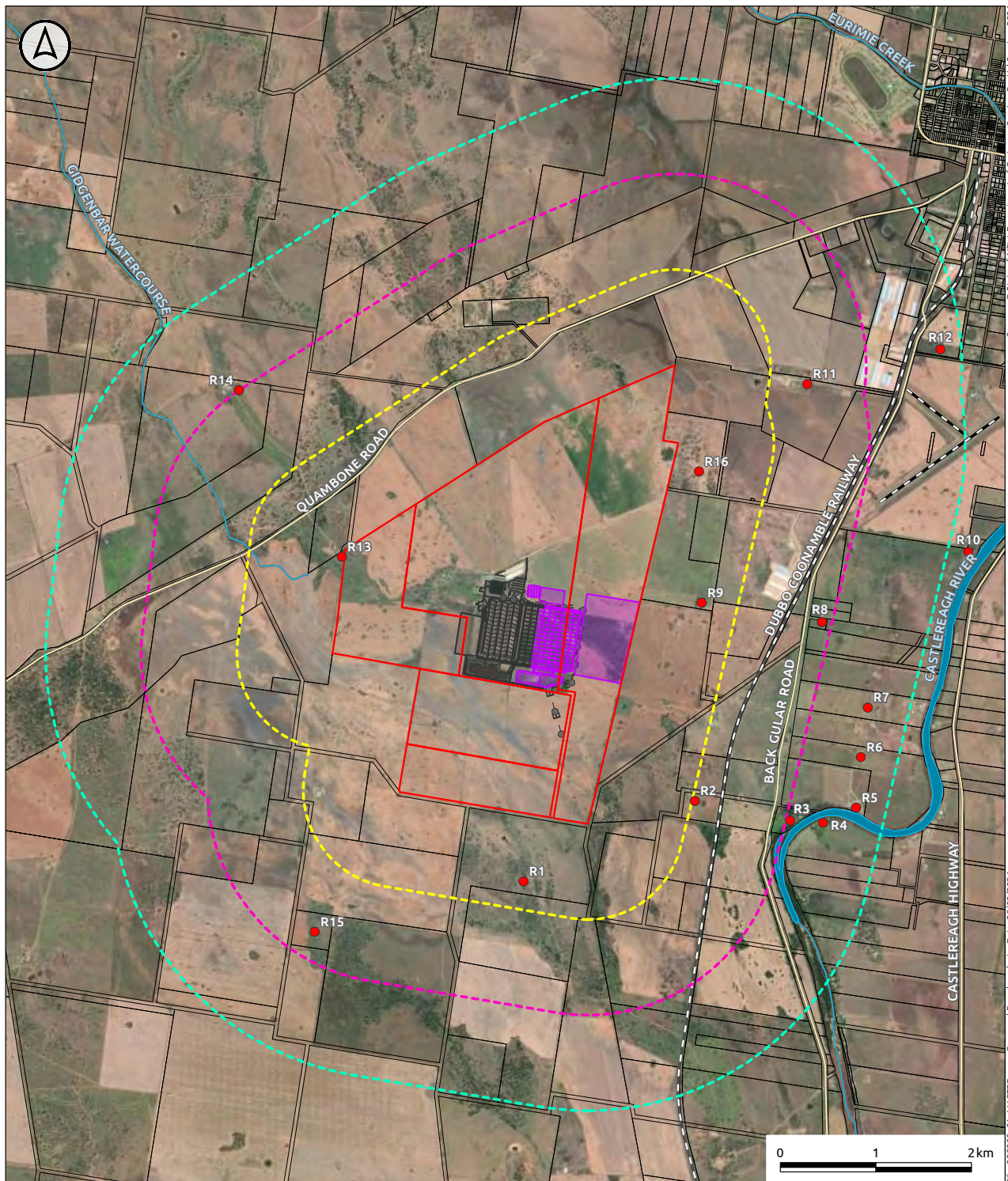


- Legend**
- Host Lot
 - Existing Development Footprint
 - Proposed Development Footprint
 - Lot
 - Major Road
 - Railway
 - Runway

- Major Water Body
 - Major Watercourse
- Groundwater Bores**
- ◆ General use
 - ◆ Stock
 - ◆ Stock/domestic
 - ◆ Stock, farming, domestic, industrial, commercial
 - ◇ Unknown



Figure 10



Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
ESRI 2024
File: 222230_01_MASTER.aprx Prepared By: adam.davie Date: 25/09/2024

- Legend**
- Host Lot
 - 1 km Buffer
 - 2 km Buffer
 - 3 km Buffer
 - Existing Development Footprint
 - Proposed Development Footprint
 - Lot
 - Major Road
 - Railway
 - Runway
 - Major Water Body
 - Major Watercourse
 - Receptors

Premise
MOONYA FEEDLOT
 Sensitive Receptors

Figure 11

3. PROJECT DESCRIPTION

3.1 General description

The proposed feedlot expansion seeks to increase the capacity of the existing Moonya Feedlot from 10,000 head to a capacity of 30,000 head.

The key elements of the proposed expansion include additional pens and a cattle handling facility.

Other ancillary components of the proposed expansion include a silage pits, flood levee, stock lanes and feed alleys, drains and ponds and vehicle access.

The proposed expansion also includes a manure management system to effectively manage the collection, treatment and reuse of the liquids, organic matter and nutrients contained in the manure from the feedlot. Manure includes both the liquid and solids fractions of manure (moist) and urine.

Fill required for the purpose of construction will be obtained from a borrow pit adjacent to the feedlot.

The proposed expansion has been designed in accordance with the requirements of the *National Guidelines for Beef Cattle Feedlots in Australia 3rd edition* (Meat and Livestock Australia Limited, 2012) (National Guidelines) and the *Beef cattle feedlots: design and construction* (Meat and Livestock Australia Limited, 2015) (Feedlot Design Manual).

Other relevant guidelines have been addressed within the technical reports prepared in association with the EIS.

The general layout of the proposed expansion is shown at **Figure 3** and **Appendix A**.

3.1.1 Pen layout and design

The production pens are the main animal housing unit for a cattle feedlot. Sound design ensures optimum animal performance, good animal welfare and high standards of environmental performance.

Pen layout and design have been informed by National Guidelines the Feedlot Design Manual.

Pen layout and design is discussed in further detail in Sections 3.1.1.1 - 3.1.1.6.

3.1.1.1 Pen dimensions

Pen dimensions are determined by the combination of stocking density, bunk length per head and pen capacity.

The proposed expansion includes a typical pen size of approximately 2,400m², allowing for a maximum stocking density of 15m².

The proposed expansion would typically operate with a maximum pen capacity of 168 head.



3.1.1.2 Stocking density

Stocking density has a significant influence on the environmental performance of a feedlot since it partly determines the average moisture content of the pad. Cattle add moisture to the pen surface by manure (faeces and urine) deposition.

The National Guidelines the Feedlot Design Manual identify that stocking density around 10m²/head is generally considered to be suitable in drier areas where annual rainfall is <500mm/year.

The proposed expansion would operate with a typical stocking density of 15m²/head, which is suitable for the climatic conditions of the region (i.e. annual rainfall is <500mm/year).

3.1.1.3 Pen Slope

Good pen drainage is essential to prevent odour problems and boggy pen conditions for the stock.

Pen slopes can range from 2.5% to 6%, but a gradient of 3–3.5% is considered optimal. Slopes under 3% do not drain well, particularly if there is a buildup of manure. Slopes over 4% can result in high rates of sediment removal during heavy storms particularly in deep pens or poorly cleaned pens, causing problems within the drainage system.

The slope chosen may depend on site topography. For flat sites where earthworks are required to artificially create slope, lower pen slopes (2.5–3%) are often chosen. For steeper slopes such as hillsides, the natural topography usually determines the pen slope. In both cases, the orientation of the rows of pens should ensure adequate drain slope (0.5–1.5%).

The proposed expansion incorporates a pen slope of 3%, consistent with the optimal pen slope range identified in the National Guidelines and Feedlot Design Manual.

The feed pens would be aligned to benefit from the existing slopes as much as possible. The current design allows for a pen longitudinal slope of 3% from the feed bunk to the effluent drain. A pen cross slope of 0.5% would also be provided to match the longitudinal slope of the effluent drains.

The 3% pen slope allows for effective water runoff and avoids wet spots. The slope also encourages a general movement of manure towards the bottom of the pens into the catch drains. The 0.5% cross slope allows water movement but minimises movement of materials across the pens. The design pen slopes would be maintained with a guided drag scraper.

Efficient movement of water from the pens increases the efficiency of the effluent management system and helps prevent water from leaching below the pen surface to the underlying soil profile.

3.1.1.4 Feed Bunks

Commercial feedlots use open feed bunks. They generally process their own feed and can feed-out more than once a day. All types of rations, including those moist or containing large amounts of coarsely chopped fibre, can be fed in troughs.

Feed bunks should always be located along the fence line, never within the pen, so that they can be filled during all weather conditions. They should be located along the higher end of the pen with drainage away from the bunk on both the feed road and pen sides. This minimises boggy conditions on the pen side of the bunk and keeps the feed road firm and accessible.

The length of a bunk depends on the number of cattle in the pen and the dimensions of the pen. Bunks usually run the entire length of the pen although some feedlots provide access gates in the top end of their pens. The type of feed ration (bulkiness), size of the cattle and desired feeding frequency must also be considered.

The proposed expansion includes continuous feed bunks for the full length of each row of pens. This will achieve the requirement for 250 mm to 300 mm per head of bunk space as set out in the National Guidelines and Feedlot Design Manual.

Feed bunks would be of solid concrete with vertical external faces and rounded internal corners for ease of cleaning. A three-metre-wide concrete apron would be provided behind the feed bunk for cattle to stand on while eating.

3.1.1.5 Water Troughs

Water troughs should allow cattle access to an adequate supply of good quality water for their survival, welfare and performance without causing negative environmental impacts for the feedlot.

The most suitable layout and dimensions of water troughs will be based on the volume of water per unit access length, the depth of trough, trough height, drainage point and position, side enclosure, float valve protection and on preventing cattle entering the troughs.

A minimum of 25 mm/head of linear trough space available should be provided during normal weather conditions and 75 mm/head during hot conditions.

Water troughs would be located on dividing fences between pens and be constructed of concrete with vertical external walls. Each trough would be centred on a concrete pad and contain a standpipe that would discharge excess water. The overflow system would be discharged via a pipe to the effluent drain.

3.1.1.6 Hospital Pens

Early detection and treatment of ill or injured cattle will optimise welfare and productivity and minimise mortalities. Returning treated animals straight back to production pens may increase the risk of cross infection.

A block of existing hospital pens, including a cattle crush, is located on the western side of the existing feedlot and at the end of each row. Hospital pens are isolated from production pens to enable diseased stock and effluent from those animals to be distanced from healthy cattle and thereby minimise the risk of spreading disease, as well as allowing staff to better monitor the sick animal's recovery.

The existing hospital pens and additional pens located on the western side of the existing feedlot will be allocated to serve as hospital pens as part of the proposed expansion. These pens provide access to existing treatment facilities that are adequate to support the proposed expansion.

3.1.2 Surface water and effluent management

3.1.3 Overview

A Controlled Drainage Area (CDA) is central to the design of beef cattle feedlots.

The CDA is a self-contained catchment surrounding those parts of the feedlot from which uncontrolled stormwater runoff would constitute an environmental hazard. The CDA is typically established using a series of:

- > Catch drains to capture runoff from the feedlot pens and all other surfaces within the feedlot complex and convey that runoff to a collection and disposal system.
- > Diversion banks or drains placed immediately upslope of the feedlot complex, designed to divert 'clean' or uncontaminated runoff around the feedlot complex.

The proposed expansion has been designed to incorporate a CDA and associated infrastructure to ensure that uncontrolled stormwater and liquid effluent is directed to sedimentation system and holding ponds.

Detailed design calculations for all infrastructure within the CDA are included within the Soil and Water Impact Assessment at **Appendix C**.

A summary of the key elements of the CDA are provided below.

3.1.4 Sedimentation Basins

Sedimentation systems are constructed to capture and detain rainfall runoff, allowing sediment to 'settle out' before the runoff enters the feedlot holding ponds.

The existing feedlot sedimentation basin has a volume of 4,100 m³. The approved rehabilitation pens sedimentation basin has a volume of 1,800 m³. The volume of the existing feedlot sedimentation basin and approved rehabilitation pen sedimentation basin exceed the volume required to cater for the peak flow rate from a design storm having an average recurrence interval (ARI) of 20 years (Geolyse, 2006 and Premise, 2023).

The proposed feedlot expansion includes two additional sedimentation basins:

- > One sedimentation basin to collect stormwater run-off from the proposed cattle handling facility; and
- > One sedimentation basin to collect water from the balance of the CDA.

The proposed sedimentation basins for the handling facility and balance of the CDA have modelled with maximum volumes of 1,700 m³ and of 5,500 m³, respectively. These volumes exceed the volume required to cater for the peak flow rate from a design storm having an ARI of 20 years.



Each sediment basin for the feedlot expansion would be constructed with compacted clay liners in accordance with the National Guidelines and Feedlot Design Manual.

The minimum depth recommended for the clay liner is 300 mm after compaction. This should assure clay liners to have a maximum permeability of 1×10^{-9} m/s.

3.1.5 Holding Ponds

Stormwater runoff from the controlled drainage area of a feedlot is normally characterised by high concentrations of organic matter.

Even though stormwater has passed through a sedimentation system, it typically contains substantial levels of organic matter, nutrients and salts. This runoff should not be allowed to flow uncontrolled into the external environment and should be captured by the holding pond(s).

An existing holding pond is located at the lower end of the CDA, immediately below the existing sediment pond. The existing feedlot holding pond has a volume of 180,000 m³.

The proposed feedlot expansion includes an additional holding pond with a total volume of 125,000 m³. The additional holding pond would be located to the immediate east of the existing holding pond.

The holding pond for the feedlot expansion would be constructed with compacted clay liners.

In accordance with the National Guidelines, the minimum depth recommended for the clay liner is 300 mm after compaction. This should assure clay liners to have a maximum permeability of 1×10^{-9} m/s.

3.1.6 Internal Access Road

Access to the site and the layout of internal road systems are critical to the efficient and safe functioning of the feedlot.

Access to the site includes the overall layout, infrastructure and facilities at the access point. These may include traffic access from the local road network and the proper level of access control for all personnel, visitors and traffic to the site.

The proposed internal access roads have been designed to ensure suitable vehicle access within the site.

3.1.7 Handling facility

A successful feedlot operation must be able to handle cattle properly to achieve maximum efficiencies, performance and safety while minimising stress on cattle.

Livestock handling facilities should be integrated into the overall feedlot site plan, and must be well designed, easily maintained and kept in good working order. Livestock handling facilities are necessary for:

- > Receiving and dispatching cattle;
- > Moving cattle for various reasons – drafting, weighing, pen cleaning, pen maintenance;
- > Performing routine health and management procedures; and

- > Properly managing and restraining cattle for close observation.

Handling facilities include holding pens, alleys from pens to working areas, forcing pens, races, restraining equipment, drafting pens, electronic recording equipment, catwalks, amenities and loading ramps.

The proposed feedlot expansion includes a new handling facility to be located to the immediate north of the feedlot expansion.

3.2 Construction

3.2.1 Temporary Erosion and Sediment Control

Earthworks would be the major construction activity.

The existing topography has been utilised to take advantage in the design to ensure landforming requirements are kept to a minimum.

Best soil conservation practice would be utilised throughout construction of the development to minimise the risk of erosion and transportation of sediment in runoff water. The erosion and sediment control principles to be adopted would include:

- > Minimise disturbance:
 - Disturbance will be no further than 5 m from the edge of any essential engineering activity; and
 - Access areas will be limited to a maximum width of 10 m.
- > Stockpiling and soil management: construction work does not require any stockpiling as the earth excavated for the proposed sedimentation basin and holding pond is being used for the feedlot expansion construction. If any stockpiling is to be necessary, stockpiles will:
 - Be at least 2 m from roads, channelised flows and vegetation;
 - Be covered or at least 60% vegetated within 10 days; and
 - Have earth bank installed upslope and sediment fence downslope.
- > Water and drainage
 - Clean water will be accordingly diverted outside of the feedlot expansion construction area; and
 - Dirty water will be collected by the proposed sedimentation basin and proposed holding pond as the earth for the construction of the feedlot expansion is being excavated from these two areas.
- > Dust control:
 - Ground surface within and around the construction area will be regularly moistened to effectively minimize dust emissions using water trucks and/or sprinkler systems.
- > Sedimentation fences shall be installed downstream of the construction area in accordance with Standards drawing SD 6-8 -Sediment fence of the blue book.
- > Control measure inspections will be conducted one week before and after a rain event. During these inspections, all controls will be inspected, cleaned, and repaired as required.



3.2.2 Pen foundation

The design, construction and maintenance of pen and road surfaces are important for their long-term performance. Pen surfacing has a large impact on sustainability, environmental outcomes and long-term maintenance costs.

Earthworks would be undertaken to produce a smooth, uniform pen gradient which is durable under the constant loading of cattle hooves. The fundamental principles for construction of the pen foundation are outlined below:

- > Withstand the bearing weight of cattle and pen cleaning equipment;
- > Be durable and resist damage from cattle pawing and licking;
- > Be durable and resist damage from feed delivery vehicles;
- > Have a long life;
- > Require low maintenance;
- > Be easy to clean;
- > Withstand the anticipated traffic loads and frequencies;
- > Allow adequate drainage; and
- > Prevent or minimise adverse impacts on groundwater and surface waters.

Final details for the proposed production pens will be determined during detailed engineering design. The detailed engineering design will be generally consistent with the requirements of the National Guidelines.

3.2.3 Cattle lanes / drains

The combined cattle lanes/drains would be shaped during the earthworks stage. They would be finished with a compacted gravel layer to resist erosion and to enable all weather access for cattle and machinery movement.

Final details for the proposed cattle lanes and drains will be determined during detailed engineering design. The detailed engineering design will be generally consistent with the requirements of the National Guidelines.

3.2.4 Water management structures

Topsoil overlying the proposed sedimentation basin and holding pond sites would be stripped and stockpiled for later re-spreading over pond embankment batters and disturbed areas.

Excavation of the ponds would be carried out and suitable material set aside for lining of the ponds. Any unsuitable material uncovered during the excavation (i.e. gravels and sands) would be removed.

Clay lining material would be applied in compacted layers not exceeding 150 millimetres and compacted to achieve a density of 95% of the standard maximum dry density.

The holding pond would include a 600 millimetre compacted clay liner.

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ENVIRONMENTAL IMPACT STATEMENT

Soil testing indicates that the on-site clay material can be compacted to achieve maximum permeability of less than 1×10^{-9} m/s.

3.3 Operation and management

3.3.1 Administration and management

The expanded feedlot would employ 40 full time employees.

The Feedlot Manager would be responsible for overall day to day management of feedlot and farming operations in conjunction with the company agronomist.

3.3.2 Operating Hours

Normal hours of feedlot operation would be between 6.00am and 7.00pm seven days per week, fifty two weeks per year.

Feeding activities would typically occur between 6.00am to 10.00am while cattle receipt, dispatch and other general activities (i.e. pen cleaning, maintenance) would occur throughout the day.

Cattle may be despatched early in the mornings or late in the evening on some occasions.

3.3.3 Cattle management

Cattle would be sourced from cattle producers within 200km of Coonamble, NSW.

Three or four commission buyers would be used to supply cattle for the feedlot from Queensland, New South Wales, Victoria and South Australia when additional supply is required.

At 30,000 head capacity approximately 91,000 feeder cattle would be required to supply the feedlot each year. Cattle would be grain fed and finished to comply with requirements for the export market. Typically, this would involve receiving cattle at approximately 440 kilograms, feeding them on an appropriate regime for 120 days and despatching them at 710 kilograms.

Cattle received into the facility would initially be weighed, entered into the record system, treated for internal and external parasites and disease, given a vitamin supplement, drafted and placed on a starter ration.

Starter rations would normally comprise highly palatable roughage such as hay and would be replaced over several weeks with rations that increase incrementally in energy component culminating in a feed ration that has a high energy concentration.

Typically, this would comprise approximately around 13 kilograms dry matter per head per day, of which 70% would be grain, 24% roughage and 6% supplements.

Cattle would be inspected daily and poorly performing, injured or unhealthy animals moved to the hospital pens for treatment.

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On completion of the finishing regime, stock would be drafted off, weighed and moved to the handling facility for dispatch. Cattle movement would be carried out quietly and efficiently by experienced stockmen.

3.3.4 Cattle welfare

The existing Moonya Feedlot is accredited under the National Feedlot Accreditation Scheme (NFAS).

The NFAS is an independently audited quality assurance program for the Australian lot feeding industry that was initiated by the Australian Lot Feeders Association (ALFA). The ALFA is the peak national body for the Australian cattle feedlot industry.

The NFAS is operated by AUS-MEAT. AUS-MEAT is Australia's leading provider of agribusiness auditing, certification and training services. AUS-MEAT is a non-for-profit organisation, serving every Australian State and Territory and New Zealand.

Critically, the NFAS Accreditation Standards for animal welfare require that appropriate procedures have been implemented to address animal welfare at the feedlot in accordance with the *Australian Animal Welfare Standards & Guidelines for Cattle, Edition 1* (Animal Health Australia, 2016).

The proposed expansion of the Moonya Feedlot will continue to be operated in accordance with the requirements of the NFAS Accreditation Standards for animal welfare.

3.3.5 Feed and water supply

3.3.5.1 Feed supply

Grain and roughage would be primarily sourced from the local region. It is expected that crops grown within a 200km radius of the site and would supply about 80 percent of the required grain and roughage, with the remaining 20 percent sourced from within a 500km radius.

Feed additives would be supplied by Riverina Stockfeed NSW. On receipt of feed into the feedlot all produce would be weighed, sampled and tested for quality control and to maintain traceability standards.

Silage would form a large component of the feed supply. Chopped fodder would be transported to silage pits located to the north of the feedlot (refer to **Figure 1** and **Appendix A**). Silage would be compacted using loaders and covered with plastic weighed down with tyres and earth.

The silage pits would remain covered to minimise odour generation. Only the active face (i.e. where silage is being removed) would be exposed at any one time.

3.3.5.2 Water supply

Based on feedlot water drinking data between 2022 and 2024, the proposed expansion would generate a requirement for around 765 ML of water per year for drinking water.

The site currently has a Bore Extraction Limit (BEL) of 850 ML/year and Water Extraction Limit (WAL) of 1,003 ML. Accordingly, the feedlot will have sufficient water to support 30,000 head of cattle, as well as provide for:

- > Dust suppression;
- > Feed processing;
- > Cattle wash down;
- > General cleaning; and
- > Staff and office amenities.

3.3.6 Pen maintenance

Pens would be managed to maintain a smooth, hard and uniform interfacial layer of manure and clay at least 20 millimetres deep. This would provide a biological seal and reduce water infiltration and the movement of nutrients and salts into the subsoil.

As manure accumulates in the pens, the surface would be scraped using a guided scraper and pushed into mounds in the centre of the pen. Mounding facilitates initial drying and decomposition of the manure, which reduces the amount of manure requiring removal and associated costs. Manure would be removed from the pens at least every two months.

While manure harvesting would be carried out at least every two months, routine cleaning involving the removal of feed and manure from around feed bunks and fences would undertaken more frequently. This would minimise odour generation and maintain cattle welfare and performance.

Concrete areas within the pens would also be cleaned frequently as required.

Monitoring of the pen surface would be included as part of the overall monitoring program for the feedlot to ensure effective drainage is maintained. Any areas of pens that become worn and hollowed would be promptly filled and compacted to restore a smooth hard and uniform surface thereby promoting runoff and minimising infiltration.

3.3.7 Waste management

3.3.7.1 Overview

The feedlot would produce two main waste streams, effluent and manure.

Application of effluent and manure to areas growing crop or pasture is regarded as the most efficient and beneficial means of utilising the valuable water, nutrient and organic components of feedlot by-products. This is consistent with the principles of the integrated waste management hierarchy (i.e. avoidance, recycling, waste to energy, treatment and disposal) which lists recycling as the second most desirable management option.

A Manure Management Plan (MMP) is contained within the Soil and Water Impact Assessment (**Appendix C**). The MMP is based around the land application of the effluent and manure on areas growing crop or pasture.

Monitoring is a key component of the MMP. It would be used to identify any departure from the plan and would provide data for modifying the waste management plan if required.

A summary of the MMP is provided in the following sections.

3.3.7.2 Effluent

Liquid effluent would be irrigated across a 45 ha irrigation area located to the immediate east of the proposed feedlot expansion. This 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 140.4 megalitres (ML)/year would be irrigated which equates to a hydraulic load of 3.12 ML/ha/year across the 45 ha irrigation area.

A typical cropping program within irrigation area would include rotations of lucerne and double cropping with winter and summer crops. The following nutrient balances (Table 2 and Table 3) are based on five years cropping program consisting of four years of lucerne and one year of barley and sorghum.

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.

A five-year cropping program (four years lucerne and one year of barley and sorghum) is designed to reduce the nutrient concentration within the irrigation soil by absorbing these nutrients.

Table 2 – Cropping program yield and nutrient uptake

Crop	Years	Yield (t/ha/year)	Nitrogen % (kg/ha/year)	Phosphorus % (kg/ha/year)
Lucerne	4	15	3.5%	0.4%
			525	60
Barley	0.5	7.5	1.8%	0.4%
			135	30
Sorghum	0.5	12	1.8%	0.3
			216	36
Barley + Sorghum	1	19.5	351	66



Crop	Years	Yield (t/ha/year)	Nitrogen % (kg/ha/year)	Phosphorus % (kg/ha/year)
Cropping program	5	15.9	490	61
80% yield factor	5	12.7	392	49

Table 3 – Effluent utilisation area nutrient balance

Parameter	Units	Nitrogen	Phosphorus
Effluent applied	ML/ha/year	3.12	3.12
Nutrient content	mg/L	150	40
Irrigated effluent available for plant uptake	kg/ha/year	374	125
Total crop removal	kg/ha/year	392	49
Balance	kg/ha/year	-18	76

Soil within the proposed irrigation area has an average phosphorus sorption capacity of 4300 kg/ha. The slight phosphorus excess could accumulate in the soil profile for around 57 years before some phosphorus movement through the soil profile may occur. Nitrogen deficit could be compensated by manure and/or fertiliser application.

Management of the effluent irrigation includes:

- > A 10 m buffer maintained between the effluent irrigation area and property boundary;
- > Testing of the effluent before application;
- > Recording of the effluent volumes applied to the irrigation area;
- > Soil testing and monitoring to monitor nutrient loads on effluent irrigation area as per licence point M2.2 - Water and /or Land Monitoring requirements; and
- > Odour complaints recording in the facility complaints register.

3.3.7.3 SOLID WASTES

Manure would be collected from the pen surface through regular pen cleaning. Collected manure would be stockpiled before being used across farming land on within the site and/or sold offsite.

The total volume of manure generated by the proposed expansion is based on:

- > 30,000 head with an average weight of 568 kg;
- > An occupancy rate of 90%; and



- > A harvested yield of manure from feedlots that retain an interface layer of 0.42 tonne (t) Total Solids (TS)/Standard Cattle Unit (SCU)/year (*Beef cattle feedlots: waste management and utilisation, 2015*)
- > The total volume of manure generated by the proposed expansion is summarised in **Table 4**.

Table 4 – Manure harvesting

Parameter	Units	Value
Cattle	head	30,000
Cattle	SCU	28,400
Cattle (90% occupancy rate)	SCU	25,560
Harvested yield of manure from feedlots that retain the interface layer	t TS/SCU/year	0.42
Total harvested manure from feedlot	t/year	10,735

Based on an area of 780 ha, 2,391 tonnes of manure would be spread on site with a further 8,344 tonnes of manure to be exported in order to achieve a yearly balance for nitrogen and phosphorus (**Table 5** and **Table 6**).

Table 5 – Area requirements for solids spreading

Parameter	Units		Nitrogen		Phosphorus	
Nutrient recovery	%	t/year	2.18*	214.2	0.8*	78.6
Nutrient remove by winter cereal	kg/ha/year		160		24	
Area required for nutrient spreading	ha		1,463		3,578	
*Typical composition of Australian feedlot aged (stockpiled) manure - Beef cattle feedlots: waste management and utilisation (Meat & Livestock Australia, 2015);						

Table 6 – Manure utilisation

Compost use	%	Tonnes/year
Compost reuse at the facility (780 ha)	22	2,391
Compost for exportation	78	8,344

The proposed solid waste disposal area is shown in the detailed project drawings at **Appendix A**.

3.3.7.4 Cattle Mortality

An existing carcass disposal pit is located to the west of the feedlot.

When required, cattle are removed immediately and placed in the burial pit and covered with dirt.



3.3.8 Environmental Management Plan

A key strategy for minimising potential impacts associated with the proposed development is the implementation of, and adherence to, a comprehensive system for environmental management. This system would be documented within an updated Environmental Management Plan (EMP).

The updated EMP would provide a framework for managing and mitigating all potential adverse environmental impacts. It would also provide a mechanism for ensuring EPA licence conditions are met.

The EMP would outline specific strategies, procedures and responsibilities for:

- > Waste management;
- > Pen management;
- > Air quality management;
- > Carcass disposal;
- > Environmental monitoring;
- > Incident and complaint reporting; and
- > Environmental reporting.

The environmental monitoring component of the EMP would include the following:

- > Meteorology;
- > Effluent – quality and quantity;
- > Manure – quality and quantity;
- > Soils – effluent irrigation area and general agronomic monitoring;
- > Groundwater; and
- > Agronomy.

The environmental monitoring would be used to identify at an early stage any impacts from the feedlot's operation and would be used as the basis to adjust aspects of the operation if required.

The Monitoring Plan for the proposed feedlot is included in **Appendix C**.



4. STRATEGIC CONTEXT

This section identifies key strategic considerations that are of relevance to the assessment of the project.

4.1 Justification of the project

The NSW Government *Agriculture Industry Action Plan – Primed for growth, Investing locally, connecting globally* (DPI, 2014) recognises that the NSW primary industries sector contributes \$12 billion each year to the NSW economy, underpinning the economic, social and cultural fabric of many rural and regional communities making a substantial contribution to the State.

In 2017, the *Regional feedlot investment study* (Meat and Livestock Australia (MLA), 2017) identified that the feedlot industry made a direct and indirect contribution of \$1.2 billion to the NSW economy alone.

At a national scale, the Australian Government Department of Agriculture, Fisheries and Forestry (ABARES) identifies that feedlots are an integral component of Australia's cattle production pipeline. While feedlots have historically played a role in 'drought proofing' Australia's beef industry, ABARES identifies that feedlots continue to help Australia to provide a consistent supply of beef to both domestic and export markets, as well as an option for farmers to 'finish' cattle that may not otherwise meet processor specifications.

Further, ABARES states that the ability for feedlots to maintain a consistent cattle turn-off despite changes in seasonal conditions is beneficial to Australia's beef production system as it provides Australia, and major trading partners, with a more consistent supply of beef products.

ABARES notes that during drier years when herd destocking is occurring, feedlots ensure that Australia continues to be able to service beef demand from our key export markets. As such, feedlots play an important role in Australian cattle production.

The following sections identify regional and local strategies and policies and plans and how they are relevant to the proposed expansion.

4.2 Regional strategic context

The *Central West and Orange Regional Plan 2041* (DPE, 2022) (the Regional Plan) sets out a 20-year land use strategic framework for the Central West and Orana region, to ensure the region's ongoing prosperity. The Central West and Orana region includes the local government areas (LGAs) of Bathurst, Blayney, Bogan, Cabonne, Coonamble, Cowra, Dubbo, Forbes, Gilgandra, Lachlan, Lithgow, Mid-Western, Narromine, Oberon, Orange, Parkes, Warren, Warrumbungle and Weddin.

The Regional Plan highlights that agriculture is a traditional economic anchor of the Central West and Orana region, with agricultural production supporting an extensive value chain including major livestock centres in Dubbo, Forbes and Blayney, transport, logistics and inter-modal transport hubs, cotton gins, canneries, packing and processing.

The Regional Plan identifies that the main regional agricultural commodities have shown sustained growth in terms of value of production, with the agriculture industry estimated to produce \$2.4 billion of agricultural commodities annually, including \$1.3 billion from wine, beef, wool, vegetables, cotton, wheat, fruit and timber. This represents 18% of all agricultural production in NSW annually.

Further, agriculture is identified as a significant employer across all parts of the region with over 12,000 people directly employed in primary production with significant flow on effects for the regional and local economy.

Objective 19 of the Regional Plan specifically seeks to protect agricultural values and promote agricultural innovation, sustainability and value-add opportunities, with strategies including:

- > Identify and enable emerging opportunities for higher-value agriculture, including agriculture innovation and value-add opportunities such as on-farm processing that includes provisions for intensification of industry, farm gate sales and small-scale value adding manufacturing that advantages the differentiation of the local produce;
- > Protect agricultural land and industries from land use conflicts and fragmentation;
- > Maintain and protect agricultural land and industries from land use conflicts and fragmentation, especially those lands identified as Class 1-3 using the NSW land and capability mapping, biophysical strategic agricultural land, those currently developed for irrigation, or other special use lands that support specialised agricultural industries;
- > Enable freight and logistics networks, precincts and intermodal hubs to grow and adapt to changing needs; and
- > Support sustainable and efficient use of water by agricultural industries.
- > The Regional Plan identifies that strategic and local planning should maintain and protect the productive capacity of agricultural land in the region.

4.3 Local strategic context

The Coonamble Local Strategic Planning Statement (LSPS) (Coonamble Shire Council 2020) sets the framework for Coonamble Shire's economic, social and environmental land use needs over the next 20 years. It outlines clear planning priorities describing what will be needed, where these are located and when they will be delivered.

The LSPS identifies that Coonamble relies heavily on agricultural income and rural industries, with agriculture being the top employer.

Notably, the LSPS does not include any priorities which directly seek to promote and encourage agriculture and rural industries. Notwithstanding, it is clear that the Coonamble Shire values the productive agricultural landscape and seeks to prevent fragmentation and land use conflict.

5. STATUTORY CONTEXT

5.1 Overview

The statutory context of the proposed development is grounded in the *Environmental Planning and Assessment Act 1979* the *Environmental Planning and Assessment Regulations 2021* and the associated planning framework, including:

- > Coonamble Local Environmental Plan 2011 (Coonamble LEP);
- > State Environmental Planning Policy (Transport and Infrastructure) 2021;
- > State Environmental Planning Policy (Primary Production) 2021; and
- > State Environmental Planning Policy (Resilience and Hazards) 2021.

The key statutory requirements and preconditions to development consent are identified in **Table 7** and **Table 8**, respectively.

The applicable planning framework is otherwise addressed in **Section 5.3**, with references to additional detailed information provided in **Section 6**, where relevant.

Table 7 – Statutory Requirements

Statutory requirement	Comment
Power to grant approval	<p>The proposed development is characterised as designated development pursuant to schedule 3, s 2.7 of the Regulation as it accommodates more than 1,000 head of cattle in a confined area.</p> <p>While designated development, the proposed development does not exceed the threshold of Regionally Significant Development (RSD) or State Significant Development (SSD).</p> <p>The Determining Authority for the proposed development is the Coonamble Shire Council.</p>
Permissibility	<p>The proposed development is permitted with consent in the Zone RU1 Primary Production by reference to s 2.3 of the Coonamble LEP.</p>
Integrated development / Other approvals	<p>N/A</p> <p>Note: approval is not required pursuant to the <i>Protection of the Environment Operations Act 1997</i> or the <i>Water Management Act 2000</i> as the existing Moonya Feedlot is subject to EPL 12467 and WAL Licence 15726. Notwithstanding, the proposed development may trigger a variation to each of the foregoing licences only.</p>



Statutory requirement	Comment
Pre-conditions to exercising the power to grant approval	<p>Pre-conditions to approval include consideration of the following:</p> <p>Consideration as to whether the project site is suitable in its contaminated state – or will be suitable, after remediation – for the purpose for which the development is proposed to be carried out;</p> <p>Consideration as to whether the project represents potentially hazardous or offensive development.</p> <p>Consideration of impacts associated with a frontage to a classified road.</p> <p>Impacts associated with carrying out earthworks.</p> <p>Pre-conditions to the exercise of power to grant approval are addressed in Table 8.</p>
Mandatory matters for consideration	<p>Pursuant to Section 1.7 of the EP&A Act, the <i>Biodiversity Conservation Act 2016</i> (the BC Act) is a mandatory matter for consideration.</p> <p>A Biodiversity Assessment Report has been prepared to assess the potential impact of the proposed development in accordance with the requirements of the BC Act.</p> <p>A Biodiversity Assessment Report (BAR) (Ecology Consulting, 2024) is provided at Appendix D.</p> <p>A summary of the BAR is provided at Section 6.8.</p>



Statutory requirement	Comment
Mandatory matters for consideration	<p>Pursuant to Section 4.15 of the EP&A Act, the consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:</p> <ul style="list-style-type: none"> • The provisions of: • any environmental planning instrument, • any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority, • any development control plan, • any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4 • the regulations • The likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality. • The suitability of the site for the development. • The public interest. <p>Section 4.15 of the EP&A Act is addressed throughout the body of the EIS.</p>

5.2 Pre-conditions to approval

Pre-conditions to approval are addressed in Table 8.

Table 8 – Pre-conditions of approval

Statutory reference	Pre-condition	Section of the EIS
State Environmental Planning Policy (Resilience and Hazards)	Section 4.6 Contamination and remediation to be considered in determining development application.	<p>Development consent is sought to expand an existing land use only.</p> <p>As the proposed expansion will occur within an area historically used for broadscale agriculture Council can be satisfied that the site is not contaminated and remediation is not required.</p> <p>Contamination is addressed further in the Soil and Water Assessment provided at Appendix C.</p>



Statutory reference	Pre-condition	Section of the EIS
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Chapter 2 Vegetation in non-rural areas.	A BAR has been provided at Appendix D . In summary, the Biodiversity Assessment Report identifies that the vegetation within the majority of the study area was seen to be highly disturbed and modified, as well as being largely exotic in composition due to its agricultural use and regular cropping.
	Chapter 4 Koala habitat protection 2021.	A BAR has been provided at Appendix D . In summary, the BAR identifies that Koalas are highly mobile may use the study area in transit between areas of higher quality however the extent of fragmentation, regular disturbance and historical modification indicates a low likelihood Koala would utilise the site.
State Environmental Planning Policy (Transport and Infrastructure) 2021	Section 2.48 – Determination of development applications – other development	The proposed development will be located immediately adjacent to an easement for electricity purposes. Council must give written notice to Essential Energy, inviting comments about potential safety risks. Council must take into consideration any response to the notice that is received within 21 days after the notice is given.
	Section 2.119 Development with frontage to a classified road	A TIA is provided at Appendix E and is summarised at Section 6.6 .
State Environmental Planning Policy (Primary Production) 2021	Schedule 4, section 4 Intensive livestock agriculture	Schedule 4, section 4 is consistent with Clause 5.18 of the Coonamble LEP. Clause 5.18 of the Coonamble LEP is addressed in Section 5.3.4.



Statutory reference	Pre-condition	Section of the EIS
Coonamble LEP 2011	The Coonamble LEP sets out the environmental planning provisions applicable to the Coonamble LGA and is administered by Coonamble Shire Council.	<ul style="list-style-type: none"> Provisions of the Coonamble LEP not otherwise addressed in this table are addressed in Section 5.3.1.

5.3 Other Environmental Planning Instruments

5.3.1 Coonamble Local Environmental Plan 2011

Section 1.2 sets out the particular aims of the Coonamble LEP 2011 (CLEP 2011).

- > By reference to the assessment within this EIS, the proposed expansion is not antipathetic to the aims and objectives of the Coonamble LEP, and the RU1 zone specifically, and provides adequate consideration of relevant pre-conditions to approval to demonstrate that the development can be achieved without resulting in significant or detrimental impacts to the locality or region.
- > Taken in the round, the assessment confirms that the range of impacts are acceptable, and any residual impacts are adequately managed via recommended mitigation measures.

5.3.2 Zone Objectives

The site is located within the RU1 Primary Production zone under the CLEP 2011.

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 expansion does not change the purpose of the development from a feedlot. The proposed expansion is permitted within the RU1 Primary Production zone.

Further, the proposed expansion is considered to be consistent with the objectives of the RU1 Primary Production zone under the CLEP.

5.3.3 Minimum Subdivision Lot Size

Clause 4.1(3) 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 1,000 hectares.

The proposed development does not include subdivision. No further consideration of Clause 4.1(3) of the CLEP is required.



5.3.4 Intensive Livestock Agriculture

Clause 5.18 seeks to ensure appropriate environmental assessment of development for the purpose of intensive livestock agriculture.

Clause 5.18 identifies that the following matters (**Table 9**) must be taken into consideration before determining whether to grant development consent for purpose of intensive livestock agriculture.

Table 9 – 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,	This EIS provides a detailed description of the proposed expansion, compatibility with the applicable environmental planning framework and the potential environmental impacts. It is considered that the information provided is adequate to allow Council to undertake an informed assessment of the proposed development.
(b)	the potential for odours to adversely impact on the amenity of residences or other land uses within the vicinity of the site,	An OIA is provided at Appendix F and is summarised at Section 6.1 .
(c)	the potential for the pollution of surface water and ground water,	The potential for pollution of surface water and ground water is addressed in the SWIA at Appendix C and summarised at Section 6.4 .



Provisions:			Comment:
	(d)	the potential for the degradation of soils,	The potential for the degradation of soils is addressed in the SWIA at Appendix C and summarised at Section 6.2 .
	(e)	the measures proposed to mitigate any potential adverse impacts,	Mitigation measures are contained within the SWIA at Appendix C and form part of the consolidated list of mitigation measures.
	(f)	the suitability of the site in the circumstances,	The suitability of site is addressed in detail at Section 6.
	(g)	whether the applicant has indicated an intention to comply with relevant industry codes of practice for the health and welfare of animals,	Relevant industry codes of practice for the health and welfare of animals are to be maintained in accordance with current arrangements, including the <i>Australian Animal Welfare Standards and Guidelines for Cattle</i> (Animal Health Australia, 2014).
	(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.	There are no guidelines for the establishment and operation of a cattle feedlot published by the Department of Primary Industries.
(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	N/A
	(b)	the consent authority is satisfied that the development will not be located—	



Provisions:			Comment:
	(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,	N/A
	(b)	a goat feedlot having a capacity to accommodate fewer than 200 goats,	
	(c)	a sheep feedlot having a capacity to accommodate fewer than 200 sheep,	
	(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),	
	(e)	a dairy (restricted) having a capacity to accommodate fewer than 50 dairy cows,	
	(f)	a poultry farm having a capacity to accommodate fewer than 1,000 birds for meat or egg production (or both).	
(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.



5.3.5 Flood Planning

Clause 5.21 seeks to minimise the flood risk to life and property associated with the use of land, allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change, avoid adverse or cumulative impacts on flood behaviour and the environment and enable the safe occupation and efficient evacuation of people in the event of a flood.

Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—

- a. is compatible with the flood function and behaviour on the land, and
- b. will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and
- c. will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and
- d. incorporates appropriate measures to manage risk to life in the event of a flood, and
- e. will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.

In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—

- a. the impact of the development on projected changes to flood behaviour as a result of climate change,
- b. the intended design and scale of buildings resulting from the development,
- c. whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,
- d. the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.

A Flood Impact Assessment (FIA) (Premise, 2024) is provided at **Appendix J**.

In summary, the FIA identifies that the proposed feedlot expansion (and existing feedlot) can be protected from 1% AEP flooding by raising the existing levee.

Further, the FIA identifies the following:

- > The mitigated scenario (i.e. raising and extending the feedlot levee), shows an average afflux of 0.032 m, mainly within the development lot boundaries. Offsite changes show an average afflux of 0.02 (20 mm) and maximum afflux of 0.09 m (90 mm).
- > 1% AEP flood levels to the north-west of the development, and across Quambone Road, are reduced by 0.025 to 0.05 m (25 mm to 50 mm).



- > Increases in peak flood velocity are limited to less than 0.25 m/s around the south-western corner of the levee with some very minor changes of less than 0.05 m/s observed offsite. Peak flood velocity is shown to reduce in areas upstream of the feedlot levee and to the north-west across Quambone Road.
- > There would be negligible change in flood patterns at the nearest offsite residence south of the feedlot (flood depth change of 6 mm, no change in velocity and no change in flood hazard).

Based on these outcomes, it is considered that the proposed expansion is compatible with the flood function of the land and that it will not adversely affect flood behaviour, the safe occupation of the feedlot or the environment.

5.3.6 Terrestrial Biodiversity

Under clause 6.1(3) of the CLEP 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:

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

The proposed development does not require the removal of any vegetation within land shown as Biodiversity on the Terrestrial Biodiversity Map.

Notwithstanding, a Biodiversity Assessment Report has been provided at **Appendix D**. The Biodiversity Assessment Report identifies that the vegetation within the majority of the study area was seen to be highly disturbed and modified, as well as being largely exotic in composition due to its agricultural use and regular cropping.

5.3.7 Groundwater Vulnerability

Under clause 6.4(3) of the CLEP 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:

- a. 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
- b. 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 CLEP 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—



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

The potential for pollution of surface water and ground water is addressed in the SWIA at **Appendix C**.

In summary, the SWIA identifies that the proposed development is unlikely to have a detrimental impact on groundwater, subject to the implementation of appropriate mitigation measures.

5.3.8 Earthworks

Clause 6.7(2) of the CLEP 2011 provides that development consent is required for earthworks unless the works are exempt under the CLLEP 2011 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 10**.

Table 10 – Earthworks Considerations

Consideration	Comments	Compliance
(a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality,	Based on the design of the expansion, it is considered unlikely to have any detrimental impact on drainage patterns and soil stability within the broader locality. 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. Once constructed, drains and bunds associated with the proposed expansion will ensure that clean surface water is directed around the feedlot, while surface water captured within the feedlot will be directed to the existing and proposed sediment and effluent ponds.	✓
(b) the effect of the proposed development on the likely future use	Given the nature of the proposed expansion, the site is unlikely to be used for any other purposes in the short, medium or long term.	✓



Consideration	Comments	Compliance
or redevelopment of the land,	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.	
(c) the quality of the fill or the soil to be excavated, or both,	All fill required for the construction of the proposed expansion 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. Given the existing and historic use of the land, it is considered that the quality of all fill is suitable.	✓
(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 expansion is unlikely to have a detrimental impact the amenity of the adjoining properties.	✓
(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,	An AHDDA is provided at Appendix H and is summarised at Section 6.10 . Based on the AHDDA there is a low likelihood of the proposed expansion disturbing relics.	✓
(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.	✓



6. ASSESSMENT AND MITIGATION OF IMPACTS

6.1 Air quality

6.1.1 Introduction

An OIA (Assured Environmental, 2024) is provided at **Appendix F**.

The OIA has been prepared to assess the potential odour impacts relating to the proposed expansion of the feedlot capacity from 10,000 to 30,000 head, including impacts during construction works.

The OIA has been prepared in accordance with the SEARs and the Technical Framework - Assessment and management of odour from stationary sources in NSW, Sydney (DECC, 2006a).

For the purpose of the OIA, meteorological modelling has been undertaken using TAPM (The Air Pollution Model) and CALMET to predict localised meteorological conditions. The meteorological data derived from these models have been used as an input for the CALPUFF dispersion modelling.

6.1.2 Existing environment

The OIA includes a review of land uses within the surrounding area. Land use in the surrounding area is classified as rural, with 16 residential dwellings within 3.5 km of the proposed feedlot expansion.

The OIA identifies that there are no other sources of odour in the surrounding area which are considered cumulative to the existing feedlot operations.

The OIA identifies the following elements of the environment relevant to dispersion modelling:

- > Topographic data from NASA's Shuttle Radar Topography Mission 1 (STRM 1) illustrates that the existing feedlot is located on the northwestern side of a hill. A review of the wind roses shows that the northwest is the leeward side of the hill;
- > Long-term climatic conditions show that January is the hottest month, while July is the coldest month. Rainfall peaks in the at the start and end of the year and is at its lowest during winter months; and
- > Humidity levels exhibit variability over the day and seasonal fluctuations. Wind speeds during the warmer months are higher compared to the colder months.

6.1.3 Assessed impacts

6.1.3.1 Construction emissions

The OIA identifies that emissions of dust particulates to air can occur during the preparation of the land (e.g. demolition, land clearing, and earth moving), and during construction. Emissions can vary substantially from day to day, depending on the level of activity, the specific operations being undertaken, and the weather conditions.

The OIA notes that the *Guidance on the Assessment of Dust from Demolition and Construction* published by the Institute of Air Quality Management in the United Kingdom (IAQM 2014) provides a screening assessment to determine the need for a detailed assessment. The guideline states that an assessment is not normally required if there is not a 'human receptor' within 350 m of the boundary of the construction site.

As there are no receptors within 350 m of the construction activities, a detailed assessment of construction emissions was not undertaken.

6.1.3.2 Operational emissions

The OIA states that odour emission rates have been estimated using design plans for the proposed expansion. The key odour sources include:

- > Pens;
- > Holding ponds;
- > Sedimentation basins; and
- > Manure stockpiles.

Odour emission rates for each source of odour were derived using their respective dimensions taken from the design plans and using the methodologies detailed in the Meat and Livestock Australia (MLA) report *Development of an odour emissions model for Australian feedlots. Part F: Emissions estimation and model application*.

MEDLI modelling and outputs were completed by Premise using MEDLI version 2 in April 2024. For the purposes of this assessment, the data for 2017 was used in the analysis to allow contemporaneous assessment with the meteorological year.

Average odour emission rates based on size for each of the odour source types are shown in **Table 11**.

Table 11 – Average Emissions for the Moonya Feedlot

Feedlot	Average Emission rate (ou/sec)				Total
	Pens	Holding Ponds	Sedimentation Basin	Manure Stockpile	
Existing	69,804	116,090	4,078	11,179	201,151
Future	129,005	77,403	4,957	22,358	233,723

The OIA identifies that the proposed expansion will result in the following:

- > Predicted ground-level concentrations of odour due to the existing feedlot comply with the assessment criterion of 5.6 ou 1-second 99th percentile at all sensitive receptors;



- > Predicted ground-level concentrations of odour due to the expanded feedlot comply with the assessment criterion of 5.6 ou 1-second 99th percentile at all sensitive receptors except R16, which is a recent development. The predicted ground-level concentrations of odour due to the expanded feedlot would exceed the criteria by 0.1 ou 1-second 99th percentile; and
- > The highest predicted odour concentration for the existing feedlot is at receptor R13 with a 1-second, 99th percentile concentration of 1.6 OU. The future expansion will increase the odour concentration to 1-second, 99th percentile 5.4 OU at this receptor.

A summary of the predicted odour concentrations at the sensitive receptors for existing and future operations is provided in **Table 12**.

Table 12 – Predicted ground level odour concentration at sensitive receptors

Receptor	Predicted 1 Second, 99 th Percentile Odour Concentration (OU)		Criteria (OU)	Compliant?
	Existing operations	Future Operations		
R1	0.7	2.9	5.6	Yes
R2	0.4	2.0	5.6	Yes
R3	0.2	1.0	5.6	Yes
R4	0.2	0.8	5.6	Yes
R5	0.2	0.6	5.6	Yes
R6	0.2	0.7	5.6	Yes
R7	0.2	0.9	5.6	Yes
R8	0.3	1.8	5.6	Yes
R9	0.9	4.7	5.6	Yes
R10	0.2	0.8	5.6	Yes
R11	0.4	2.3	5.6	Yes
R12	0.2	1.3	5.6	Yes
R13	1.6	5.4	5.6	Yes
R14	0.5	1.7	5.6	Yes
R15	0.8	2.2	5.6	Yes
R16	0.8	5.7	5.6	No

Given the minor exceedance of the criteria, RMA has obtained a letter of support from the landowner of R16. The letter of support acknowledges the minor exceedance and confirms that negotiated solution is not warranted in this circumstance.



Further, the letter of support confirms that the landowner of R16 understands that Environment Protection Licence 12467 for the Moonya Feedlot will continue to contain a condition that requires that the licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

The OIA provides specific commentary regarding potential impacts on the urban area of Coonamble. The OIA explains that the proposed expansion the predicted odour concentration for the criterion of 2 ou 1-second 99th percentile at the urban area of Coonamble. Notwithstanding, the OIA notes that there is still a likelihood that odours from the feedlot may occasionally be detected in Coonamble.

This occurrence doesn't necessarily indicate non-compliance, as sporadic odour detections may occur due to various factors such as changes in weather conditions (including light winds and low mixing heights during the night as well as excessive rainfall), or other transient influences.

6.1.4 Mitigation measures

The OIA outlines the following recommended mitigation measures:

6.1.4.1 Facility management

In instances where predicted odour concentrations exceed the established odour criteria, (R16), proactive mitigation measures become paramount to ensure regulatory compliance and minimise potential impacts on surrounding communities. Mitigation measures include:

- > Intensifying cleaning and housekeeping practices within the beef feedlot facility, with a focus on increasing the frequency of manure removal and maintaining waste management protocols; and
- > The proposed feedlot follows best practice design and maintenance guidelines to minimise odour generation.

6.1.4.2 Managing the odour pathway

Establishing a stand of trees or shrubs can help disperse odour before it reaches the boundary of a facility or reduce the wind over an odour source (for example, holding ponds).

The effectiveness of a vegetation barrier is determined by its height, thickness and width, as well as the appropriateness of its location. This solution is an especially suitable option in an agricultural setting where the trees will also act as a dust filter and may release a natural masking fragrance.

Mitigation measures include:

- > A minimum 5 – 10 m wide buffer;
- > As close to the odour source as possible, taking into account localised topography;
- > A variety of tree species and heights; and
- > A mixture of ground cover species, shrubs, small trees and large trees.

6.2 Soil Resources

6.2.1 Introduction

A SWIA (Premise, 2024) is provided at **Appendix C**.

The purpose of the SWIA is to assess the potential impacts and associated mitigation measures on soil, stormwater management, surface water and groundwater which may arise as a result of the proposed feedlot expansion.

6.2.2 Existing environment

The Walgett 1:250,000 geological series sheet indicates the site is underlain by Quaternary Age fluvial deposits.

The site is near the geological junction of meander plain facies (Qom) which comprise unconsolidated to poorly consolidated structureless pale orange to brown silt and fine to medium grained sand and back plain facies (Qob) which comprise unconsolidated pale grey to grey-brown silt, clay, and sand with rare carbonate nodules. The subsurface conditions generally consist of topsoil, natural silty clays sandy clays, clayey sands and silty sands.

Soil investigations undertaken as part of this assessment included the collection and analysis of soil samples from the proposed sites for the feedlot development, effluent treatment ponds and effluent irrigation area. Laboratory analysis was undertaken to determine the suitability of soils in the relevant areas for engineering construction characteristics and sustained effluent utilisation and capability.

This assessment was used to determine the suitability of the site soils for the proposed development.

6.2.2.1 Agronomic characteristics

Topsoil and subsoil samples were collected from the proposed effluent irrigation area and analysed for agronomic parameters. The results of these tests are summarised in Table 2 of the SWIA. These results are discussed in the following sections.

6.2.2.1.1 Soil pH

Soil pH is a measure of soil acidity or alkalinity.

Results of the soil tests indicate that topsoils of the proposed effluent irrigation area are neutral and ideal for plant growth.

6.2.2.1.2 Electrical conductivity

Electrical conductivity is a measure of salinity that in turn is an indicator of the concentration of soluble salts (i.e. mainly compounds of chlorides, sulphates and carbonates with sodium, calcium and magnesium). Salinity is a major factor impacting upon soil health and can have significant adverse impacts both on plant growth and soil stability.

Results indicate soils in the proposed effluent irrigation area are non-saline at the soil surface and at depth.

6.2.2.1.3 Cation Exchange Capacity (CEC)

Cation Exchange Capacity (CEC) is a measure of the soil's capacity to hold and exchange cations. It is an indicator of soil stability, soil fertility and the capacity of the soil to respond to fertilisers and other ameliorants

Results indicate soils in the proposed effluent irrigation area have a moderate capacity to hold and exchange cations.

6.2.2.1.4 Exchangeable sodium percentage (ESP)

The exchangeable sodium percentage (ESP) is an important indicator of soil sodicity and hence structural stability. Soils with a high ESP are typically unstable, prone to erosion and tend also to provide an unfavourable environment for plant growth. Soils are classed as sodic if any or all of the horizons associated with plant growth have an ESP of greater than 5. Soils with ESP values of greater than 10 are likely to impose severe limitations for effluent irrigation.

ESP values for the soils of the proposed effluent irrigation areas are all well below 5 and indicate the soils are non-sodic.

Given the very low ESP values soils are unlikely to impose limitations in relation to effluent irrigation.

6.2.2.2 Total nitrogen

Total nitrogen measures the total amount of nitrogen in the soil. Much of this is not immediately available to plants but may be mineralised to available forms.

Laboratory results indicate that the soil within the proposed irrigation area has a low total nitrogen rating in the topsoil and a very low rating in the subsoil.

6.2.2.2.1 Phosphorus

Phosphorus is an essential element in numerous biochemical processes, including photosynthesis, and is essential for healthy plant growth.

The soil in the proposed irrigation area has high Colwell phosphorus levels in the topsoil, indicating that phosphorus fertilizer application is unnecessary.

Soil within the proposed irrigation area shows a moderate to high phosphorus sorption capacity, allowing effective phosphorus retention.

6.2.3 Potential impacts

Potential impacts on soil resources include:

- > Erosion during construction and operational phases; and
- > Nutrient build up in effluent disposal area.

The potential impacts are discussed in the following sections.

6.2.3.1.1 Soil Erosion

Soil erosion would be effectively controlled during construction, and in the longer term, through the design and implementation of appropriate erosion and sediment control measures and surface water management structures.

There are no inherent soil characteristics that pose a significant risk or require special consideration to achieve adequate soil erosion control.

6.2.3.1.2 Nutrient Build Up

Effluent utilisation would be through irrigation to a dedicated irrigation area.

Using this approach the annual loading of nutrients (nitrogen and phosphorus) would be sufficient to meet crop demands, with a slight surplus of phosphorus and small deficit in nitrogen.

The slight phosphorus excess could accumulate in the soil profile for around 57 years before some phosphorus movement through the soil profile may occur. Nitrogen deficit could be compensated by manure and/or fertiliser application.

Based on the proposed Manure Management Plan, it is considered that there would be no detrimental nutrient accumulation in the soil profile. Nutrient build up in the manure application areas would not occur as the manure would be applied to match crop requirements only.

6.2.4 Mitigation measures

Strategies for minimising potential soil impacts include:

- > Appropriate erosion and sediment control measures during construction;
- > Managing effluent and solids application in accordance with the EPA licence 12467 and adapting the plan if required in response to any observed trends; and
- > Monitoring of the manure management system in accordance with the EPA licence 12467.

6.3 Surface Water

6.3.1 Introduction

A Soil and Water Impact Assessment (SWIA) (Premise, 2024) is provided at **Appendix C**.

The purpose of the SWIA is to assess the potential impacts and associated mitigation measures on soil, stormwater management, surface water and groundwater which may arise as a result of the proposed feedlot expansion.

Flooding is addressed in a separate Flood Impact Assessment (FIA) (Premise, 2024). The FIA is provided at **Appendix J** and summarised in **Section 6.4**.

6.3.2 Existing environment

The feedlot is located approximately 3 km west of the Castlereagh River. There are no other mapped watercourses within the site (**Figure 8**).

Notwithstanding, the *West Coonamble Floodplain Risk Management Study* (Jacobs, 2021) (West Coonamble FRMS) and modelling undertaken by Jacobs demonstrate that the proposed irrigation area is partly impacted by the 5% AEP flood. Flooding of the site is typically associated with the Castlereagh River.

The West Coonamble FRMS identifies that the flattening of the terrain upstream of Coonamble township results in decreased flow velocity and thus a greater flow area is required. This is evidenced through known and identified overbank breakouts from the Castlereagh River to both the east and west.

6.3.3 Assessed impacts

The proposed expansion has been designed to incorporate a CDA and associated infrastructure to ensure that uncontrolled stormwater and liquid effluent is directed to sedimentation system and holding ponds.

The water balance model demonstrates that the existing and designed CDA can effectively manage the runoff from the existing and proposed feedlot expansion (i.e. each holding pond with a spilling frequency less than 1 in 10 years).

Potential impacts on surface water include:

- > Sedimentation associated with inadequate erosion and sediment control structures and poor construction practices;
- > Contamination of surface waters due to poor effluent and manure management practices; and
- > Contamination of surface waters due to poorly constructed effluent management systems.

6.3.4 Mitigation Measures

Strategies to mitigate potential impacts to surface water include the following:

- > Managing the effluent and solids application program to ensure excess nutrients are not available to move to the surface water systems;
- > Providing a sedimentation basin to collect water from the handling 'Exit facility' with a pump system to limit the frequency of discharge from the basin to less than 10% of years;
- > Providing a holding pond to limit the frequency of discharge from the system to less than 10% of years;
- > Implementing appropriate erosion and sediment controls during construction; and
- > Monitoring the manure management system in accordance with EPL licence 12467.

6.4 Flooding

6.4.1 Introduction

A Flood Impact Assessment (FIA) (Premise, 2024) is provided at **Appendix J**.

The purpose of the FIA is to assess the impacts of the proposed expansion and associated mitigation measures on existing flood patterns, including offsite impacts.

6.4.2 Existing Environment

6.4.2.1 Catchment overview

The existing environment is described by the *West Coonamble Floodplain Risk Management Study and Plan* (WCFRMSP) (Jacobs, 2021)

The WCFRMSP identifies that the town of Coonamble is located at the confluence of the Castlereagh River (catchment area 8,400 km² at the confluence) and Warrena Creek (catchment area 1,240 km² creek outlet), approximately 165 km north of Dubbo. The Castlereagh system represents 87% of the catchment at the Castlereagh/Warrena confluence and the Warrena system the remaining 13%.

The township of Coonamble has suffered severe inundation on several occasions, notably 1920, 1921, 1950 and 1955 due to flooding in the Castlereagh River.

The nature of flooding in the vicinity of Coonamble and the Moonya Feedlot is complex. The flattening of the terrain upstream of Coonamble and the Moonya Feedlot results in decreased flow velocity and thus a greater flow area is required. This is evidenced through known and identified overbank breakouts from the Castlereagh River to both the east and west.

The breakouts cause flooding to large areas of farmland and often result in the cross connection of water courses.



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6.4.2.2 Predevelopment scenario

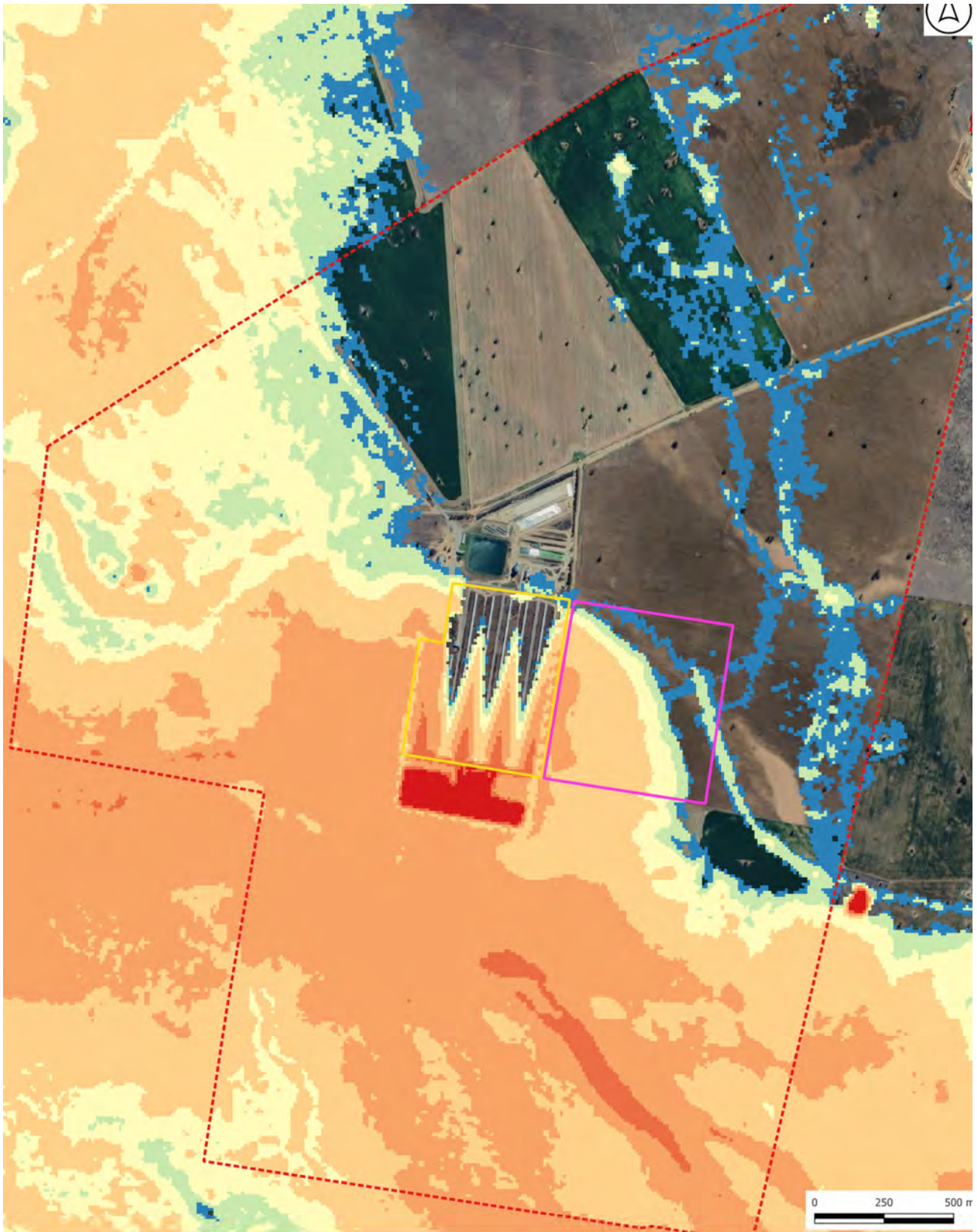
Pre-development flood conditions were simulated for the 1% AEP flood to determine extent of flooding, depth of flow, and flow velocity. The maximum flood depth, velocity, and level maps and the hazard maps are shown at **Figure 12**.

Results of the modelling indicates that the existing feedlot is impacted by the 1% AEP flood, with slow moving floodwater pooling on the eastern side of the existing feedlot.

6.4.3 Assessed Impacts (post development scenario)

Potential impacts of the proposed expansion (i.e. Post-development flood conditions) were simulated for the 1% AEP flood to determine extent of flooding, depth of flow, and flow velocity. The maximum flood depth, velocity, and level maps and the hazard maps are shown at **Figure 13**.





end

- Hydraulic Model Extent
- Lot's Boundaries
- lot site boundary
- Existing Feedlot
- Extension Feedlot

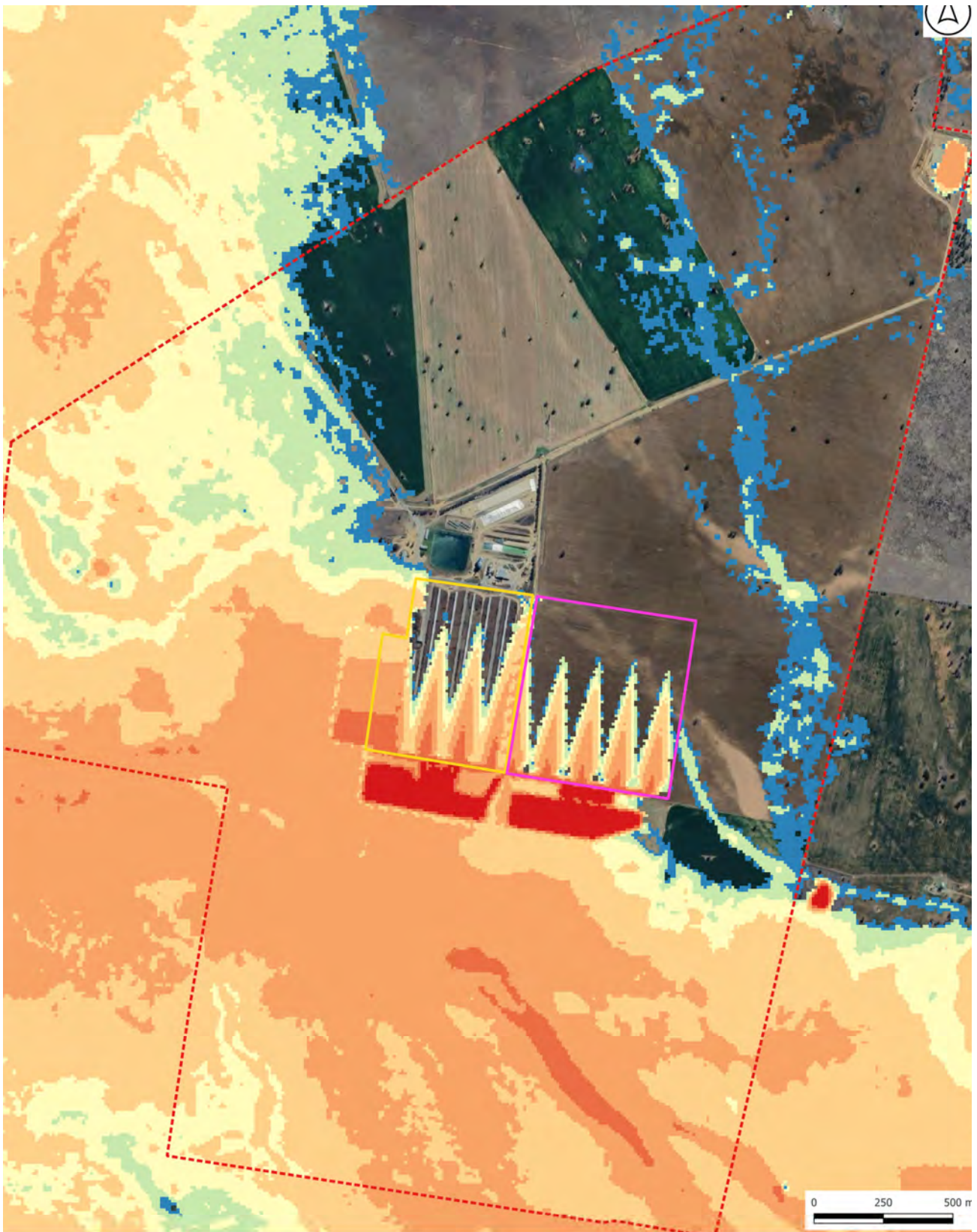
Maximum Depth of Flood	
Color	dmax
	<= 0.1 m
	0.1 - 0.3
	0.3 - 0.6
	0.6 - 1.2
	1.2 - 2.0
	2.0 - 3.0



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Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Pre- Developer



end

- Hydraulic Model Extent
- Lot's Boundaries
- lot site boundary
- Existing Feedlot
- Extension Feedlot

Maximum Depth of Flood	
Color	dmax
	<= 0.1 m
	0.1 - 0.3
	0.3 - 0.6
	0.6 - 1.2
	1.2 - 2.0
	2.0 - 3.0



RURAL MARKETING AUSTRALIA PTY LT

Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Post- Developer

Results show that without any increase in the existing levee height, about 49% of the proposed development is inundated with an average depth of 0.9 m and average velocity of 0.12 m/s.

6.4.4 Mitigation Measures (mitigated development scenario)

Mitigated post-development flood conditions were simulated for the 1% AEP flood to determine extent of flooding, depth of flow, and flow velocity. The maximum flood depth, velocity, and level maps and the hazard maps are provided in **xxx**

Results show that the feedlot can be protected from 1% AEP flooding with a raised and extended levee bank. The levee would need to be raised to 184.6 mAHD at the south-east end and to 183.2 mAHD at the north-west end.

The mitigated scenario, shows an average afflux of 0.032 m, mainly within the development lot boundaries. Offsite changes show an average and maximum afflux of 0.02 and 0.09 m (20 mm to 90 mm), respectively.

Increases in peak flood velocity are limited to less than 0.25 m/s around the south-western corner of the levee with some very minor changes of less than 0.05 m/s observed offsite.

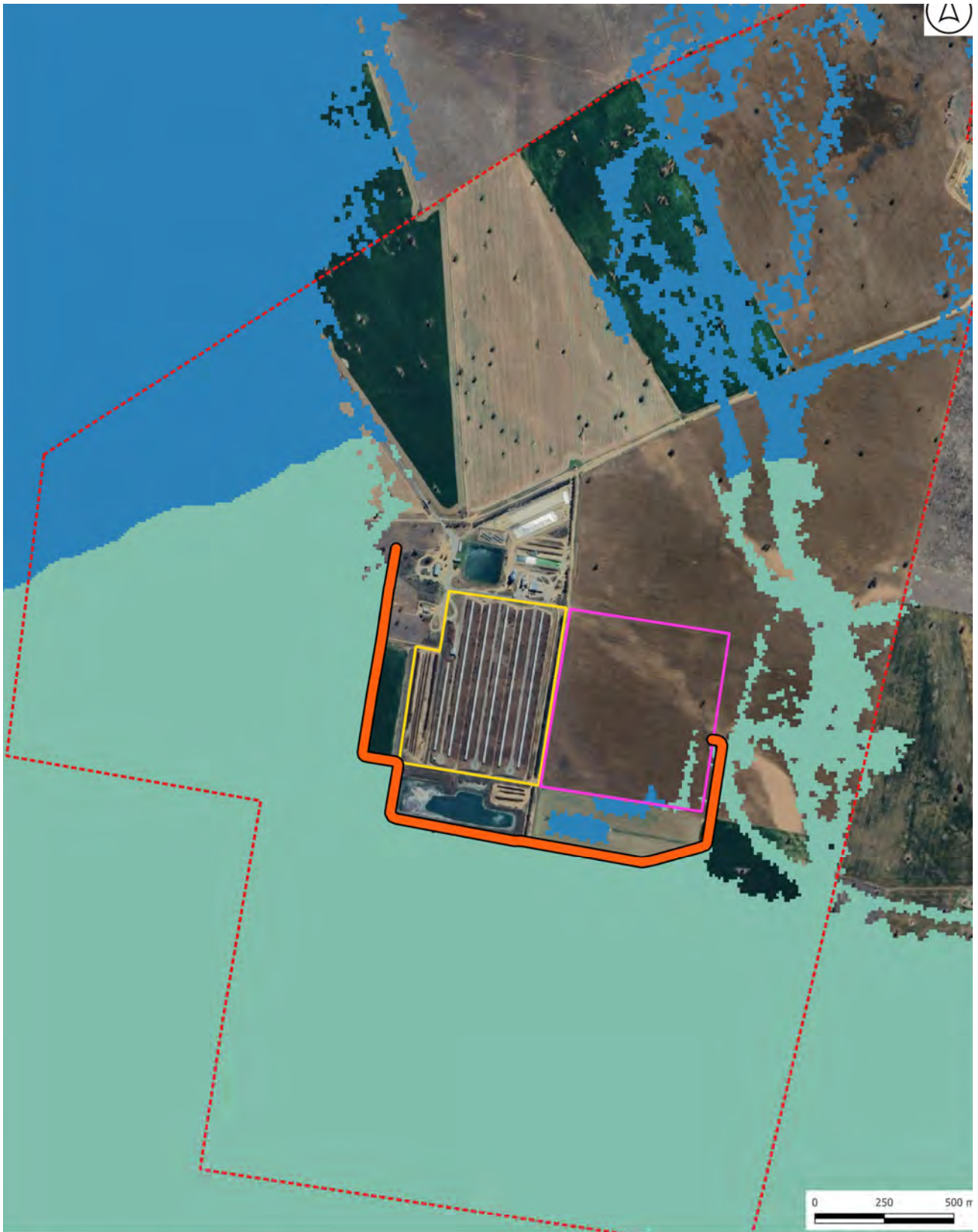
Peak flood velocity is shown to reduce in areas upstream of the feedlot levee and to the north-west across Quambone Road.

The nearest offsite residence is located to the south of the feedlot (at coordinate of -31.0224462°N and 148.330706°E). Key flooding metrics at this location are summarised in **Table 13**. These results show negligible changes at this location.

Table 13 – Flood pattern changes at offsite residence

Measure	Pre-development	Mitigated scenario (with raised levee)
Peak flood depth (d), m	0.611	0.617
Peak flood velocity (V), m/s	0.369	0.369
Flood hazard (dxV), m ² /s	0.225	0.228





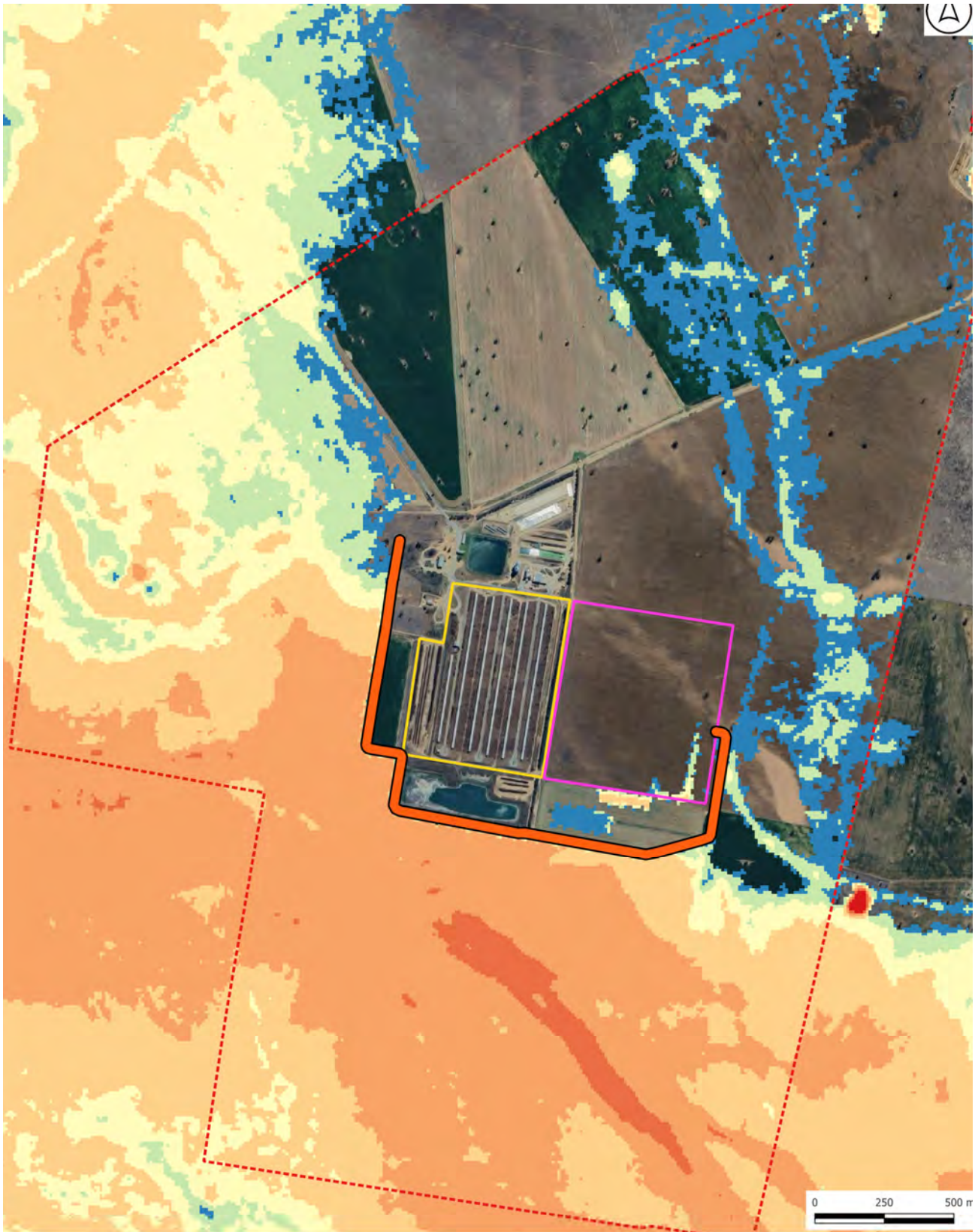
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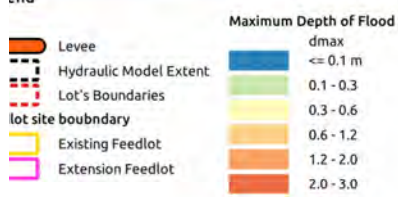
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Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Mitigated Scenario



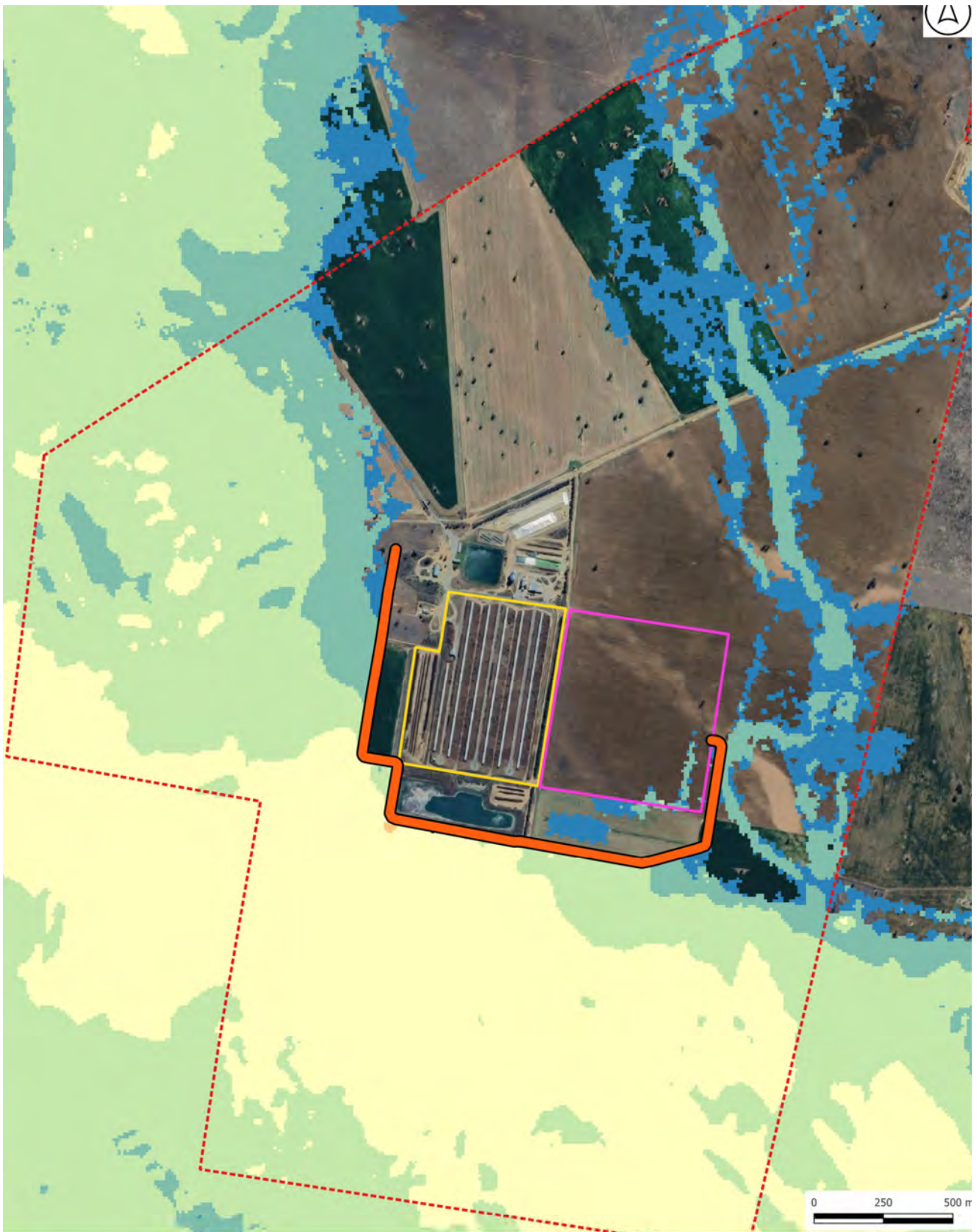
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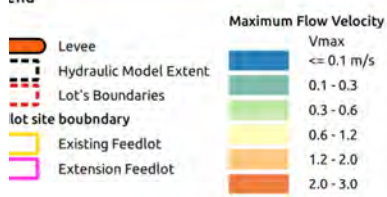
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FLOOD IMPACT ASSESSMENT**

Mitigated Scenario



end



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**Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT**

Mitigated Scenario

In summary, the FIA identifies:

- > The mitigated scenario (i.e. raising and extending the feedlot levee), shows an average afflux of 0.032 m, mainly within the development lot boundaries. Offsite changes show an average afflux of 0.02 (20 mm) and maximum afflux of 0.09 m (90 mm).
- > 1% AEP flood levels to the north-west of the development, and across Quambone Road, are reduced by 0.025 to 0.05 m (25 mm to 50 mm).
- > Increases in peak flood velocity are limited to less than 0.25 m/s around the south-western corner of the levee with some very minor changes of less than 0.05 m/s observed offsite. Peak flood velocity is shown to reduce in areas upstream of the feedlot levee and to the north-west across Quambone Road.
- > There would be negligible change in flood patterns at the nearest offsite residence south of the feedlot (flood depth change of 6 mm, no change in velocity and no change in flood hazard).

Based on these outcomes, it is considered that the proposed expansion is compatible with the flood function of the land and that it will not adversely affect flood behaviour, the safe occupation of the feedlot or the environment.

6.5 Groundwater

6.5.1 Introduction

A SWIA (Premise, 2024) is provided at **Appendix C**.

The purpose of the SWIA is to assess the potential impacts and associated mitigation measures on soil, stormwater management, flooding, surface water and groundwater which may arise as a result of the proposed feedlot expansion.

6.5.2 Existing Environment

Two groundwater bores are located within the site, with a further seven bores located in close proximity (**Table 14** and **Figure 10**).

All bores located outside the site are at greater distance than 250 m from the proposed feedlot expansion.

Based on the Water NSW Work Summary for each bore, the water bearing zones below the site are first encountered at 215.8 m for GW039301 and 461 m for GW041028.



Table 14 – Groundwater bores

Location	Bore ID	Purpose	Standing water level (SWL) (m)	Water bearing zone first encounter (m)
Within the site	GW041028	Stock/domestic	NA	461
	GW039301	Stock/domestic	8.6	215.8
Outside of the site	GW030524	Stock	2.9	37.2
	GW039504	Stock, farming, domestic, industrial, commercial	NA	452
	GW004158	Stock/domestic	44.8	44.8
	GW004630	General use	NA	43
	GW045278	Stock/domestic	12.8	73.1
	GW004628	Unknown	3.6	6
	GW273222	Stock/domestic	NA	345
NA: Not available				

Water bearing zones below the proposed feedlot expansion are first encountered at 215.8 m for GW039301 and 461 m for GW041028.

All the bores outside of Moonya feedlot are at greater distance than 350 m from the manure spreading areas. This is greater than the 250 m separation buffer defined by the use of effluent by irrigation guidelines and the 100 m buffer distance defined in the Dairy Guidelines for the land application of effluent and manure. Bores within the facility are further than 850 m from the effluent reuse area.

Four groundwater monitoring bores are present at the site, identified as MP9 to MP12, noting that MP12 corresponds to GW041028. Monitoring is conducted quarterly in accordance with EPL 12467. Three of these bores (MP9 to MP11) are consistently recorded as being dry.

Bore MP12 is regularly sampled, and analysis indicates negligible impact from feedlot operations is apparent.

A perched or shallow water table is not considered to be present.



6.5.3 Assessed Impacts

Groundwater contamination could occur if effluent applications are inappropriately managed, if effluent ponds and effluent collection drains are not constructed in a manner that will prevent seepage or if seepage occurs below the feed pens.

Notwithstanding, it is considered that either on or off-site groundwater contamination would be unlikely for the following reasons:

- > Soil within the proposed irrigation area exhibits strong phosphorus sorption capacity and low permeability;
- > Bores within site present deep water bearing zones (>200 m); and
- > Adequate buffer zones between effluent reuse area, manure spreading area and existing bores within and outside the facility.

No groundwater was encountered while soil sampling to a depth of one (1) metre.

6.5.4 Mitigation Measures

Strategies to mitigate potential impacts to surface water include the following:

- > Adopting efficient irrigation scheduling to avoid over irrigation and excessive downward water movement. It is noted that the soil profile has a low hydraulic conductivity. This lower conductivity would help to limit significant downward water movement;
- > Monitoring of the manure management system in accordance with EPL licence 12467;
- > Lining the proposed sedimentation basin and holding pond with a 300 mm compacted clay liner to assure a maximum permeability of 1×10^{-9} m/s; and
- > Continued monitoring of groundwater bores MP9 to MP12 for water levels (if water is present) and quality parameters, in accordance with EPL 12467.

6.6 Traffic and transport

6.6.1 Introduction

A TIA (Premise, 2024) is provided at **Appendix E**.

The TIA has been prepared to assess the construction and operational traffic impacts of the proposed expansion, and the existing access arrangements from Quambone Road.

The TIA responds to the SEARs and addresses the following matters:

- > Details of any augmentation to road transport routes and access to the site;
- > Road traffic predictions for the development during construction and operation, including cumulative impacts; and
- > An assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development.

6.6.2 Existing Environment

Access to the site is via an existing internal access road from Quambone Road.

The intersection of Quambone Road and the existing access road forms a standard three-way priority-controlled intersection. The intersection is located approximately 100m to the west of the Quambone Road / Kenilworth Lane intersection.

Quambone Road is a Regional Road and connects Quambone to the west to Coonamble in the east. It is a two-way, two-lane road with a 4.0 m wide carriageway in each direction and speed limit of 100km/h.

For the purpose of the TIA, Quambone Road is considered to be the only key road of note as it is the only access way for all vehicles entering or exiting the feedlot. All traffic currently generated by the feedlot, as well as the traffic from the proposed expansion, is expected to travel either east or west along Quambone Road.

As there are no publicly available traffic data for Quambone Road. A 7-day traffic survey was undertaken from 22nd June to 28th June 2024 at both Quambone Road and site access road. Analysis of the traffic survey data identifies peak hour traffic flows at the following times as outlined as outlined in **Table 15** and **Table 16** below.

Table 15 – Existing 2024 Peak Hour Traffic

Location/Direction	Time	Peak Hour Traffic (Veh/hr)		
		Total	Light Vehicles	Heavy Vehicles
Quambone Road Westbound	Morning Peak - 8:00-9:00	9	7	2
	Evening Peak - 15:00-16:00	10	8	2
Quambone Road Eastbound	Morning Peak - 8:00-9:00	12	11	1
	Evening Peak - 15:00-16:00	12	10	2
Coonamble Feedlot Entrance Northbound	Morning Peak - 6:00-07:00	0	0	0
	Evening Peak - 15:00-16:00	4	3	1
Coonamble Feedlot Entrance Southbound	Morning Peak - 6:00-07:00	6	6	0
	Evening Peak - 15:00-16:00	1	1	0



Table 16 – Estimated Existing 2024 AADT

Location	Average Weekly Traffic (veh/day)	Heavy Vehicles (%)	Mean Speed (km/hr)	85% Speed (km/hr)
Quambone Road (Btwn Kenilworth Lane & Coonamble Feedlot Entrance)	231	19	86.7	110.1
Coonamble Feedlot Entrance (South Of Entrance Gate)	37	24	64.1	79.7

There are currently no known current or proposed roadworks, traffic management works or bikeways proposed for the section of Quambone Road analysed within this assessment.

6.6.3 Assessed Impacts

The feedlot currently accommodates a maximum of 10,000 head. The proposed development involves an expansion of the existing feedlot to accommodate an overall capacity in the order of 30,000 head.

Estimated traffic volumes for the proposed expansion are:

- > On average, 8 trucks a day will be required for cattle and commodities arrive/depart from the site to create a daily average of sixteen (16) truck movements;
- > 23 Workers will attend the site each day (10 on / 4 off). Workers not living on site are assumed to be travelling in their own vehicles to create a daily average of two (2) vehicles/day and a daily average of nineteen (19) light vehicle movements;
- > The AADT for the proposed feedlot expansion is as follows:
 - Light Vehicle (per day): 38
 - Heavy Vehicles (per day): 16
 - Total (veh/day): 54
- > Peak hour traffic generation (AM/PM) during the operational phase is as follows:
 - Light vehicles (Veh/hr): 19
 - Heavy vehicles (Veh/hr): 4
 - Total (veh/hr): 23

The TIA identifies that the proposed expansion will not have any additional impact on traffic safety through the increase of traffic using the existing access way off Quambone Road.



The proposed expansion would result in net increase in traffic volumes on the surrounding road network ranging from 7.5% (AADT on Quambone Road) to 59.1% (peak hour on Quambone Road. Notwithstanding, the TIA identifies that the increased volume during peak hours is significantly below the nominal capacity of the network and would be easily absorbed into the surrounding road network with minimal impact.

Intersection analysis has been undertaken at the intersection between Quambone Road and the site access based on 2034 post development traffic volumes. The TIA shows the SIDRA output results for the above intersection, with key outputs from the SIDRA model summarised below:

- > The overall degree of saturation (DoS) for the intersection is 0.015 for the AM and 0.017 for the PM Peak Hour;
- > The maximum average control delay for any movement is 5.5 seconds, which is for the Coonamble Feedlot Entrance approach during PM Peak;
- > Expected queuing is <1m; and
- > The level of service for each leg of the intersection is Level of Service A for both the AM and PM peak hour.

6.6.4 Mitigation measures

6.6.4.1 Construction

The TIA recommends that a Construction Traffic Management Plan (CTMP) be prepared prior to construction commencing.

The CTMP is to provide specific information on construction associated traffic volumes and their distribution on the existing road network. The CTMP should see to minimise the impact of construction traffic on the road network and cover or make provisions at a minimum for the items outlined in **Section 5.3.5.1** of the TIA.

6.7 Noise and vibration

6.7.1 Introduction

A NVIA (Assured Environmental, 2024) is provided at **Appendix G**.

The NVIA has been prepared to assess the potential noise and vibration impacts associated with the construction and operation of the proposed feedlot expansion.

The NVIA has been prepared in accordance with the SEARs and relevant guidelines, including:

- > NSW Noise Policy for Industry (NPFI) (EPA,2017);
- > NSW Road Noise Policy (DECCW, 2011);
- > NSW Draft Construction Noise Guideline (NSW EPA,2020);
- > NSW Assessing Vibration: A technical guideline (DEC,2006).



6.7.2 Existing Environment

The NVIA includes a review of land uses within the surrounding area.

Land use in the surrounding area is classified as rural, with 16 residential land uses within 3.5 km of the Moonya Feedlot, 15 of whom are located within 3 km (**Figure 11**).

6.7.3 Assessed Impacts

6.7.3.1 Construction Noise

In terms of noise emissions, the activities are expected to represent those with the most significant potential for adverse impacts. It is noted that initial construction stages are expected to build straight to 20,000 SCU capacity in the 7 months of initial construction with additional construction to 30,000 SCU dependant on earthworks and the construction team.

Table 17 presents a summary of the equipment likely to be required to complete the construction works. The sound power levels presented have been sourced from published noise emission data sets and the library of sources noise levels maintained by AE.

Table 17 – Construction Phases and Expected Equipment

Construction Phase	Plant Item	Number Required ^{a)}	Individual Sound Power Level, dB(A)	Acoustical Usage Factor, 1% ^{b)}
Expansion of Feedlot to 30,000 head	Vibratory roller	2	101	40
	Water cart	1	116	16
	Scraper	1	111	50
	Grader	2	104	20
	Excavator	1	113	40

- a) Assumed number operating concurrently at any given time during an assessment period.
- b) The 'Acoustical Usage Factor' represents the percentage of time that a particular item of equipment is assumed to be running at full power while working on site.
- c) Construction plant used intermittently as required. Continuous use not expected.
- d) Deliveries to site only to occur during standard construction hours

Calculations of the noise impacts from construction activities have been undertaken using first principle calculations based on the separation distance to the receptor. **Table 18** presents predicted receptor noise levels.



Table 18 – Predicted Receptor Noise Levels – Concurrent Construction Activities, dB(A)

Receptor	Description	Predicted Construction Levels, LAEQ, 15 min	Standard Hours Criteria	
			Noise Affected	Highly Noise Affected
R1	Existing receptor	49	45	75
R2	Existing receptor	50	45	75
R3	Existing receptor	46	45	75
R4	Existing receptor	45	45	75
R5	Existing receptor	45	45	75
R6	Existing receptor	45	45	75
R7	Existing receptor	45	45	75
R8	Existing receptor	47	45	75
R9	Existing receptor	53	45	75
R10	Existing receptor	43	45	75
R11	Existing receptor	49	45	75
R12	Existing receptor	42	45	75
R13	Existing receptor	49	45	75
R14	Existing receptor	44	45	75
R15	Existing receptor	45	45	75
R16	Existing receptor	49	45	75

The calculated construction noise levels exceed the noise affected level during the proposed works, though the highly noise affected levels is not expected to be exceeded. These results warrant consideration of all feasible and reasonable mitigation measures to reduce the impacts of construction noise.

6.7.3.2 Operational noise

The acoustic assessment has been completed in accordance with the procedure identified in the NPfI.

The NPfI establishes two separate noise criteria to meet environmental noise objectives: one to account for intrusive noise and the other to protect the amenity of particular land uses. These two criteria are then used to determine project triggers levels against which the proposed development will be assessed.

NSW EPA have identified a screening assessment for sleep disturbance based on the nighttime noise levels at a residential location.



6.7.3.2.1 Project trigger noise levels

The project noise trigger level is a level that, if exceeded, would indicate a potential noise impact on the community, and so 'trigger' a management response.

The Project Noise Trigger Level (i.e., the noise criteria considered by the assessment) is the lower value of the project intrusiveness noise level and the project amenity level, after the conversion to LAeq, 15 min dB(A) equivalent level.

The intrusive noise criteria controls the relative audibility of operational noise compared to the background level at residential receivers. The intrusive noise criteria is determined by a 5 dB addition to the measured, or adopted, background level with a minimum of 35 dB.

The amenity criteria limits the total level of extraneous noise for all receiver types. The amenity criteria is determined based on the overall acoustic characteristics of the receiver area and the existing noise level of noise, excluding other noises that are uncharacteristic of the usual noise environment.

Standardised intrusiveness noise level and the project amenity level as derived by adding 3 dB(A) to each period of the day are presented in **Table 19**.

The predicted noise for the future feedlot operations day (D) and night (N) periods are presented in **Table 20**. The feedlot does not operate during the evening thus an assessment during this period is not relevant. The results show that all receptors comply with the assessment criteria at all receptors

Table 19 – Determining Project Trigger Level

Type of receiver	Time of day	Standardised LAeq, 15 min Noise Level (dB)		
		Intrusiveness noise level	Amenity noise level	Project noise trigger levels
Rural residence	Day	40	45 + 3 = 48	40
	Evening	35	40 + 3 = 43	35
	Night	35	35 + 3 = 38	35

Table 20 – Predicted Receptor Noise Levels for Future Operational Activities

Receptor	Predicted Noise Levels (LAeq, 15 min dB(A))			Criteria (D/E/N)	Comply (Y/N)
	Day	Evening	Night		
R1	<10	-	<10	40 / - / 35	Y / - / Y
R2	<10	-	<10	40 / - / 35	Y / - / Y
R3	<10	-	<10	40 / - / 35	Y / - / Y



Receptor	Predicted Noise Levels (LAeq, 15 min dB(A))			Criteria (D/E/N)	Comply (Y/N)
	Day	Evening	Night		
R4	<10	-	<10	40 / - / 35	Y / - / Y
R5	<10	-	<10	40 / - / 35	Y / - / Y
R6	<10	-	<10	40 / - / 35	Y / - / Y
R7	<10	-	<10	40 / - / 35	Y / - / Y
R8	<10	-	<10	40 / - / 35	Y / - / Y
R9	20	-	<10	40 / - / 35	Y / - / Y
R11	<10	-	<10	40 / - / 35	Y / - / Y
R12	<10	-	<10	40 / - / 35	Y / - / Y
R13	<10	-	<10	40 / - / 35	Y / - / Y
R14	21	-	<10	40 / - / 35	Y / - / Y
R15	<10	-	<10	40 / - / 35	Y / - / Y
R16	<10	-	<10	40 / - / 35	Y / - / Y

6.7.3.2.2 Sleep Disturbance

The NSW EPA sleep disturbance screening assessment identifies that a detailed maximum noise level event assessment should be undertaken under the following circumstances.

- > LAeq, 15 min 40 dB(A) or the prevailing RBL plus 5 dB, whichever is greater; and/or
- > LAFmax 52 dB(A) or the prevailing RBL plus 15 dB whichever is the greater, a detailed maximum noise level event assessment should be undertaken.

AE has conducted a screening assessment of potential maximum noise events occurring before 7 am, when staff arrivals occur. A car door slam has a sound power level of approximately LAmax 90 dB.

Applying this in the model and examining the closest receptor, the predicted noise levels at residential locations do not exceed 40 dB(A) LAeq, 15 min, therefore a detailed sleep disturbance assessment is not required.

Further, given the noise sources associated with the operation are during daylight hours, noise generation from the feedlot at night is minimal. As such, consideration of compliance against the LAFmax sleep disturbance criteria is unwarranted.



6.7.3.3 Construction vibration

There is potential from generation of ground borne vibration during the construction phase, although it is noted that no piling is proposed. Regardless, an assessment of the potential for vibration impacts has been undertaken. In particular, the assessment has considered the potential for impacts on both human comfort and structural damage for the nearest residence to the construction works.

The vibration criteria presented in the *Environmental Noise Management – Assessing Vibration: A Technical Guideline* (2006) published by the NSW Department of Environment and Conservation (DEC) have been adopted for the assessment. The technical guide provides vibration criteria associated with amenity impacts (human annoyance) for the three categories of vibration:

- > Continuous vibration (e.g., road traffic, continuous construction activity);
- > Impulsive vibration includes less than 3 distinct vibration events in an assessment period (e.g., occasional dropping of heavy equipment); and
- > Intermittent vibration includes interrupted periods of continuous vibration (e.g., drilling), repeated periods of impulsive vibration (e.g., pile driving) or continuous vibration that varies significantly in amplitude

The predicted peak particle velocity at sensitive receptors (mm/s) is presented in **Table 21** below.

Table 21 – Predicted Peak Particle Velocity at Sensitive Receptors (mm/s)

Distance from source (m)	7 tonne compactor	Excavator	Loaded trucks (rough surfaces)	Loaded trucks (smooth surfaces)
10	7.00	4.00	5.00	1.000 - 02.00
20	2.47	1.41	1.77	0.35 - 0.71
30	1.35	0.77	0.96	0.19 - 0.38
40	0.88	0.50	0.63	0.13 - 0.25
50	0.63	0.36	0.45	0.09 - 0.18
60	0.48	0.27	0.34	0.07 - 0.14
70	0.38	0.22	0.27	0.06 - 0.11
80	0.31	0.18	0.22	0.05 - 0.09
90	0.26	0.15	0.19	0.04 - 0.07
100	0.22	0.13	0.16	0.03 - 0.06
150	0.12	0.07	0.09	0.02 - 0.03
215	0.07	0.041	0.05	0.01 - 0.02



Distance from source (m)	7 tonne compactor	Excavator	Loaded trucks (rough surfaces)	Loaded trucks (smooth surfaces)
Type	Continuous			
Nuisance Criteria	Residential 0.28 (preferred) / 0.56 (max)			

The predicted vibration levels presented indicate compliance with the continuous preferred vibration nuisance criteria for locations at a separation distance of >90 metres.

Compliance with the building damage criteria is predicted at 10 metres from construction for each source. The closest sensitive receptor (R13) is over 1 km from the site footprint. Nearby residential residences will not be impacted by vibration due to the substantial distance between the receptor and source, thus compliance is achieved without the need for further mitigation.

The vibration from development site will be minimal due to the separation distance between receptors and site footprint.

6.7.3.4 Road traffic noise

Within existing operations, a yearly total of 1097 total livestock and commodity vehicle movements occur, which represents an average of 6 vehicle movements over a day. Vehicle movements are primarily during the day period, where the assessment criteria is based on a LAeq,15 hour metric.

Based on the provided vehicle movements, there will be less than 0.5 heavy vehicles an hour impacting the connecting sub-arterial roads during the current operations. Future operations predict a total of 2,311 total livestock and commodity vehicle movements to occur when the operation is scaled up to 30,000 head. This represents an average of 13 vehicle movements a day. This amounts to less than one additional heavy vehicle an hour impacting the connecting sub-arterial roads.

The RNP allows a development to generate additional traffic as long as the increase in noise levels at receptors is no more than 2 dB. Given the very low traffic generated in the proposed expansion, the increase in traffic as a result of the expansion of the Subject Site would result in a negligible (< 1 dB) increase in noise at surrounding residences.

As such, compliance with the RNP criteria is expected to be achieved in all instances.



6.7.4 Mitigation measures

6.7.4.1 Construction noise

Given the variable and mobile nature of the construction works, the use of permanent or temporary acoustic barriers at source is not considered feasible.

Potential controls available to the construction contractor to minimise potential impacts for construction works could include:

- > Limiting the type and scale of concurrent activities undertaken close to sensitive receptors where possible;
- > Using broadband reversing alarms on all mobile plant and equipment;
- > Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine;
- > Operating plant in a quiet and efficient manner;
- > Reduce throttle setting and turn off equipment when not being used;
- > Regularly inspect and maintain equipment to ensure it is in good working order including checking the condition of mufflers; and
- > Conduct community consultation to discuss the timing of works and potential respite periods.

It is recommended that during any work generating high noise levels that have impulsive, intermittent, low frequency or tonal characteristics, consultation with sensitive receptors occurs regularly. It is also noted that work outside of standard operational hours occurs on weekdays between 6pm and 7pm and on Saturday between 1pm and 7pm. Where practical, noise should be reduced as much as possible during these hours and affected residents should be notified of working hours and duration of construction.

As the highest predicted noise levels do not exceed the highly noise affected criteria of 65 dB(A) at any receptor, the implementation of additional noise controls not listed above, such as construction noise monitoring, is not considered necessary.

6.8 Biodiversity

6.8.1 Introduction

A BAR (Ecology Consulting, 2024) is provided at **Appendix D**.

The BAR has been prepared to assess the potential impacts of the proposed development on biodiversity values.



6.8.2 Existing environment

Ecology consulting undertook desktop assessment and field inspections to identify site characteristics and accurately describe existing biodiversity values. Detailed methodology of desktop assessment and field inspections is described at Section 2 of the BAR.

In summary, the BAR identifies that vegetation across the study area has been extensively modified and no longer represents its original native composition and extent. Further, the BAR identifies that the study area predominately comprises Category 1-exempt land, with Scatterings of Category 2 – regulated land present.

Notwithstanding, the study area contains key habitat features for native fauna that are predominantly situated within the present paddock trees as well as some foraging resources present in native and cropped understory.

Key habitat features include:

- > hollow bearing trees, in a range of different sizes, provide habitat for any hollow nesting or hollow dwelling species of bird, reptile and mammal that may be present;
- > rough barked trees providing foraging opportunities for small bird and some reptile species;
- > stick nests in a range of sizes; and
- > open packs with trees and powerlines provide feeding habitat and perches for feeding raptors.

The most frequent habitat features observed were hollows and stick nests situated in the scattered paddock trees. The most common trees found to contain these habitat features were mature Bimble Box as well as some Willow Wattle and other tree species such as Western Rosewood and Kurrajong.

6.8.3 Assessed impacts

6.8.3.1 Direct impacts

The BAR identifies that the proposed feedlot expansion will require the direct removal of:

- > 0.09 ha of Zone 1 (PCT 244): scattered trees and associated habitat features for native fauna; and
- > 54.5 ha of Zone 2 (Category 1 – exempt land): exotic grassland.

The direct removal of vegetation across the zones equates to approximate 56.62 ha of vegetation clearing and earthworks, of which 0.09 ha is considered native vegetation with the remainder exotic cropped groundcover/grassland. Native vegetation removal consists of three trees and their associated key habitat features (four hollows and two nests)

The BAR identifies that the effluent irrigation area will require the direct removal of 0.36 ha of Zone 1 (PCT 244): scattered trees and associated habitat features for native fauna. This includes the removal of 12 trees and their key habitat features (eight hollows and two trees). The proposed lateral move irrigation system will also provide alternate landscape conditions and subsequently modify 44.96 ha of Zone 2 (Category 1 – exempt land).

6.8.3.2 Indirect impacts

Indirect impacts are development related activities not associated with clearing for the development footprint and often occur beyond the development footprint or even the development site. They have a lower or variable intensity of impact compared to direct impacts and may be harder to predict spatially and temporally.

The BAR identifies that the indirect impacts that have the potential to occur for the proposed development include but are not limited to:

- > Transport of weeds and pathogens from the site into the surrounding landscape and retained native vegetation;
- > Reduced viability of adjacent habitat due to edge effects;
- > Reduction of habitat due to the removal of groundlayer habitat features such as fallen timber;
- > Increase in pest animal populations;
- > Cumulative impacts from clearing native vegetation and areas of remnant TEC, and as a result of ongoing agricultural and urban development; and
- > Reduced viability of adjacent habitat due to noise, dust, or light spill.

6.8.3.3 Impacts to threatened entities I

The BAR identifies that impacts to threatened entities were assessed through the relevant NSW and Commonwealth significant impact assessment guidelines.

Results of the NSW Test of Significance indicates that the proposal development is unlikely to result in a viable local population of any NSW-listed threatened species or community to be placed at risk of extinction.

Assessments of impacts on biodiversity value against Commonwealth legislation indicates that the proposed development is unlikely have a significant impact on a Commonwealth-listed threatened species or community.

6.8.4 Mitigation measures

Overall, the BAR confirms that proposed expansion does not trigger entry into the Biodiversity Offset Scheme or further assessment under key biodiversity legislation.

Notwithstanding, standard construction environmental control measures and rehabilitation efforts including offset planting and the preparation of a Biodiversity Management Plan (BMP) are required to minimise the chance of direct, indirect or long term cumulative impacts to biodiversity.

These include but are not limited to:

- > Minimise clearing of native vegetation to only the extent necessary to achieve the development through utilisation of irrigation area and consideration of slight redesign at proposed silage bunks;
- > Construction environmental controls (e.g., erosion and sediment controls, clear demarcation of development footprint, management of significant weeds, pre-clearing surveys, clearing supervision and salvage of habitat features); and
- > Supplementary plantings (offset area) with a clear rehabilitation plan to be prepared prior to any clearing or construction works taking place.

6.9 Visual

6.9.1 Introduction

A VIA (Premise, 2024) is provided at **Appendix I**.

The VIA has been prepared to assess the visual impacts related to the proposed expansion and upgrades at Moonya Feedlot).

There are no specific legislative requirements for the methodology of a visual assessment of agricultural facilities in New South Wales.

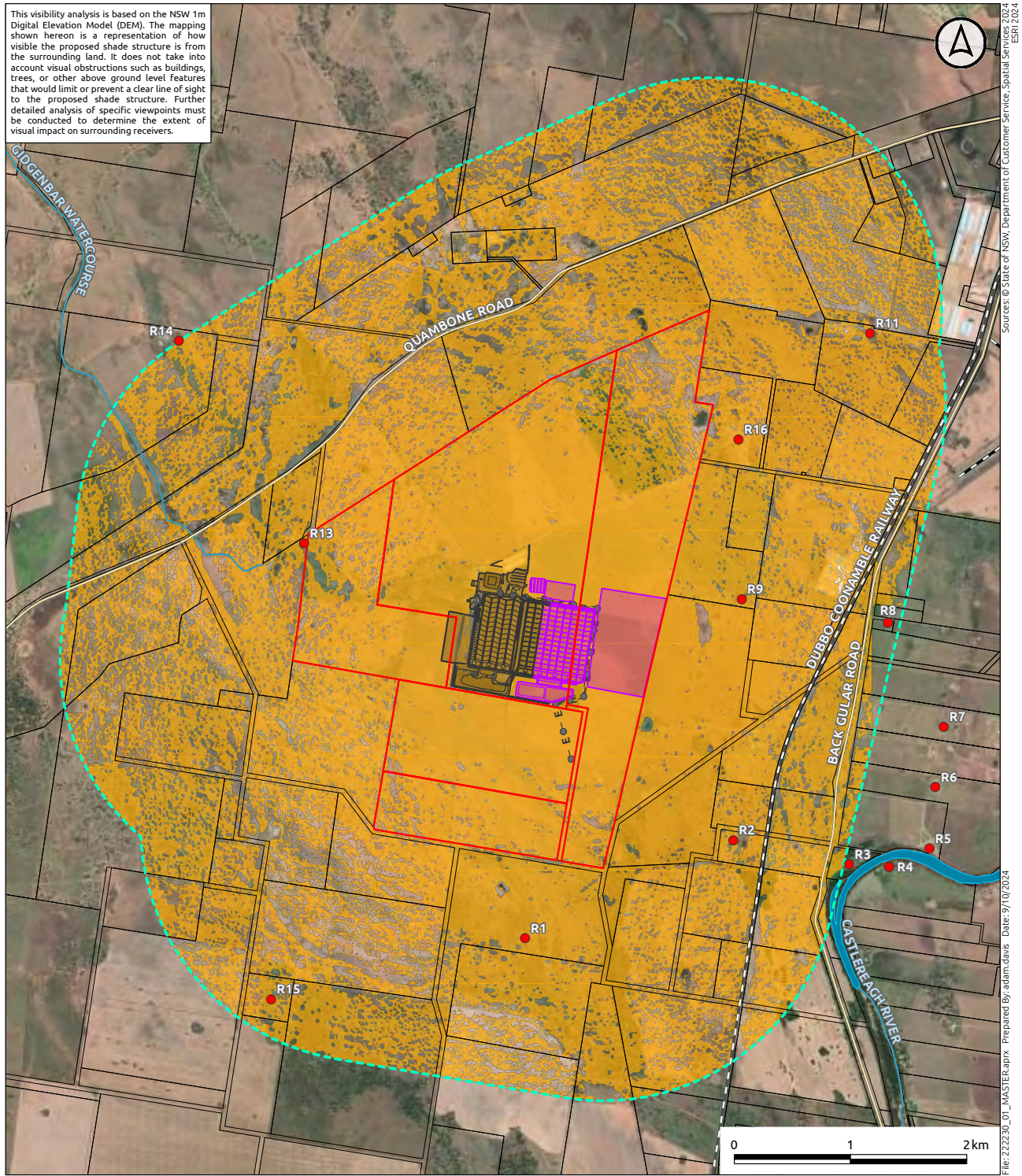
For general visual impact assessment, this report refers to the guidance offered by:

- > Guidelines for Landscape Character and Visual Impact Assessment (Transport for New South Wales, 2020).
- > *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (Landscape Institute and Institute of Environmental Management & Assessment, 2013).

6.9.2 Existing environment

The VIA identifies that sensitive visual receptors and viewpoints were identified via visual envelope mapping and a site inspection (**Figure 17**).





This visibility analysis is based on the NSW 1m Digital Elevation Model (DEM). The mapping shown hereon is a representation of how visible the proposed shade structure is from the surrounding land. It does not take into account visual obstructions such as buildings, trees, or other above ground level features that would limit or prevent a clear line of sight to the proposed shade structure. Further detailed analysis of specific viewpoints must be conducted to determine the extent of visual impact on surrounding receivers.

Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
ESRI 2024
File: 222230_01_MASTER.aprx Prepared By: adam.davie Date: 9/10/2024

- Legend**
- Host Lot
 - 2 km Buffer
 - Existing Development Footprint
 - Proposed Development Footprint
 - Lot
 - Major Road
 - Railway
 - Runway
 - Major Water Body
 - Major Watercourse
 - Area With Visibility to Netpro Structure
 - Receptors



MOONYA FEEDLOT
Visibility Envelope

Figure 17

The receptors with potential views of the proposed development which were assessed using a combination of desktop research and site visit included:

- > Road users utilising Quambone Road which is located north of the project site;
- > Road users utilising Back Gular Road which is located east of the project site;
- > Road users utilising Castlereagh Highway which is located east of the project site;
- > Train passengers travelling by train between Coonamble and Combara train station to the east of the project site;
- > Commercial buildings along Back Gular Road to the east of the site including Qube Agri, GrainCorp Coonamble, and Coonamble Airport;
- > Four private dwellings to the east of the project site;
- > One private dwelling to the south of the project site; and
- > One private dwelling to the west of the project site.

6.9.3 Assessed impacts

Site investigations confirmed that there would be two locations in the public domain from which the project would be visible. These mostly include the views from Quambone and Back Gular Road, which would be experienced as fleeting views by road users.

All private dwellings within the analysis were considered unlikely to have views of the proposed development due to screening vegetation between the dwellings and the development, identified by aerial mapping.

Commercial buildings, including Qube Agri and GrainCorp Coonamble may have a view of the development due to flat topography and lack of screening vegetation. As these receptors are ancillary to agriculture, it is considered that the visual impact of the proposed development would be consistent with the nature of these receptors.

Train and aircraft operators associated with the trainline between Coonamble and Combara train station and Coonamble airport may experience a fleeting view of the development while travelling near the site. However, there are no regular passenger transport services this trainline or airport and the view is likely to only be experienced by a small number of operators.



Table 22 – Summary of Viewpoint Assessment

Viewpoint number and location	Construction			Operation	
	Sensitivity	Magnitude	Visual Impact	Magnitude	Visual Impact
Viewpoint 1: South from Quambone Road	Low	Moderate	Moderate-low	Moderate	Moderate-low
Viewpoint 2: view west from Back Gular Road	Low	Moderate	Moderate-low	Low	Low
Qube Agri and GrainCorp Coonamble	Low	Moderate	Moderate-low	Low	Low
Trainline between Coonamble and Combara train station	Low	Moderate	Moderate-low	Low	Low

Overall, the VIA concludes that the co-location of the proposed expansion adjacent to the existing feedlot has minimised the visual impact relative to a greenfield development. Further, the proposed expansion is set back from the boundaries of the site, minimising the visual impact to residents and visitors travelling across surrounding areas.

6.9.4 Mitigation measures

The application of good practice during construction and operation of the project would further minimise impacts. The following mitigation measures should be considered to further reduce the potential visual impacts identified in this assessment:

- > Opportunities for the retention and protection of existing trees within the development site would be identified during detailed construction planning, where practicable;
- > Temporary and permanent access will be designed to minimise vegetation removal, changes to landform and visual impacts;
- > Lighting at the construction compound would be designed and operated in accordance with AS4282-2019 Control of the obtrusive effects of outdoor lighting; and



- > The Tree Protection Zone (as defined in AS4970-2009 Protection of Trees on Development Sites) of retained trees within or immediately adjacent to the disturbance area will be protected through the restriction of construction activities (refer section 4.2 of AS4970-2009), to minimise the impact of the works on the long-term health of these trees.

6.10 Aboriginal Cultural Heritage

6.10.1 Introduction

An AHDDA (Premise, 2024) is provided at **Appendix H**.

The AHDDA has been prepared to identify any potential impacts to Aboriginal cultural heritage as a result of the proposed feedlot expansion.

The AHDDA has been prepared in accordance with the SEARs and the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Department of Climate Change and Water (DECCW, 2010) [formerly Office of Environment and Heritage (OEH).

6.10.2 Existing environment

The AHDDA identifies that Coonamble is located within the Central West subregion of the New South Wales Brigalow Belt South Bioregion, which extends from Dubbo to the mid-Queensland coast, totalling an area of 27,196,933 ha (NSW NPWS, 2003: 131). The landscapes of this bioregion are derived from basalt flows and quartz sandstone resulting in a variable soil and vegetation type across the region depending on the local rock type or sediment source.

Key elements of the existing environment relevant to Aboriginal cultural heritage include soils and geology, hydrology and vegetation.

The ADHHA identifies that the site is located within a red-brown earth (RBE) Australian Soil Classification Type and Greater Soils Group landscape. The Land and Soil Capability of the study area is Class 3 which is typically identified on sloping land, suitable for rotational cultivation and cropping.

The ADHHA notes that there are seven major rivers flowing through the Brigalow Belt South Bioregion; the MacIntyre, Gwydir, Castlereagh, Goulburn, Namoi, Talbragar and Macquarie Rivers (NSW NPWS, 2003: 131). Each of these river catchments form part of the Murray Darling River System which was a primary resource for the Aboriginal community. The closest major river to the site is the Castlereagh River, situated approximately 4.5 km to the east.

With regard to vegetation, the Brigalow Belt South Bioregion comprises various plant communities including narrow-leaved ironbark, white cypress pine and white box, commonly situated on hills and slopes (NSW NPWS, 2003: 132). The site has been predominately cleared of trees during initial colonisation of the area by Europeans to facilitate pastoral land use.

6.10.3 Assessed impacts

A site survey was undertaken on 9 May 2024 to identify the prevalence of any Aboriginal sites or objects located within the site.

Overall, the site survey identified that the presence of Aboriginal objects or sites within the study area is not likely.

This has been confirmed via a desktop assessment which identified the area is not located within close proximity to a watercourse or other sensitive landforms.

A basic search of the AHIMS database of the study area with an approximate buffer area of 3 km was undertaken on 15 April 2024 (Client Service ID: 883433). Four Aboriginal sites are recorded as being located within 3km of the study area. No Aboriginal places were identified.

An extensive search of the AHIMS database identified that these four Aboriginal sites are characterised as culturally modified trees and are situated in a woodland area along Quambone Road (approximately 3 km northwest of the site).

On this basis, the AHDDA identifies that the proposed development is not likely to result in adverse impacts to items of Aboriginal cultural heritage or to cultural heritage values.

6.10.4 Mitigation measures

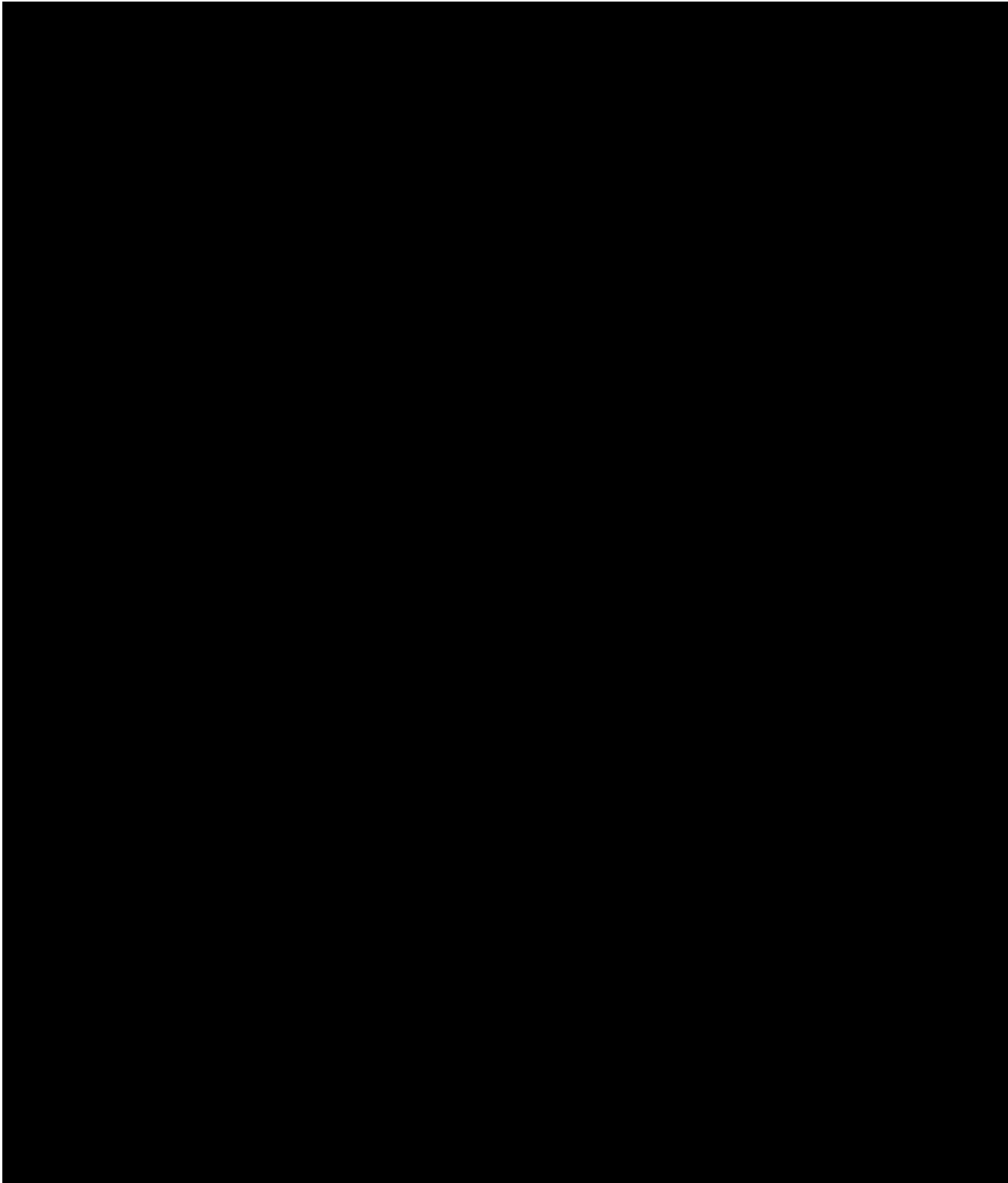
The ADDHA has not identified Aboriginal objects, or areas of archaeological sensitivity, within the study area.

The ADDHA states that no further Aboriginal archaeological assessment is recommended, and the works may proceed.

Notwithstanding, the following precautionary mitigation measures are recommended:

- > The proposed development should remain within the proposed footprint. If future works are proposed outside of this area, additional Aboriginal cultural heritage assessments may be required; and
- > If a suspected Aboriginal object(s) is identified during the proposed activity, works should cease and an Aboriginal heritage consultant should be advised to assess the unexpected find and recommend if further investigations or permits are required.





ESRI 2024

Legend










-  Host Lot
-  Existing Development Footprint
-  Proposed Development Footprint
-  Lot
-  Road
-  Railway
-  Water Body
-  Watercourse
-  Recorded Aboriginal Heritage Sites



Figure 18

6.11 Animal welfare, bio-security and disease management

6.11.1 Overview

The existing Moonya Feedlot is accredited under the National Feedlot Accreditation Scheme (NFAS).

The NFAS is an independently audited quality assurance program for the Australian lot feeding industry that was initiated by the Australian Lot Feeders Association (ALFA). The ALFA is the peak national body for the Australian cattle feedlot industry.

While the NFAS is overseen by the Feedlot Industry Accreditation Committee (FIAC), it is owned and operated by AUS-MEAT. AUS-MEAT is Australia’s leading provider of agribusiness auditing, certification and training services. AUS-MEAT is a non-for-profit organisation, serving every Australian state and Territory and New Zealand.

The proposed expansion of the Moonya Feedlot will continue to be operated in accordance with the requirements of the NFAS Accreditation Standards for animal welfare, bio-security and disease management.

The relevant requirements of the NFAS Accreditation Standards are addressed in Sections 6.11.2 – 6.11.3.

6.11.2 Animal welfare

The NFAS Accreditation Standards – Element LM4 requires that the welfare of livestock is not compromised, and prompt appropriate remedial action is taken when required.

The NFAS Accreditation Standards for animal welfare require that appropriate procedures have been implemented to address animal welfare at the Feedlot in accordance with the Australian Animal Welfare Standards & Guidelines for Cattle.

The key performance indicators of Element LM 4 are identified in **Table 23**, below.

Table 23 – NFAS Accreditation Standards – Animal welfare

Performance indicator
<ul style="list-style-type: none"> Appropriate procedures have been implemented to address animal welfare at the Feedlot in accordance with the Australian Animal Welfare Standards & Guidelines for Cattle (as amended or superseded).
<ul style="list-style-type: none"> Pens regularly used for hospital purposes are clearly identified within the feedlot.
<ul style="list-style-type: none"> Stocking of hospital pens is managed within the feedlot’s allowable stocking density on an individual pen basis.
<ul style="list-style-type: none"> A person in charge ensures the cleaning of feed yards and maintenance of surfaces is on a planned basis to allow pen surfaces to drain freely.



Performance indicator
<ul style="list-style-type: none"> The person responsible communicates with the transport company or driver to provide effective instructions on the practices and arrangements for unloading and managing livestock if cattle are delivered out of hours.
<ul style="list-style-type: none"> Humane destruction methods result in immediate loss of consciousness followed by death while unconscious. Humane destruction are carried out: <ul style="list-style-type: none"> a) on moribund livestock; b) by a competent person or under direct supervision of a competent person; c) using a recommended method for the species; d) at the first opportunity
<ul style="list-style-type: none"> Where a competent person is not immediately available to humanely destroy an animal, a competent person is contacted to carry out the procedure at the first opportunity.
<ul style="list-style-type: none"> The person humanely destroying an animal takes reasonable action to confirm the animal is dead or to ensure death.
<ul style="list-style-type: none"> In cases that FLIAC deem to be an animal welfare emergency, i.e. a "Natural Disaster" such as flooding; cyclone; earthquake; prolonged loss of power or an unavoidable inability to access components of a Feed Ration, an Enterprise may request approval from FLIAC to take specified cattle off a prescribed Feed Ration for a period no longer than seven (7) days and maintain eligibility for the initial feeding period to be counted in the eligibility of the cattle to be described as GF or GFYG (as applicable) when feeding resumes. A copy of the written approval from FLIAC for the allowed interruption period off a Feed Ration is held by the Enterprise.
<ul style="list-style-type: none"> If an Enterprise feeds female cattle, a Pregnancy and Calving Management Plan has been documented and implemented in order to manage the welfare of cows/ heifers and calves.
<ul style="list-style-type: none"> Procedures are in place to investigate, manage and record any incidents of animal cruelty.

6.11.3 Bio-security and disease management

The NFAS Accreditation Standards – Element LM7 requires that the likelihood of disease entry into and spread from the feedlot and associated utilisation area is minimised.

The key performance indicators of Element LM7 are identified in in **Table 24**, below.

Table 24 – NFAS Accreditation Standards - Biosecurity and disease management

Performance indicator
<ul style="list-style-type: none"> The feedlot has conducted a Risk Assessment addressing the biosecurity risk at the feedlot site and formulated a Biosecurity Management Plan.



Performance indicator
<ul style="list-style-type: none"> • Staff are aware of and understand the mechanisms of the spread of disease including the potential for the introduction and transmission of diseases by: <ul style="list-style-type: none"> • a) livestock and feedstuffs; • b) visitors and employees; • c) vehicles, machinery and equipment; • d) feral animals and wildlife; and • e) manure and effluent.
<ul style="list-style-type: none"> • Routes used by all incoming and outgoing vehicles, machinery and equipment are designed to minimise entry and spread of disease, that movements are controlled and that movements outside designated access areas are minimised at all times.
<ul style="list-style-type: none"> • All visitors (including contractors) entering the Feedlot are assessed for their biosecurity risk prior to being granted access to the Feedlot complex and surrounds. The risk assessment addresses the potential for visitors to have been previously exposed to a disease and the subsequent potential for them to introduce a disease into the Feedlot.
<ul style="list-style-type: none"> • A register of visitors to the Feedlot (including contractors) is maintained which includes records of: <ul style="list-style-type: none"> – a) date; – b) time in; – c) name; – d) time out; – e) company; – f) contact number; – g) signature; and – h) biosecurity risk assessment.
<ul style="list-style-type: none"> • All Cattle are inspected on arrival at the Feedlot to assess the animal health status and ensure that a record of inspection is maintained.
<ul style="list-style-type: none"> • All Cattle in the Feedlot are routinely monitored and records maintained as part of a health management program.
<ul style="list-style-type: none"> • Staff involved in the daily monitoring of livestock health are trained in the early detection of livestock diseases and are aware of and understand their key responsibilities within the Feedlot Emergency Animal Disease (EAD) Action Plan.
<ul style="list-style-type: none"> • Procedures are in place that ensure stockfeed is not contaminated by equipment and machinery utilised for multiple activities such as the handling of stockfeed, manure and dead stock.
<ul style="list-style-type: none"> • An EAD Action Plan is documented that describes the activities and management practices that are to be undertaken by the feedlot in the event of a suspected emergency animal disease outbreak.



Performance indicator
<p>The EAD covers the period between the time a disease is first suspected by the Feedlot and the subsequent preliminary confirmation or clearance of an emergency animal disease. Where an EAD contingency plan is invoked to address deaths or illnesses caused by an emergency/infectious disease, follow the procedures set out in the AUSVETPLAN Enterprise Manual – Feedlots, Version 5 2021 (as amended or superseded).</p>
<ul style="list-style-type: none"> • The EAD Action Plan includes the following minimum information/actions: <ul style="list-style-type: none"> – a) name of the Feedlot; – b) name and contact details of the person responsible at the Feedlot; – c) name and contact details of the consulting Veterinarian; – d) the Emergency Animal Disease Hotline (refer current AUSVETPLAN); – e) allocation of responsibilities to relevant personnel; – f) actions for isolating suspect livestock; – g) actions to ensure that the Feedlot perimeter is controlled and secure; – h) restrictions on movement of all unnecessary personnel and machinery to and from suspect cattle holding areas; – i) actions to restrict or halt livestock movements; and – j) actions to compile history of all livestock, personnel and vehicle movements for previous seven (7) days.

6.11.4 Heat load assessment

The SEARs specifically require that the EIS include a Heat Load Assessment (HLA) in accordance with Department of Primary Industries guidelines.

The Department of Primary Industries has not published guidelines for HLA for cattle feedlots.

Industry based guidance available for HLA is provided by Meat and Livestock Australia and as part of the NFAS. Specifically, excessive heat load is addressed at Element LM6 of the NFAS Accreditation Standards

The key performance indicators of Element LM 6 are identified in in **Table 24**, below

Table 25 – Excessive Heat Load

Performance indicator
<ul style="list-style-type: none"> • The feedlot can demonstrate the ability and resources to: a) calculate and monitor the Heat Load Index (HLI) and Accumulated Heat Load Units (AHLU). b) conduct a Risk Assessment Program (RAP) for the various classes of cattle in the feedlot.
<ul style="list-style-type: none"> • The feedlot has conducted a Risk Assessment addressing the heat stress risk at the feedlot site.



Performance indicator
<ul style="list-style-type: none"> The Risk Assessment has been documented and addresses the following criteria: a) site climatic factors for the feedlot location; b) animal factors including genotype, coat colour, days on feed (DOF) and health status; c) management factors which include the provision of shade, provision of additional water troughs, water temperature, ration type, bedding and manure management practices.
<ul style="list-style-type: none"> Each category of livestock has been considered in the Risk Assessment.
<ul style="list-style-type: none"> The Risk Assessment is being reviewed at least once per annum.
<ul style="list-style-type: none"> Management practices are implemented to offset the excessive heat load risks identified.
<ul style="list-style-type: none"> Appropriate documented procedures for monitoring and managing the welfare of the animals at the feedlot during periods of excessive heat load risks are completed.
<ul style="list-style-type: none"> An Excessive Heat Load Action Plan has been documented and includes: <ul style="list-style-type: none"> name of the Feedlot; name and contact details of the person responsible at the Feedlot name and contact details of consulting Veterinarian and nutritionist; allocation of responsibilities to relevant personnel; threshold of activation for the EHL Action Plan; actions to manage the excessive heat load event and the welfare of animals at the time which includes; monitoring of livestock, weather conditions, pen conditions, water and feed; operational practices to be implemented for the management of livestock, pens, feed, water and personnel; and maintaining records of daily activities and actions taken where indicated.

6.11.5 Assessed impact and mitigation measures

As previously noted, the existing Moonya Feedlot is a Level 1 feedlot accredited under the NFAS scheme, a quality assurance scheme independently managed and audited by AUS-MEAT. Accreditation through the NFAS scheme ensures ongoing compliance with best practice animal welfare and environmental standards.

The requirements of the NFAS scheme are addressed within the existing Moonya Feedlot Quality Assurance Manual.

Given that the Moonya Feedlot is accredited under the NFAS scheme, Council can be satisfied that all relevant animal welfare, bio-security and disease management standards are being met.

Further, in order to ensure that all animal welfare, bio-security and disease management standards continue to be met, it is recommended that Council apply a condition of consent requiring that NFAS accreditation must be maintained at all times.



6.12 Social and Economic

6.12.1 Overview

RMA has sought advice regarding the likely economic benefits of the proposed feedlot expansion to the wider community.

The likely benefits of the proposed feedlot expansion were assessed using both Cost-Benefit Analysis (CBA) and Economic Impact Analysis (EIA) to thoroughly evaluate its impact. The CBA and EIA methods complement each other by focusing on different aspects of the project's effects, providing a more complete understanding of its overall significance

CBA focuses on the comparison of the project's costs and benefits against a baseline, or business-as-usual scenario. It evaluates the economic, social, and environmental outcomes to determine if the project generates net positive benefits for society. CBA is particularly valuable in identifying the tangible, quantifiable benefits and costs of the project, offering a clear measure of whether the project is worth pursuing. However, CBA does not account for multiplier impacts or second-round effects, such as additional economic activity generated by increased employment and spending.

While EIA highlights these broader economic gains, it does not focus on a detailed comparison of costs and benefits, which is the core strength of CBA. By employing both approaches, the assessment provides a more comprehensive evaluation. CBA addresses whether the project is economically sound by directly comparing its costs and benefits, ensuring it delivers net value to society. EIA, on the other hand, captures the wider ripple effects that extend beyond the project itself, illustrating its broader economic contributions to the region, state, and nation.

6.12.2 Assessed impacts

In summary, the CBA and EIA identify that the proposed feedlot expansion will result in the following impacts:

- > **Regional Impact:** The capital investment of \$30.6 million in Far West and Orana will drive infrastructure development, job creation, and local business growth, with total capital impacts reaching \$91.1 million. The annual operational spend of \$11.6 million will stimulate ongoing regional economic activity, with a total annual impact of \$22.5 million.
- > **State Impact:** At the state level, the total capital impact is projected to be \$156.5 million, with the annual operational impact increasing to \$37.4 million as the project engages suppliers and service providers from across NSW.
- > **National Impact:** Nationally, the capital impact will reach \$172.9 million, while the annual operational impact will be \$41.3 million, reflecting the involvement of businesses and industries throughout Australia.

These results demonstrate that the proposed feedlot expansion is a major driver of regional and statewide economic growth.



Through significant capital investment and operational spending, the project will support long-term development, create jobs, and strengthen multiple sectors across the economy. The expansion highlights the feedlot’s role as a crucial contributor to Australia’s agricultural future.

6.13 Mitigation Measures

The mitigation measures discussed in Sections 6.1 - 6.12 are presented in **Table 26**.

Table 26 – Mitigation Measures

Potential impact	Mitigation measures
Air quality	Establish a tree buffer in accordance with the OIA. The tree buffer is to include the following: <ul style="list-style-type: none"> • A minimum 5 – 10 m wide buffer; • As close to the odour source as possible, taking into account localised topography; • A variety of tree species and heights;and • A mixture of ground cover species, shrubs, small trees and large trees.
Soils	<ul style="list-style-type: none"> • xxx
Surface water	<ul style="list-style-type: none"> • Managing the effluent and solids application program to ensure excess nutrients are not available to move to the surface water systems; • Providing a sedimentation basin to collect water from the handling ‘Exit facility’ with a pump system to limit the frequency of discharge from the basin to less than 10% of years; • Providing a holding pond to limit the frequency of discharge from the system to less than 10% of years; • Implementing appropriate erosion and sediment controls during construction; and • Monitoring the manure management system in accordance with EPL licence 12467.
Groundwater	<ul style="list-style-type: none"> • Adopting efficient irrigation scheduling to avoid over irrigation and excessive downward water movement. It is noted that the soil profile has a low hydraulic conductivity. This lower conductivity would help to limit significant downward water movement; • Monitoring of the manure management system in accordance with EPL licence 12467;



Potential impact	Mitigation measures
	<ul style="list-style-type: none"> Lining the proposed sedimentation basin and holding pond with a 300 mm compacted clay liner to assure a maximum permeability of 1 x 10⁻⁹ m/s; and Continued monitoring of groundwater bores MP9 to MP12 for water levels (if water is present) and quality parameters, in accordance with EPL 12467.
Traffic	<p>Construction Traffic Management Plan (CTMP) be prepared prior to construction commencing; and</p> <p>The CTMP is to provide specific information on construction associated traffic volumes and their distribution on the existing road network. The CTMP should see to minimise the impact of construction traffic on the road network and cover or make provisions at a minimum for the items outlined in Section 5.3.5.1 of the TIA.</p>
Noise and vibration	<ul style="list-style-type: none"> Limiting the type and scale of concurrent activities undertaken close to sensitive receptors where possible. Using broadband reversing alarms on all mobile plant and equipment. Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine. Operating plant in a quiet and efficient manner. Reduce throttle setting and turn off equipment when not being used. Regularly inspect and maintain equipment to ensure it is in good working order including checking the condition of mufflers. Conduct community consultation to discuss the timing of works and potential respite periods. Consult with nearby sensitive receivers before undertaking work that may generate high noise levels that have impulsive, intermittent, low frequency or tonal characteristics.



Potential impact	Mitigation measures
	<ul style="list-style-type: none"> Reduce noise as much as possible outside of standard operational hours.
Biodiversity	<ul style="list-style-type: none"> Minimise clearing of native vegetation to only the extent necessary to achieve the development through utilisation of irrigation area.
	<ul style="list-style-type: none"> Implement construction environmental controls (e.g., erosion and sediment controls, clear demarcation of development footprint, management of significant weeds, pre-clearing surveys, clearing supervision and salvage of habitat features).
	<ul style="list-style-type: none"> Undertake supplementary plantings (offset area) with a clear rehabilitation plan to be prepared prior to any clearing or construction works taking place.
Visual	<ul style="list-style-type: none"> Identify opportunities for the retention and protection of existing trees within the development site during detailed design, where practicable.
	<ul style="list-style-type: none"> Design temporary and permanent access to minimise vegetation removal, changes to landform and visual impacts.
	<ul style="list-style-type: none"> Lighting at the construction compound would be designed and operated in accordance with AS4282-2019 Control of the obtrusive effects of outdoor lighting.
	<ul style="list-style-type: none"> The Tree Protection Zone (as defined in AS4970-2009 Protection of Trees on Development Sites) of retained trees within or immediately adjacent to the disturbance area will be protected through the restriction of construction activities (refer section 4.2 of AS4970-2009), to minimise the impact of the works on the long-term health of these trees.
Aboriginal cultural heritage	<ul style="list-style-type: none"> The proposed development should remain within the proposed footprint. If future works are proposed outside of this area, additional Aboriginal cultural heritage assessments may be required.
	<ul style="list-style-type: none"> If a suspected Aboriginal object(s) is identified during the proposed activity, works should cease and an Aboriginal heritage consultant should be advised to assess the unexpected find and recommend if further investigations or permits are required.
Animal welfare	<ul style="list-style-type: none"> Continue to implement existing NFAS requirements.



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Potential impact	Mitigation measures
Biosecurity and disease management	<ul style="list-style-type: none"> Continue to implement existing NFAS requirements.
Excessive heat load	<ul style="list-style-type: none"> Continue to implement existing NFAS requirements.
Social and economic	<ul style="list-style-type: none"> Nil.



7. JUSTIFICATION OF THE PROJECT

7.1 Consistency of the project with the strategic context

The LSPS and Regional Plan highlight that agriculture is a traditional economic anchor of the Coonamble Shire and broader Central West and Orana region. With agricultural production supporting an extensive value chain including major livestock centres in Dubbo, Forbes and Blayney, transport, logistics and inter-modal transport hubs, cotton gins, canneries, packing and processing.

As discussed in **Section 4**, Objective 19 of the Regional Plan seeks to protect agricultural values and promote agricultural innovation, sustainability and value-add opportunities, with strategies including:

- > Using strategic planning and local plans to:
 - identify and enable emerging opportunities for higher-value agriculture, including agriculture innovation and value-add opportunities such as on-farm processing that includes provisions for intensification of industry, farm gate sales and small-scale value adding manufacturing that advantages the differentiation of the local produce;
 - protect agricultural land and industries from land use conflicts and fragmentation;
 - maintain and protect agricultural land and industries from land use conflicts and fragmentation, especially those lands identified as Class 1-3 using the NSW land and capability mapping, biophysical strategic agricultural land, those currently developed for irrigation, or other special use lands that support specialised agricultural industries;
 - enable freight and logistics networks, precincts and intermodal hubs to grow and adapt to changing needs; and
 - support sustainable and efficient use of water by agricultural industries.
- > Strategic and local planning should maintain and protect the productive capacity of agricultural land in the region.

The proposed expansion is consistent with the foregoing strategies.

7.2 Compliance with relevant statutory requirements

The proposed development is characterised as designated development pursuant to section 4.10 of the *Environmental Planning and Assessment Act 1979* (the 'Act') and schedule 3 of the *Environmental Planning and Assessment Regulation 2021* (the 'Regulation') as it will accommodate more than 1000 head of cattle.

The site is zoned RU1 Primary Production pursuant to the Coonamble LEP. *Intensive livestock agriculture*, including a *feedlot*, is permitted with consent in the RU1 Primary Production Zone.

Refer to Section 5 of this EIS for a detailed discussion of the relevant statutory requirements.



7.3 Public interest

The public interest may be determined by consideration of relevant national, state and local government goals, as well as community priorities, which are expressed through a range of documentation. Relevant strategic documents are addressed in **Section 4**.

Public interest also requires the consideration of the principles of ecologically sustainable development, discussed in **Section 7.4**.

7.4 Ecologically Sustainable Development

The *National Strategy for Ecological Sustainable Development* (NSES) (Department of Environment and Heritage 1992) defines Ecologically Sustainable Development (ESD) as:

using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased (refer website)

The concept of ESD gives formal recognition to environmental and social considerations in decision-making to ensure the current and future generations can enjoy an environment that functions as well as or better than the environment they inherit.

The core objectives of the NSES are:

- > To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
- > To provide for equity within and between generations; and
- > To protect biological diversity and maintain essential ecological processes and life-support systems.

As outlined in Clause 193 of the *Environmental Planning and Assessment Regulation 2021*, the four principles of ESC are listed below. These are discussed in the following sections.

- > Precautionary principle;
- > Intergenerational equity;
- > Conservation of biological diversity and ecological integrity; and
- > Improved valuation and pricing of environmental resources.

7.4.1 Precautionary principle

The precautionary principle states where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a justification for not implementing mitigation measures or strategies to avoid potential impact.



This has been held in various decisions in the NSW Land and Environment Court to include considerations associated with climate change (impact of the development on climate change and impacts of climate change on development).

The potential impact from the proposal has been identified in **Section 6** of this EIS, including a summary of mitigation measures.

Based on the technical assessments that underpin the EIS, it is considered that adequate scientific certainty of potential impacts and mitigation measures has been provided.

7.4.2 Intergenerational equality

The second principle of ESD is intergenerational equity, such that the present generation should ensure the health, diversity and productivity of the environment are equal to or better for future generations.

All work would be carried out in accordance with the mitigation measures summarised in **Section 6** to mitigate potential impact associated with noise and vibration, socio-economic considerations, traffic and transport, drainage and water quality, air quality, Aboriginal, topography, soils and waste.

Further, it is considered that there is a clear need to promote agriculture to meets society's basic requirements for the foreseeable future.

7.4.3 Conservation of biological diversity and ecological integrity

The third principle of ESD is conservation of biological diversity and ecological integrity such that ecosystems, species and genetic diversity within species are maintained.

The proposed development has been the subject of a comprehensive assessment in accordance with the provisions of the *Biodiversity Conservation Act 2016* by reference to **Appendix D**.

The mitigating measures for protecting biodiversity at the site are provided in **Section 6**.

7.4.4 Improved valuation, pricing and incentive mechanisms

In accordance with the polluter pays principles, the cost of preventing pollution and managing waste is to be borne by the applicant / operator of the facility.

This principle is reflected in the design of the proposed development and the ongoing requirement to maintain an EPL which will be regulated and enforced by the NSW EPA.



7.5 Site suitability

The suitability of the site for the development has been addressed throughout the body of this report.

Specifically, the suitability of the site is discussed under the heading the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

In summary, it is considered that the subject property is suitable for the proposed feedlot subject to the implementation of the recommended mitigation measures and conditions of consent.

7.6 Conclusion

RMA is an Australian, family owned and operated company.

RMA has operated the existing Moonya Feedlot at 701 Quambone Road, Coonamble since 2007 in accordance with Development Consent 14/97 and Environment Protection Licence 12467 (EPL 12467).

RMA seeks to expand the capacity of the existing Moonya Feedlot from 10,000 head to a capacity of 30,000 head.

The key elements of the proposed expansion include additional pens and a cattle handling facility. Other ancillary components of the proposed expansion include silage pits, flood level, stock lanes and feed alleys, drains, ponds and vehicle access.

The proposed expansion also includes a manure management system to effectively manage the collection, treatment and reuse of the liquids, organic matter and nutrients contained in the manure from the feedlot. Manure includes both the liquid and solids fractions of manure (moist) and urine.

Fill required for the purpose of construction will be obtained from a borrow pit adjacent to the feedlot.

An analysis of site constraints via an environmental risk assessment process has identified key environmental issues for which specialist technical reports have been prepared.

Preliminary engagement has been undertaken with the adjoining landowners, agencies and other relevant stakeholders to ensure that the project objectives are clearly understood and so that any feedback on the project can be considered and incorporated where necessary.

In summary, this EIS demonstrates that proposed expansion can be established and operated in an acceptable manner which is unlikely to have a significant or adverse impact on the surrounding environment subject to the recommended mitigation measures.

8. REFERENCES

- Ecology Consulting (2024). Biodiversity Assessment Report
- Premise (2024). Traffic Impact Assessment
- Premise (2024). Flood Impact Assessment
- Premise (2024). Visual Impact Assessment
- Premise (2024). Odour Impact Assessment
- Premise (2024). Aboriginal Heritage Due Diligence Assessment
- Assured Environmental (2024). *Odour Impact Assessment*
- Assured Environmental (2024). Noise and Vibration Impact Assessment
- Jacobs (2021). West Coonamble Floodplain Risk Management Study
- Meat and Livestock Australia Limited (2012). National Guidelines for Beef Cattle Feedlots in Australia 3rd edition
- Meat and Livestock Australia Limited (2015). *Beef cattle feedlots: design and construction*
- Department of Primary Industries (2014). Industry Action Plan – Primed for growth, Investing locally, connecting globally
- Meat and Livestock Australia Limited (2017). Regional feedlot investment study
- Central West and Orange Regional Plan 2041 (DPE, 2022)
- Coonamble Shire Council (2020). Coonamble Local Strategic Planning Statement
- NSW Environment Protection (2006). Technical Framework - Assessment and management of odour from stationary sources in NSW
- Transport for New South Wales (2020) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition
- (Department of Climate Change and Water (2010). Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales

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APPENDIX A

PROJECT DRAWINGS

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APPENDIX B

SEARS AND EIS COMPLIANCE TABLE



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SEARS Compliance Table		
Key Issue	Summary of Issues	Section of EIS where issue is addressed
Strategic and statutory context	<ul style="list-style-type: none"> Detailed justification for the proposal and suitability of the site for the development; Demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies; List of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out; Description of how the proposed expansion integrates with existing on-site operations with plans depicting the proposed layout, including the location of pens, irrigation areas, waste storage areas, machinery, equipment and any other infrastructure; Description of any amendments to and/ or additional licence(s) or approval(s) required to carry out the proposed development. 	<ul style="list-style-type: none"> Sections 6 and 7. Sections 4 and 5. Section 5. Section 3 and Appendix A. Section 5.
Animal welfare, bio-security and disease management	<ul style="list-style-type: none"> Details of how the proposed development would comply with relevant codes of practice and guidelines; Heat load assessment in accordance with Department of Primary Industries guidelines Details of all pest, weed and disease control measures; Detailed description of the contingency measures that would be implemented for the mass disposal of livestock in the event of disease outbreak. 	<ul style="list-style-type: none"> Section 6.10.



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SEARS Compliance Table		
Key Issue	Summary of Issues	Section of EIS where issue is addressed
Air quality	<ul style="list-style-type: none"> • Description of all potential sources of air and odour emissions during construction and operation, including cumulative impacts; • Odour impact assessment in accordance with Environment Protection Authority (EPA) documents Technical framework: Assessment and management of odour from stationary sources in NSW (EPA, 2006) and Technical notes: Assessment and management of odour from stationary sources in NSW (EPA, 2006); • Description and appraisal of air quality impact mitigation and monitoring measures. 	<ul style="list-style-type: none"> • Section 6.1 and Appendix F
Waste and wastewater management	<ul style="list-style-type: none"> • Details of waste handling including transport, identification, receipt, stockpiling and quality control including off-site reuse and disposal; • Detail of waste management including manure and disposal of dead cattle for the proposal; • Details of the quantity and type of liquid and/or non-liquid waste(s) generated or disposed of at the site; • Details of the key pollutant concentrations of wastewater before and after treatment with reference to relevant water quality guidelines. 	<ul style="list-style-type: none"> • Sections 6,2, 6.3, 6.4 and Appendix C.
Soil and water	<ul style="list-style-type: none"> • A description of local soils, topography, drainage and landscapes; • An assessment of any potential existing soil contamination; • Details of water usage for the proposal including existing and proposed water licencing requirements in accordance with the Water Act 1912 and/or the Water Management Act 2000; 	<ul style="list-style-type: none"> • Sections 6,2, 6.3, 6.4 and Appendix C.



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SEARS Compliance Table		
Key Issue	Summary of Issues	Section of EIS where issue is addressed
	<ul style="list-style-type: none"> • A contingency plan for water supply in the event of drought conditions; • An assessment of potential impacts on floodplain and stormwater management and any impact to flooding in the catchment; • Details of sediment and erosion controls; • A detailed site water balance; • An assessment of potential impacts on the quality and quantity of surface and groundwater resources; • Details of any proposed stormwater management system; • Details of any augmentation to the wastewater/ sewage management system and associated irrigation area, including baseline data on soil characteristics, a technical assessment of the suitability of the soil to sustain ongoing wastewater irrigation and assessment of potential impacts to any nearby terrestrial waterway or groundwater systems; • A description and appraisal of impact mitigation and monitoring measures, including any associated water monitoring program. 	
Traffic and transport	<ul style="list-style-type: none"> • Details of any augmentation to road transport routes and access to the Site; • Road traffic predictions for the development during construction and operation, including cumulative impacts; • An assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development. 	<ul style="list-style-type: none"> • Section 6.5 and Appendix E.



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SEARS Compliance Table		
Key Issue	Summary of Issues	Section of EIS where issue is addressed
Noise and vibration	<ul style="list-style-type: none"> • A description of all potential noise and vibration sources during construction and operation, including road traffic noise and cumulative impacts; • A noise and vibration assessment in accordance with the relevant Environment Protection Authority guidelines; • Description and appraisal of noise and vibration mitigation and monitoring measures. 	<ul style="list-style-type: none"> • Section 6.6 and Appendix F.
Biodiversity	<ul style="list-style-type: none"> • Accurate predictions of any vegetation clearing on site or for any road upgrades; • A detailed assessment of the potential impacts on any threatened species, populations, endangered ecological communities or their habitats, groundwater dependent ecosystems and any potential for offset requirements in accordance with the current Biodiversity Conservation and Science Group legislation and guidelines ; • Details of weed management during construction and operation in accordance with existing State, regional or local weed management plans or strategies; • A detailed description of the measures to avoid, minimise, mitigate and/or offset biodiversity impacts. 	<ul style="list-style-type: none"> • Section 6.7 and Appendix D.
Visual	<ul style="list-style-type: none"> • An impact assessment at private receptors and public vantage points. 	<ul style="list-style-type: none"> • Section 6.8 and Appendix I.
Heritage	<ul style="list-style-type: none"> • Aboriginal and non-Aboriginal cultural heritage. 	<ul style="list-style-type: none"> • Section 6.9 and Appendix H.



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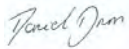
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 MOONYA FEEDLOT EXPANSION
 ENVIRONMENTAL IMPACT STATEMENT

EIS Prescribed Form Table	
Prescribed form	Summary of Issues
The name, address and professional qualifications of the person who prepared the statement.	Daniel Drum B. Natural Resources (Hons), University of New England (UNE) Armidale, NSW B. Urban and Regional Planning , University of New England (UNE) Armidale, NSW Level 1, 60-62 McNamara Street, Orange, NSW, 2800
Responsible person	Rural Marketing Australia Pty Ltd
The address of the land (i) to which the development application relates, or (ii) on which the activity or infrastructure to which the statement relates will be carried out,	701 Quambone Road, Coonamble, being Lots 113, 119, 121 and 124 DP 754199
Description of the development, activity or infrastructure.	Refer to Section 3 of the EIS.
An assessment by the person who prepared the statement of the environmental impact of the development, activity or infrastructure, dealing with the matters referred to in this Division	Refer to Section 6 of the EIS. Section 6 is to be read in conjunction with the body of the EIS.
Declaration	This EIS has been prepared in accordance with the relevant requirements of the <i>Environmental Planning and Assessment Regulation 2021</i> . This EIS contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure. The information contained in the EIS is not false or misleading.



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EIS Prescribed Form Table	
Prescribed form	Summary of Issues
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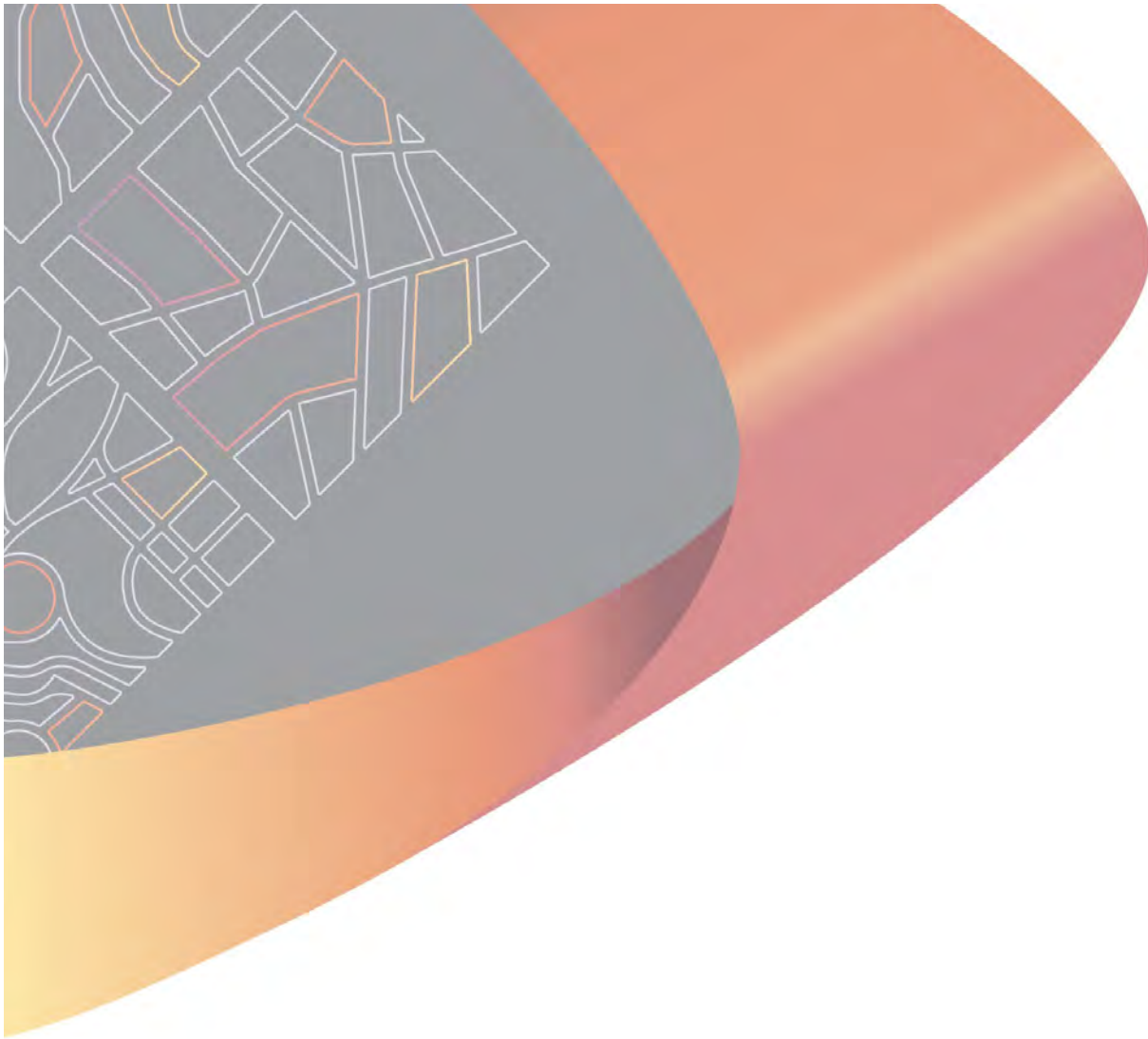
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EXISTING FEEDLOT UPGRADE - STAGE 2

"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829

RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT DEVELOPMENT APPLICATION PLANS

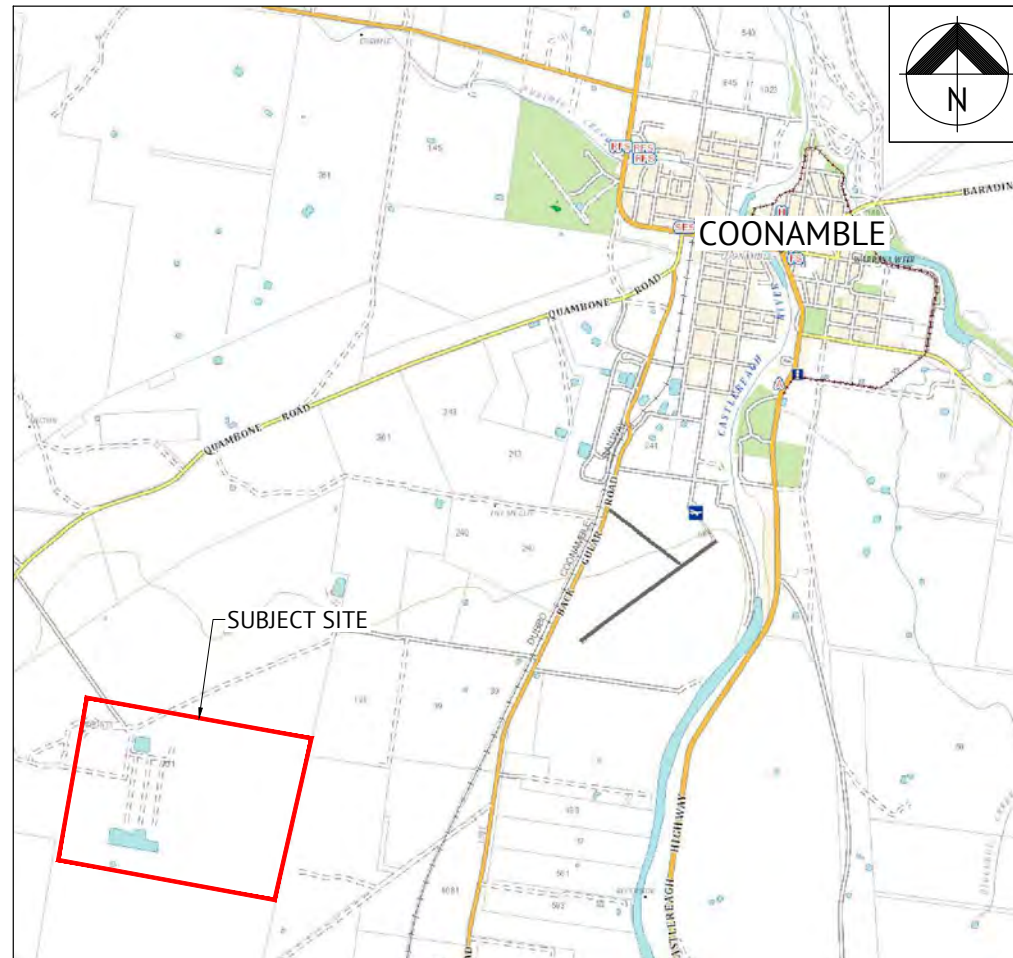


IMAGE SOURCE:
STATE OF NSW, DEPARTMENT OF CUSTOMER SERVICE, SPATIAL SERVICES 2023.

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 LAYOUT PLAN
C005	PRELIMINARY CONCEPT BULK EARTHWORKS CUT- FILL PLAN

ISSUED FOR REVIEW				
DATE	REV	DESCRIPTION	REC	APP
22/10/2024	D	LEVEE BANK ADDED	RB	PPD
04/10/2024	C	MINOR AMENDMENTS	RB	PPD
23/09/2024	B	UPDATED PEN LAYOUT	RB	PPD
15/12/2023	A	ISSUED FOR REVIEW	RB	PPD

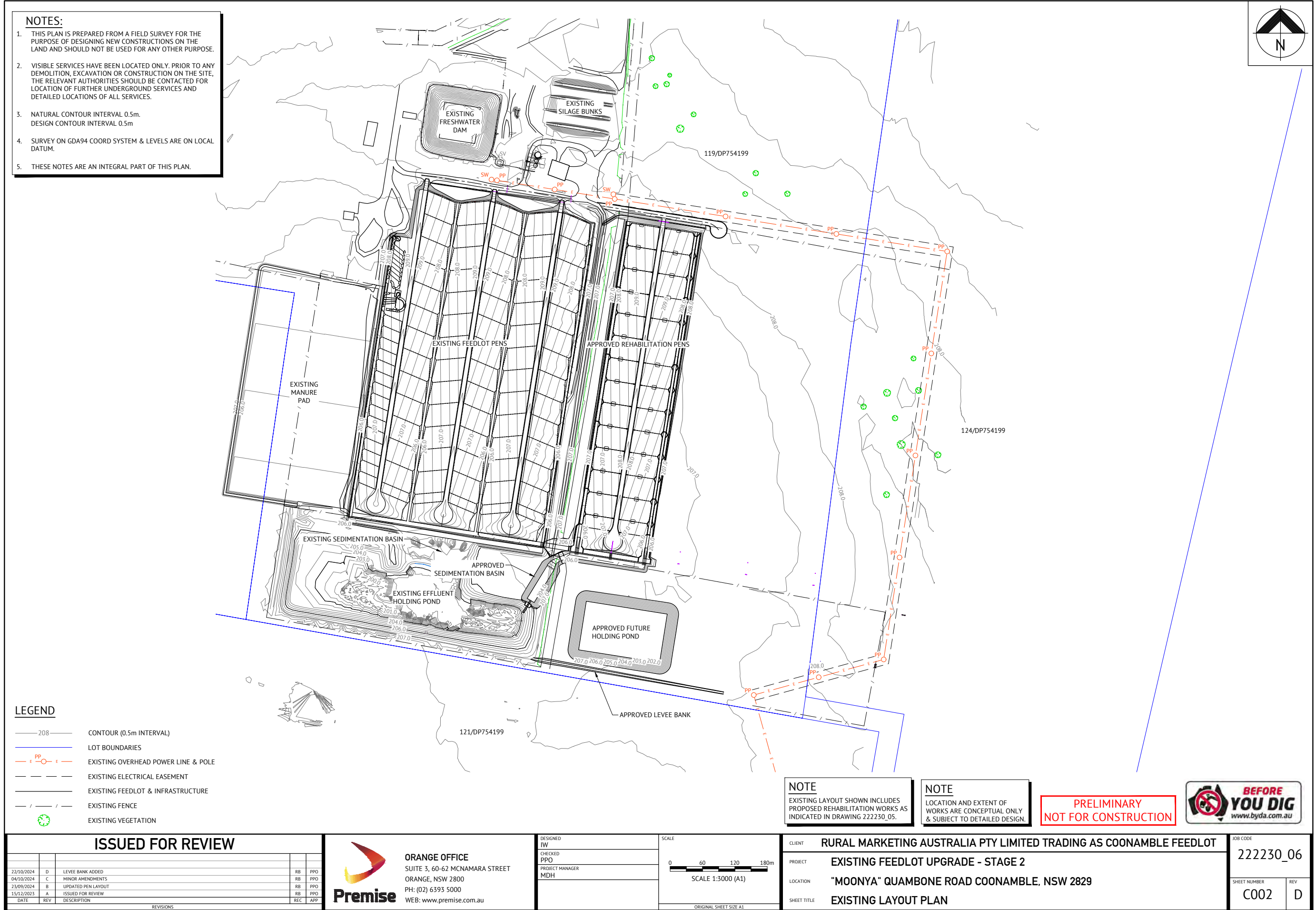
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SCALE
ORIGINAL SHEET SIZE A1

CLIENT	RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT
PROJECT	EXISTING FEEDLOT UPGRADE - STAGE 2
LOCATION	"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829
SHEET TITLE	TITLE SHEET & SCHEDULE OF DRAWINGS

JOB CODE	222230_06
SHEET NUMBER	C001
REV	D



- NOTES:**
1. THIS PLAN IS PREPARED FROM A FIELD SURVEY FOR THE PURPOSE OF DESIGNING NEW CONSTRUCTIONS ON THE LAND AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE.
 2. VISIBLE SERVICES HAVE BEEN LOCATED ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITIES SHOULD BE CONTACTED FOR LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.
 3. NATURAL CONTOUR INTERVAL 0.5m.
DESIGN CONTOUR INTERVAL 0.5m
 4. SURVEY ON GDA94 COORD SYSTEM & LEVELS ARE ON LOCAL DATUM.
 5. THESE NOTES ARE AN INTEGRAL PART OF THIS PLAN.

- LEGEND**
- 208 — CONTOUR (0.5m INTERVAL)
 - LOT BOUNDARIES
 - PP — EXISTING OVERHEAD POWER LINE & POLE
 - — EXISTING ELECTRICAL EASEMENT
 - — EXISTING FEEDLOT & INFRASTRUCTURE
 - / — EXISTING FENCE
 - — EXISTING VEGETATION

NOTE
EXISTING LAYOUT SHOWN INCLUDES PROPOSED REHABILITATION WORKS AS INDICATED IN DRAWING 222230_05.

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

**PRELIMINARY
NOT FOR CONSTRUCTION**

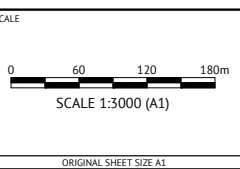


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23/09/2024	B	UPDATED PEN LAYOUT	RB	PPD
15/12/2023	A	ISSUED FOR REVIEW	RB	PPD

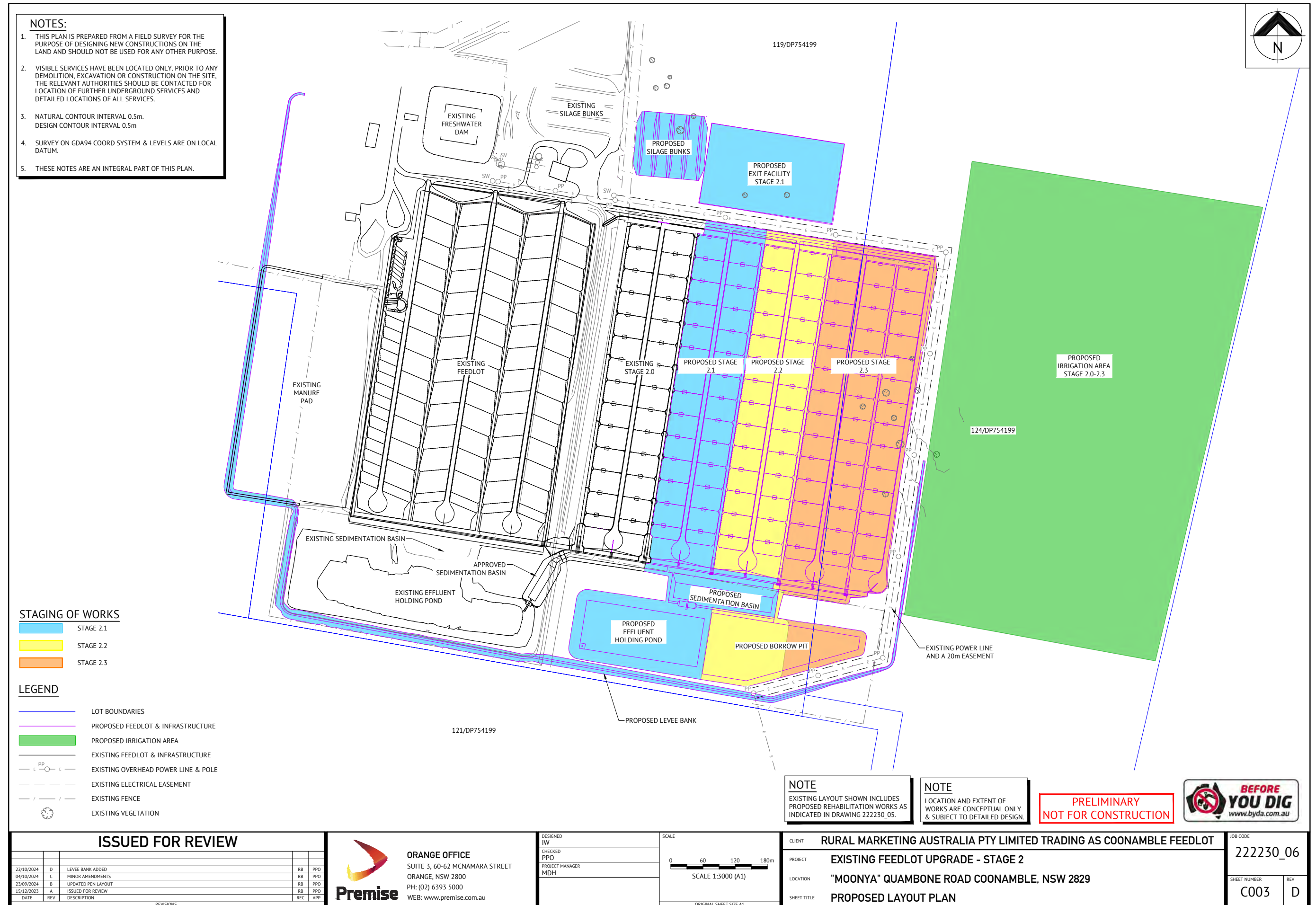
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 PROJECT **EXISTING FEEDLOT UPGRADE - STAGE 2**
 LOCATION **"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829**
 SHEET TITLE **EXISTING LAYOUT PLAN**

JOB CODE		222230_06	
SHEET NUMBER	REV	C002	D



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DATE	REV	DESCRIPTION	REVISED BY	APPROVED BY
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ORIGINAL SHEET SIZE A1

CLIENT: RURAL MARKETING AUSTRALIA PTY LIMITED TRADING AS COONAMBLE FEEDLOT

PROJECT: EXISTING FEEDLOT UPGRADE - STAGE 2

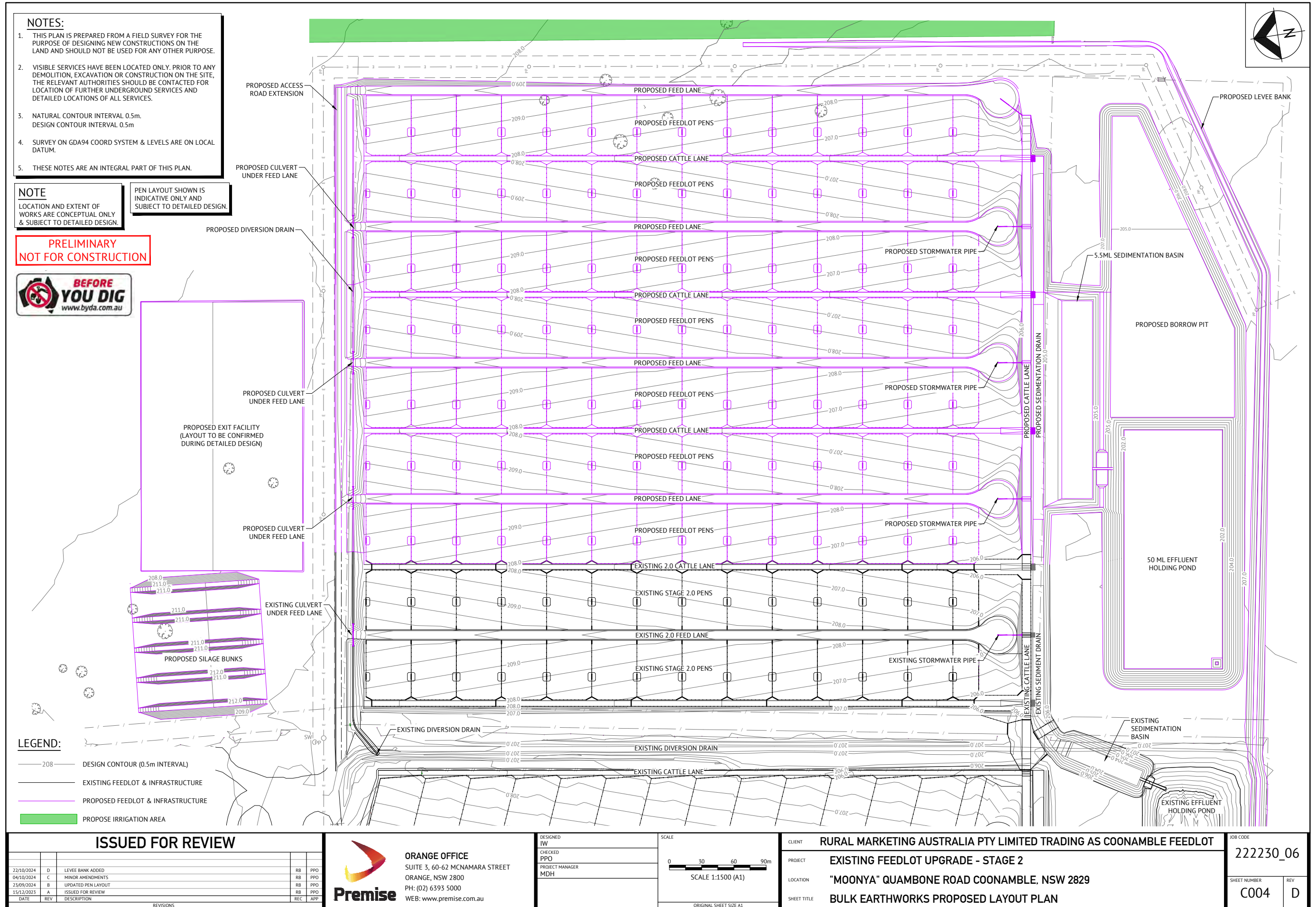
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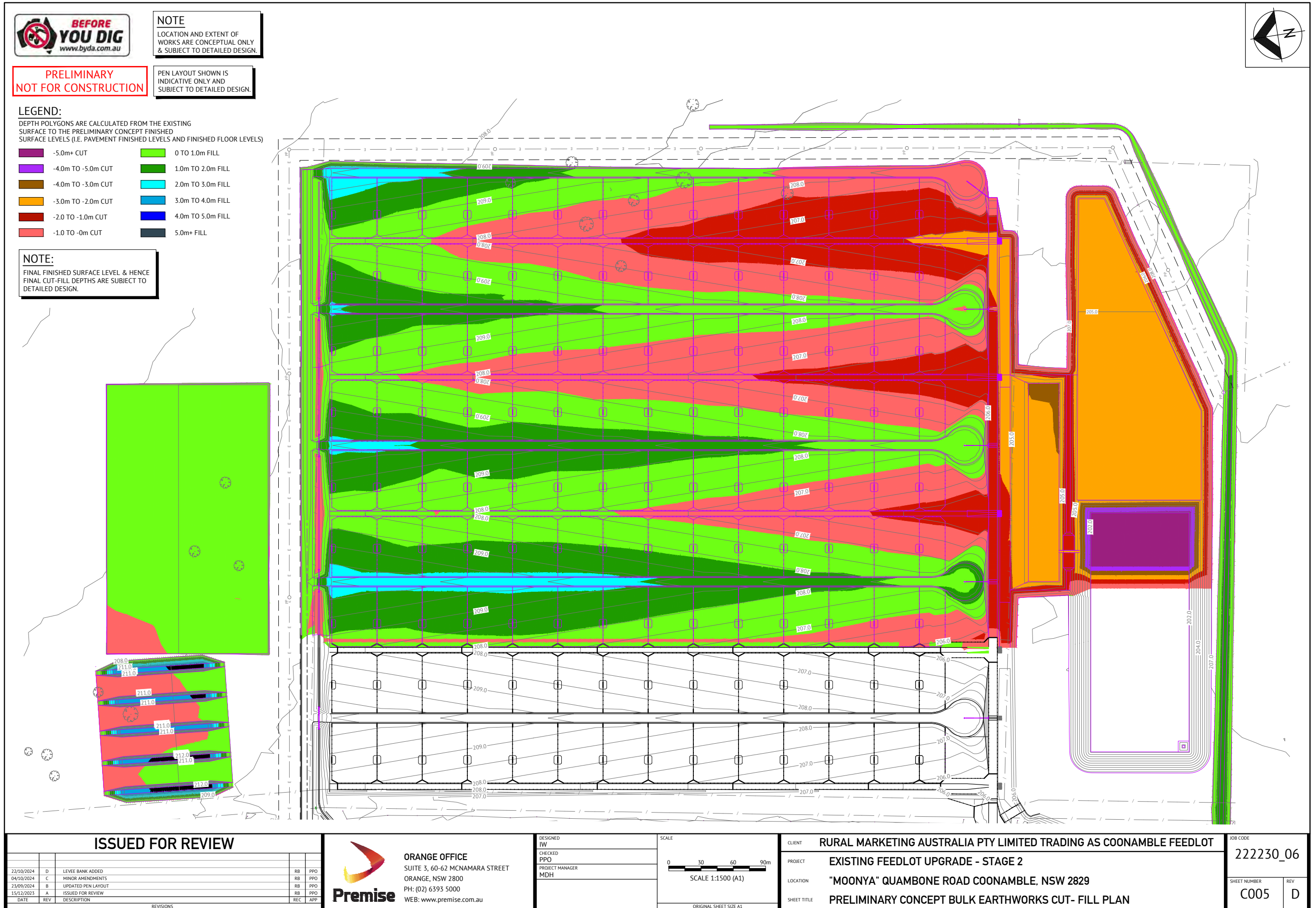
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JOB CODE: 222230_06

SHEET NUMBER: C003

REV: D





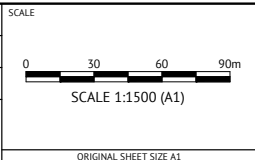
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04/10/2024	C	MINOR AMENDMENTS	RB	PPD
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PROJECT	EXISTING FEEDLOT UPGRADE - STAGE 2
LOCATION	"MOONYA" QUAMBONE ROAD COONAMBLE, NSW 2829
SHEET TITLE	PRELIMINARY CONCEPT BULK EARTHWORKS CUT- FILL PLAN

JOB CODE	222230_06
SHEET NUMBER	C005
REV	D



RURAL MARKETING AUSTRALIA PTY LTD

Moonya Feedlot Expansion

SOIL AND WATER IMPACT ASSESSMENT AND WASTE AND
WASTEWATER MANAGEMENT



Report No: 222230_001

Rev: B




8 October 2024

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RURAL MARKETING AUSTRALIA PTY LTD
MOONYA FEEDLOT EXPANSION
SOIL AND WATER IMPACT ASSESSMENT AND WASTE AND WASTEWATER MANAGEMENT

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DOCUMENT AUTHORISATION					
Revision	Revision Date	Proposal Details			
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Draft B	08/10/24				
Prepared By		Reviewed By		Authorised By	
Stephan Defoy		Daniel Mathew		Daniel Mathew	

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1. EXECUTIVE SUMMARY

This report is prepared in response to the Planning Secretary's Environmental Assessment Requirements (SEAR) and is intended to support the State Significant Development (SSD) application for the proposed expansion of Monya Feedlot. It provides a comprehensive assessment of potential impacts on soil and water along with associated mitigation strategies. Additionally, the report outlines the waste and wastewater management practices currently in place at the facility.

Moonya feedlot was established in the early 2000s following the approval of Development Consent 14/97 in March 1998 by Coonamble Shire Council. It is regulated by Environment Protection Licence (EPL) 12467. The feedlot is proposing to expand its existing operations, currently licensed for 10,000 heads of beef cattle. The proposed expansion involves constructing additional pens and a handling facility on the east side of the existing site, with the goal of increasing the feedlot's capacity to 30,000 heads.

This report demonstrates that, following a thorough assessment of site-specific environmental factors and compliance with guideline separation distances, the site is well-suited for the proposed feedlot development.

Water and nutrient balance modelling confirm adequacy of the proposed 45 hectares irrigation area in conjunction with the proposed effluent management system.

The report demonstrates that the proposed feedlot expansion presents no negative impact on soil, stormwater management, flooding, surface water, or groundwater. Nonetheless, preventive mitigation measures are presented as an additional safeguard to ensure continued environmental protection.

The report also outlines the adequacy of the various management plans implemented at the facility, including:

- > Water supply management during drought conditions;
- > Stormwater management; and
- > Waste management, encompassing carcass disposal, manure handling, and effluent management.

Additionally, the proposed monitoring program will identify any deviations from the design parameters, with contingency actions planned to address or mitigate issues when approaching or exceeding critical sustainability thresholds.



2. INTRODUCTION

2.1 Background

Moonya feedlot proposes to expand their existing beef cattle feedlot in Coonamble. The existing feedlot is licensed to carry up to 10,000 heads. Moonya is seeking approval to expand the feedlot with the construction of additional pens and a handling facility on the east side of the existing facility. This expansion aims to triple the feedlot’s capacity from 10,000 to 30,000 heads.

The feedlot was established in the early 2000s following the approval of Development Consent 14/97 in March 1998 by Coonamble Shire Council. It is also regulated by Environment Protection Licence (EPL) 12467.

2.2 Report Intent

The operators are committed to providing a co-ordinated approach to avoid, reduce, and control the potential environmental impacts associated with its activities, products, and services.

The purpose of this report is to respond to the Planning Secretary’s Environmental Assessment Requirements (SEAR) and support the State Significant Development (SSD) application for the proposed expansion of Moonya Feedlot. It provides an impact assessment for soil, and water. It also describes the waste and wastewater management operated at the facility.

Table 1 lists the matters that must be addressed to answer the SEAR’s requirements for soil, and water and for waste and wastewater management.

Table 1 – SEAR’s requirements

Information request from SEARs	Section of report
Soil and Water	
Description of local soils, topography, drainage, and landscapes	Section 4.1
Assessment of any potential existing soil contamination	Section 4.1.4.2
Details of water usage for the proposal including existing and proposed water licencing requirements in accordance with the Water Act 1912 and/or the Water Management Act 2000	Section 4.1.7
Contingency plan for water supply in the event of drought conditions	Section 7.1
Assessment of potential impacts on floodplain and stormwater management and any impact to flooding in the catchment	Section 6.2 Section 6.3
Details of sediment and erosion controls	Section 7.2
Detailed site water balance	Section 5.1.7
Assessment of potential impacts on the quality and quantity of surface and groundwater resources	Section 6.4 Section 6.5



Information request from SEARs	Section of report
Details of any proposed stormwater management system	Section 5.1 Section 7.3
Details of any augmentation to the wastewater/ sewage management system and associated irrigation area, including baseline data on soil characteristics, a technical assessment of the suitability of the soil to sustain ongoing wastewater irrigation and assessment of potential impacts to any nearby terrestrial waterway or groundwater systems	Section 5 Section 4.2 Section 4.1.4 Section 6.4 Section 6.5
Description and appraisal of impact mitigation and monitoring measures, including any associated water monitoring program.	Section 6 Section 7.5
Waste and wastewater management	
Details of waste handling including transport, identification, receipt, stockpiling, and quality control including off-site reuse and disposal	Section 7.4
Detail of waste management including manure and disposal of dead cattle for the proposal	Section 7.4
Details of the quantity and type of liquid and/or non-liquid waste(s) generated or disposed of at the site	Section 5.2
Details of the key pollutant concentrations of wastewater before and after treatment with reference to relevant water quality guidelines.	Section 5.2.2.2

2.3 Relevant guidelines

Relevant guidelines used in this assessment are:

- > *The National Guidelines for Beef Cattle Feedlots* (Meat & Livestock Australia Limited, 2012a) (the Feedlot Guideline);
- > *Handbook of best practice guidelines for the Australian feedlot industry* (Meat & Livestock Australia, 2021);
- > *Beef cattle feedlots: waste management and utilisation* (Meat & Livestock Australia, 2015);
- > *The Inter-Departmental Committee on Intensive Animal Industries* (1997) - NSW Feedlot Manual
- > *The Environmental Guidelines: Use of effluent by irrigation* (DEC 2004) (the Reuse Guidelines);
- > *Environmental management guidelines for the dairy industry* (NSW Department of Primary Industries (2008); and
- > *Managing Urban Stormwater: Soils and Construction, 4th Edition* (Landcom, 2004) (The Blue book).



2.4 Structure

- > **Section 2** provides an introduction and sets the scope of the report;
- > **Section 3** details the existing facility and the proposed development;
- > **Section 4** presents a site description and assesses feedlot environmental values to confirm the suitability of the site to accommodate the proposed development;
- > **Section 5** presents the manure management system, including modelling and sizing of key components and describes the waste utilisation for the proposed development.
- > **Section 6** provides an assessment of the potential impacts on soils and water and proposes mitigation measures for these impacts; and
- > **Section 7** outlines the management plan for the facility, including drought conditions water supply, sediment and erosion controls, waste management, a monitoring program and contingency measures that are to be implemented when approaching or exceeding critical sustainability triggers.



3. EXISTING FACILITY AND PROPOSED DEVELOPMENT

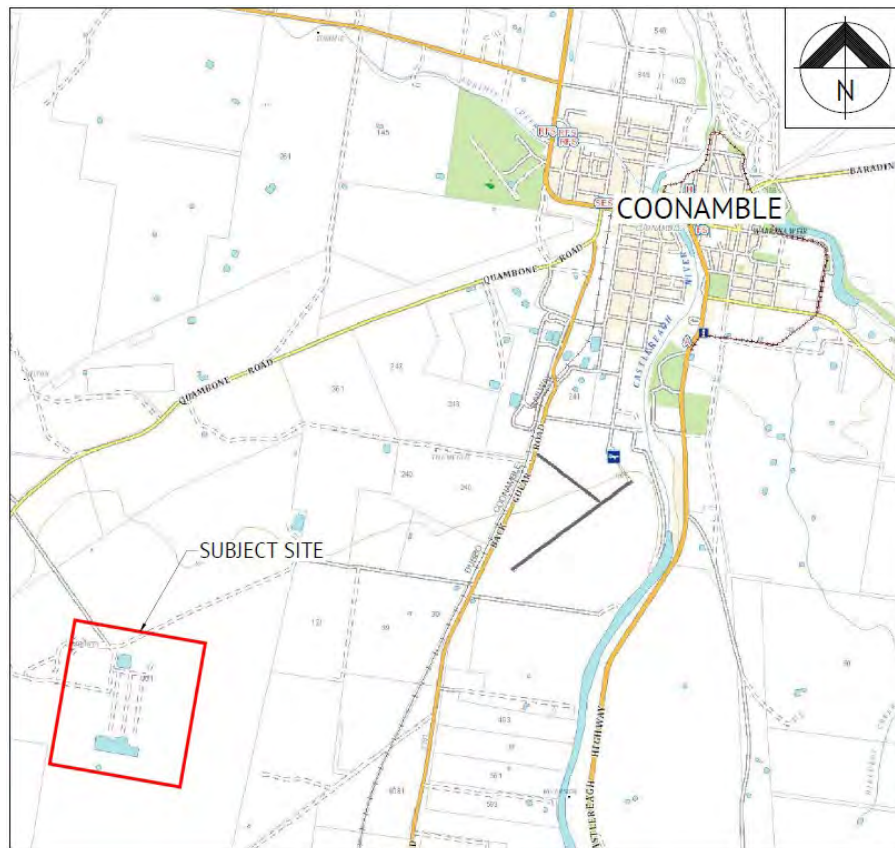
3.1 Site

Moonya feedlot is located approximately five (5) kilometres (km) south-west from the town of Coonamble (Figure 1).

The site and associated farming activities are located at 701 Quambone Road. The feedlot’s EPL 12467 applies to the following lots (Figure 2):

- > Lots 113 DP 754199;
- > Lot 119 DP 754199;
- > Lot 121 DP 754199; and
- > Lot 124 DP 754199.

Figure 1 - Moonya feedlot location



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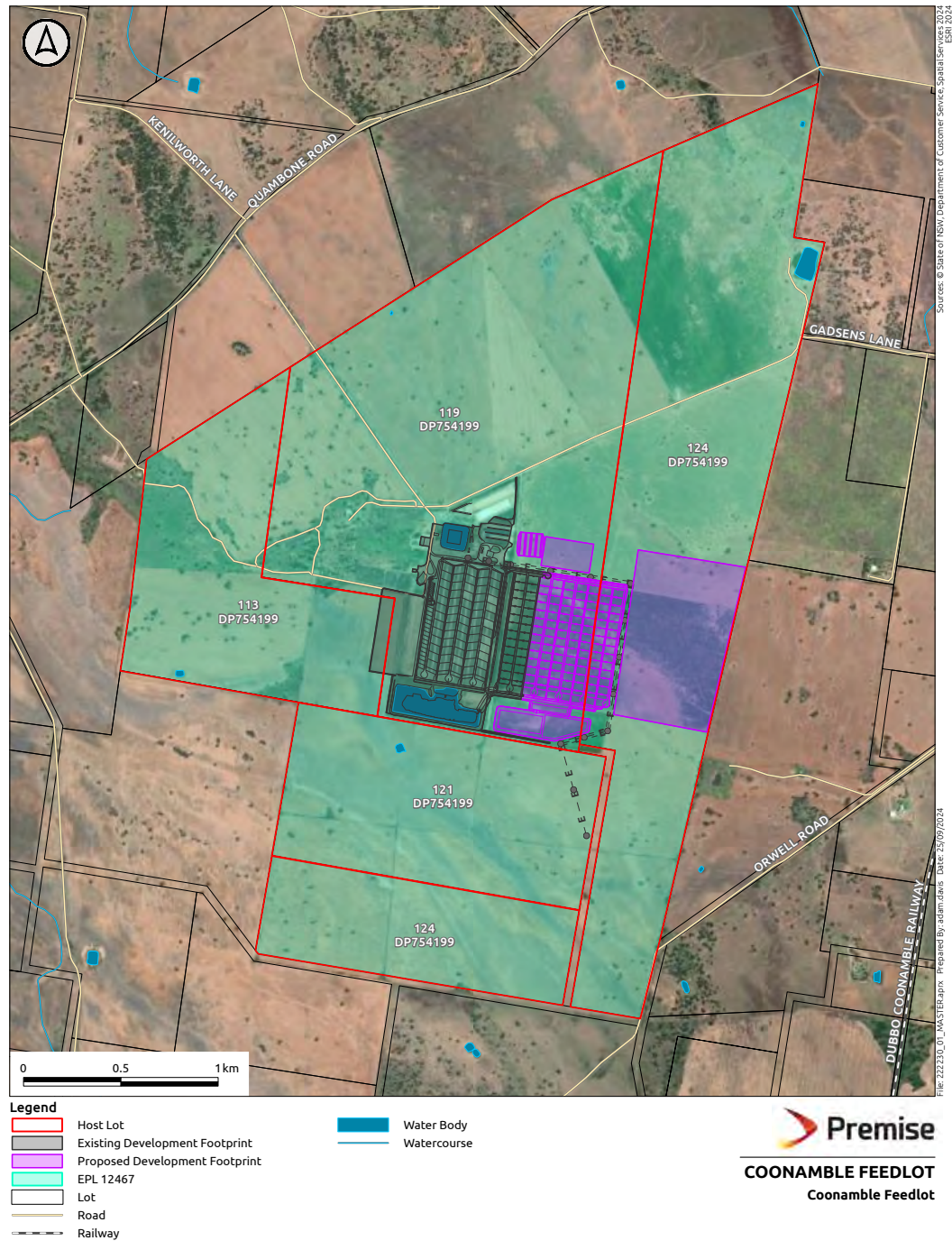


Figure #

PAGE 6 | Moonya Feedlot Expansion

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SOIL AND WATER IMPACT ASSESSMENT AND WASTE AND WASTEWATER MANAGEMENT

3.2 Existing operations

The existing 10,000 head feedlot was designed in accordance with the New South Wales Feedlot Manual (Department of Urban Affairs, 1995) and the Victorian Code for Cattle Feedlots (Department of Agriculture Energy and Minerals (1995).

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

3.3 Proposed development

The proposed development involves an expansion of the existing feedlot to accommodate an overall capacity of 30,000 head. **Figure 3** presents the feedlot expansion footprint. It shows that the existing feedlot would be expanded to the east, increasing the overall development footprint of the feedlot facility by approximately 40 hectares (ha).



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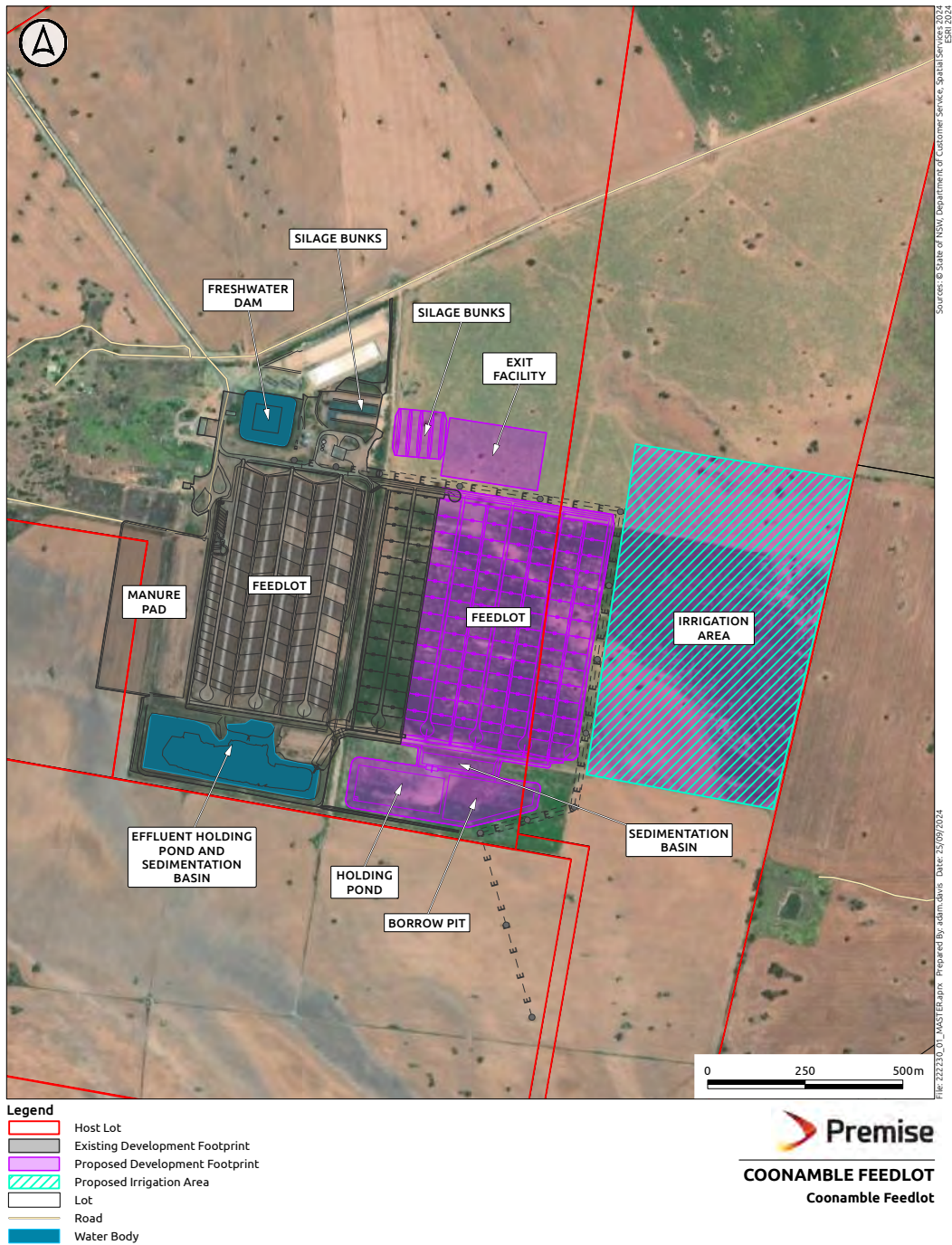


Figure #

4. SITE DESCRIPTION AND SUITABILITY

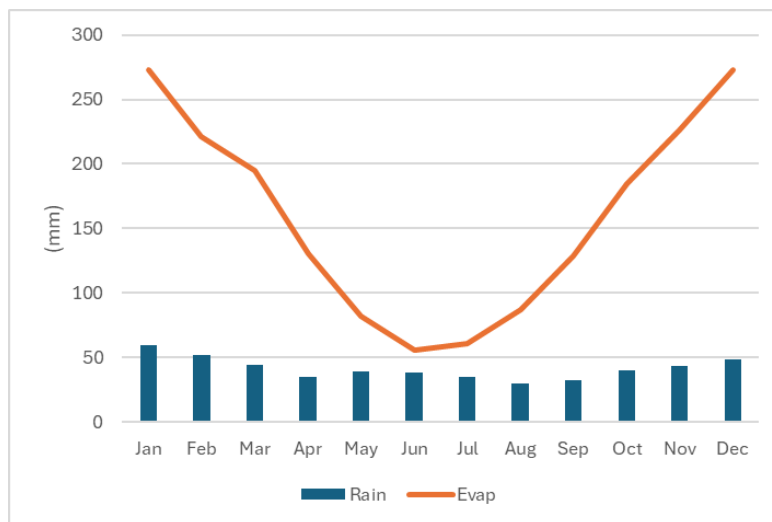
4.1 Feedlot Environmental Values

4.1.1 CLIMATE

Coonamble is located on the central-western plains of New South Wales (NSW).

Average monthly rainfall and evaporation derived from long term SILO data is presented in **Figure 4**. Rainfall in the region is mainly summer dominant, with an average annual rainfall of approximately 497 millimetres (mm). The mean annual pan evaporation is 1,916 mm. Average monthly evaporation largely exceeds average monthly rainfall in summer and through the entire year.

Figure 4 - Monthly average rainfall and evaporation

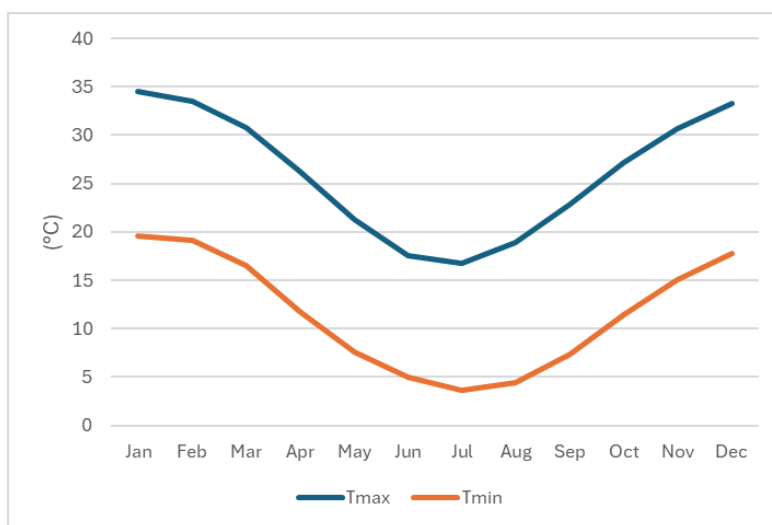


Average monthly minimum and maximum temperatures are provided in **Figure 5** and show:

- > seven (7) months of warm weather: October until April, with average minimum temperatures above 11.5 °C and average maximum temperatures above 25.5°C; and
- > five (5) months of cool weather: May until September.



Figure 5 - Average monthly minimum and maximum temperatures



4.1.2 LANDSCAPE

Coonamble is typically characterised by a semi-arid landscape. It features vast plains, sparse vegetation, and occasional shrubbery. The terrain is often flat or gently undulating, with dry conditions prevailing for much of the year. A Premise environmental monitoring technician visiting the site has confirmed this landscape description is correct (Figure 6).

Figure 6 – Moonya feedlot landscape



4.1.3 FLOODING

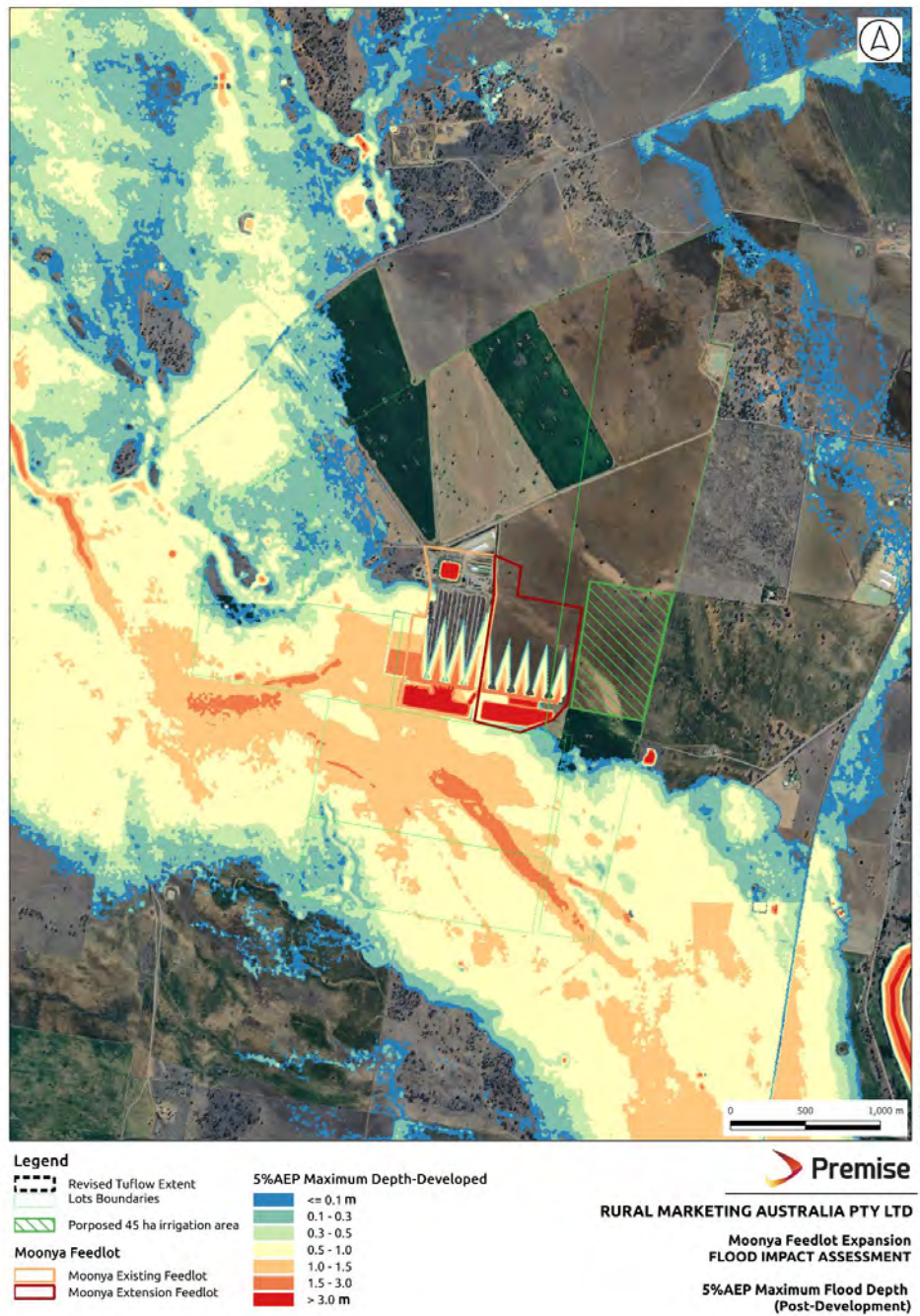
Modelling conducted by Premise for the feedlot expansion indicates that the proposed irrigation area is not impacted by a 5% Annual Exceedance Probability (AEP) flooding event (Figure 7).



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Figure 7 - Flooding modelling results - AEP = 5%



4.1.4 SOILS RESOURCES

4.1.4.1 Soils data and landform

Soil samples were collected across two transects within the proposed 45 ha irrigation area in July 2023. They provide a reliable representation of the soil within the proposed irrigation area. Samples were collected from three depths: 0–300 mm, 300–700 mm and 700–1000 mm. Soil sampling transects across the proposed irrigation area are presented in **Figure 8**.

Samples were sent to East West Enviroag laboratory for analysis of the following parameters:

- > Physical
 - Texture
 - Emerson Aggregate test
 - Available water capacity (mm/m)
 - Saturated hydraulic conductivity (mm/h)
 - PSA (hydrometer) complete
- > Chemical
 - Exchangeable Sodium Percentage (%)
 - Salinity measured as electrical conductivity (Ece)
 - pH (CaCl₂)
 - Effective Cation Exchange Capacity
 - Phosphorus sorption capacity (mg/kg)
 - Total Kjeldhal nitrogen
 - Nitrate Nitrogen

The landform considerations and soil results were collated and compared to values listed in Table 2.1 and Table 2.2 of the Reuse Guidelines which describe and rate the properties of soils likely to be suitable for effluent irrigation. A summary of the findings is provided in **Table 2** with key comments provided below. Full soil analysis report is provided in **Appendix B**.

Landform considerations:

- > The existing irrigation areas are flat and do not present any limitation for irrigation management;
- > There is no limitation due to surface rock;
- > There is no limitation due to flooding with the irrigation area not being affected by a 5% AEP rain event;
- > No groundwater or bedrock was encountered during field work conducted for soil sampling with bore holes dug up to one (1) metre (m) deep;



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- > According to Water NSW Work Summary, surface water level of bore GW039301, within site, is encountered at 8.6 m deep and water bearing zones below the site are first encountered at 215.8 m for GW039301 and 461 m for GW041028; and

Soils across the irrigation area show the following characteristics:

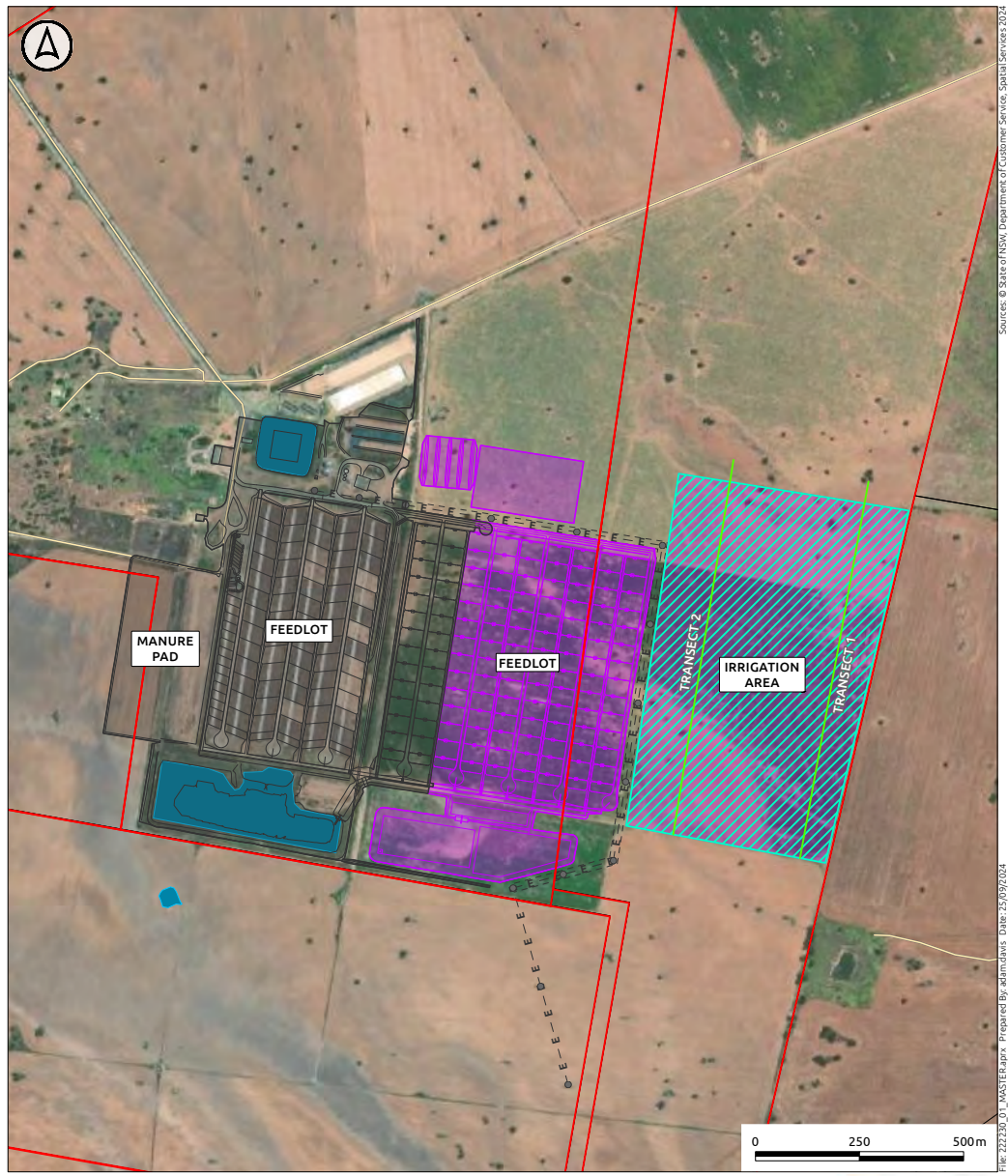
- > The soil profile is non-saline;
- > Soil surface (0-300 mm) presents ideal pH range for plant growth;
- > The effective cation exchange capacity (eCEC) of the soil presents moderate limitation, indicating a moderate capacity of these soils to hold nutrients. If required, gypsum application will improve soil eCEC;
- > Soils provide a non-sodic profile which indicate a reduced potential for structural degradation and waterlogging;
- > Soils are generally slightly dispersible. Monitoring is recommended and soil ameliorants may be required (typically gypsum);
- > The subsoil phosphorus sorption capacity is rated as moderate to high. It will be important to monitor nutrient loads across the irrigation areas and measure the phosphorus sorption capacity every few years to ensure any excess phosphorus is being retained in the soil profile;
- > Low hydraulic conductivity would be managed through control of application rate and use of soil ameliorants such as gypsum. This low conductivity would limit significant downward water movement. Water modelling considers this low conductivity by applying a low irrigation of 10 mm a day when irrigation is required by the soil profile.
- > Soils have an available water capacity with moderate restrictions. Good irrigation scheduling with low application rates will maintain the site sustainability.

The soil and landform assessment concludes that the proposed irrigation area is suitable for managed recycled water irrigation. Monitoring is recommended during irrigation to ensure effluent application remains sustainable (refer to **Section 6.5**).



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- Legend**
- Host Lot
 - Existing Development Footprint
 - Proposed Development Footprint
 - Proposed Irrigation Area
 - Lot
 - Road
 - Water Body
 - Soil Sampling Transects


COONAMBLE FEEDLOT
Coonamble Feedlot

Figure #

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Table 2 - Site limitations and suitability

Feature	Limitation ⁽¹⁾			Site Value	Rating	Comment
	Nil or Slight	Moderate	Severe			
Slope Sprinkler Irrigation	<6%	6-12%	>12%	<6%	Nil to slight	Sites surface defined as predominately flat during soil sampling.
Flooding	Non-rare	Occasional	Frequent		Nil to slight	Proposed irrigation area non-affected by a 5% Annual Exceedance Probability (AEP) event.
Landform	Crests, convex slopes, and plains	Concave slopes, foot slopes	Drainage plains and incised channels	Crests, convex slopes, and plains	Nil to slight	
Surface rock	Nil	0-5%	>5%	Nil	Nil to slight	No surface rock encountered during soil sampling
Hydraulic conductivity 0 – 100 cm (mm/hr)	20-80	5-20 or >80	<5	7.3	Moderate	Average of two transects results. Potential for reduced infiltration would be managed through control of application rate and use of soil ameliorants such as gypsum if required. Low hydraulic conductivity considered in water balance modelling by low irrigation application of 10 mm/day when required by the soil profile. This lower conductivity would help to limit significant downward water movement.
Depth to water table (m)	>3	0.5-3	<0.5	>1	Nil - slight	No groundwater was encountered during field work conducted for soil sampling with bore holes dug up to one (1) m deep. According to Water NSW Work Summary, surface water level of bore GW039301, within the site, is encountered at





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Feature	Limitation ⁽¹⁾			Site Value	Rating	Comment
	Nil or Slight	Moderate	Severe			
						8.6 m deep and water bearing zones below the site are first encountered at 215.8 m for GW039301 and 461m for GW041028.
Depth to bedrock or hardpan (m)	>1	0.5-1	<0.5	>1	Nil to slight	No bedrock or weathered rock was encountered during soil sampling (1 m depth) in the effluent irrigation area.
Available water capacity (mm/m)	>100	<100		84 to 104 mm/m	Moderate	Managed by low application rates and irrigation scheduling.
Soil pH in CaCl ₂ (surface layer)	>6-7.5	3.5-6 >7.5	<3.5	6.6 to 6.95	Nil to Slight	Soil pH in CaCl ₂ (0-30 cm) ideal for plant growth.
Salinity measured as EC _e (dS/m at 0-70 cm)	<2	2-4	>4	<0.7	Nil or Slight	Non-saline soils.
Salinity measured as EC _e (dS/m at 70-100 cm)	<4	4/8	>8	<1.12	Nil to Slight	Non-saline soils.
Effective CEC (cmol(+)/kg) (average 0-40 cm)	>15	3-15	<3	14 (average 0-30 cm)	Moderate	Moderate capacity to hold and exchange cations.
Exchangeable Sodium Percent (0-40 cm)	0-5	5-10	>10	<1.6	Nil to slight	Soils are non-sodic.





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Feature	Limitation ⁽¹⁾			Site Value	Rating	Comment
	Nil or Slight	Moderate	Severe			
Exchangeable Sodium Percent (40-100 cm)	<10	>10	-	<2.3	Nil to slight	Soils are non-sodic.
Emerson aggregate test (0-100 cm)	4,5,6,7,8	2,3	1	5, except: T1 70-100: 4 T2 0-30: 3	Slight to moderate	Soils present negligible to moderate limitation in term of structure and are slightly dispersible. Addition of gypsum might be required.
P sorption capacity (mg P/kg)	High	Moderate	Low	298 - 367 mg/kg in topsoil 229 to 376 mg/kg in subsoil	Nil, Slight to moderate	Soil depth is greater than 1 m, and a moderate to high phosphorus sorption capacity exists (as kg/ha). Nutrient mass balance of irrigation application is monitored through testing of soil and effluent, including phosphorus sorption capacity of soil profile.

(1) [Table 2.2 of DEC \(2004\)- Use of effluent by irrigation.](#)



4.1.4.2 Existing soil contamination

The proposed future expansion area soil has been used as an agricultural land since the early 2000s. Since operation of the feedlot, the license holder always used agricultural products responsibly with caution and with adherence to labelling, ensuring the well-being of both the livestock and the environment. The sustainable agricultural practices within the feedlot operation ensure the absence of soil contamination.

A review of the List of NSW contaminated sites notified to EPA under Section 60 of the Contaminated Land Management Act 1997 (Contaminated Land Act) for Coonamble confirms that the soil within the licensed lots of the feedlot is not contaminated (list of 08 April 2024), with the only two contaminated sites in Coonamble being:

- > Former Shell Coonamble Depot at the corner of Aberford Street and Quambone ROAD; and
- > Caltex Service Station on Quambone Road.

4.1.5 TOPOGRAPHY

As mentioned in **Section 3.1.2**, topography the feedlot site can be characterised as flat. **Figure 9** shows the elevation of the site using a 5 m Digital Elevation Model (DEM) from NSW government spatial services extracted from the Elvis website.

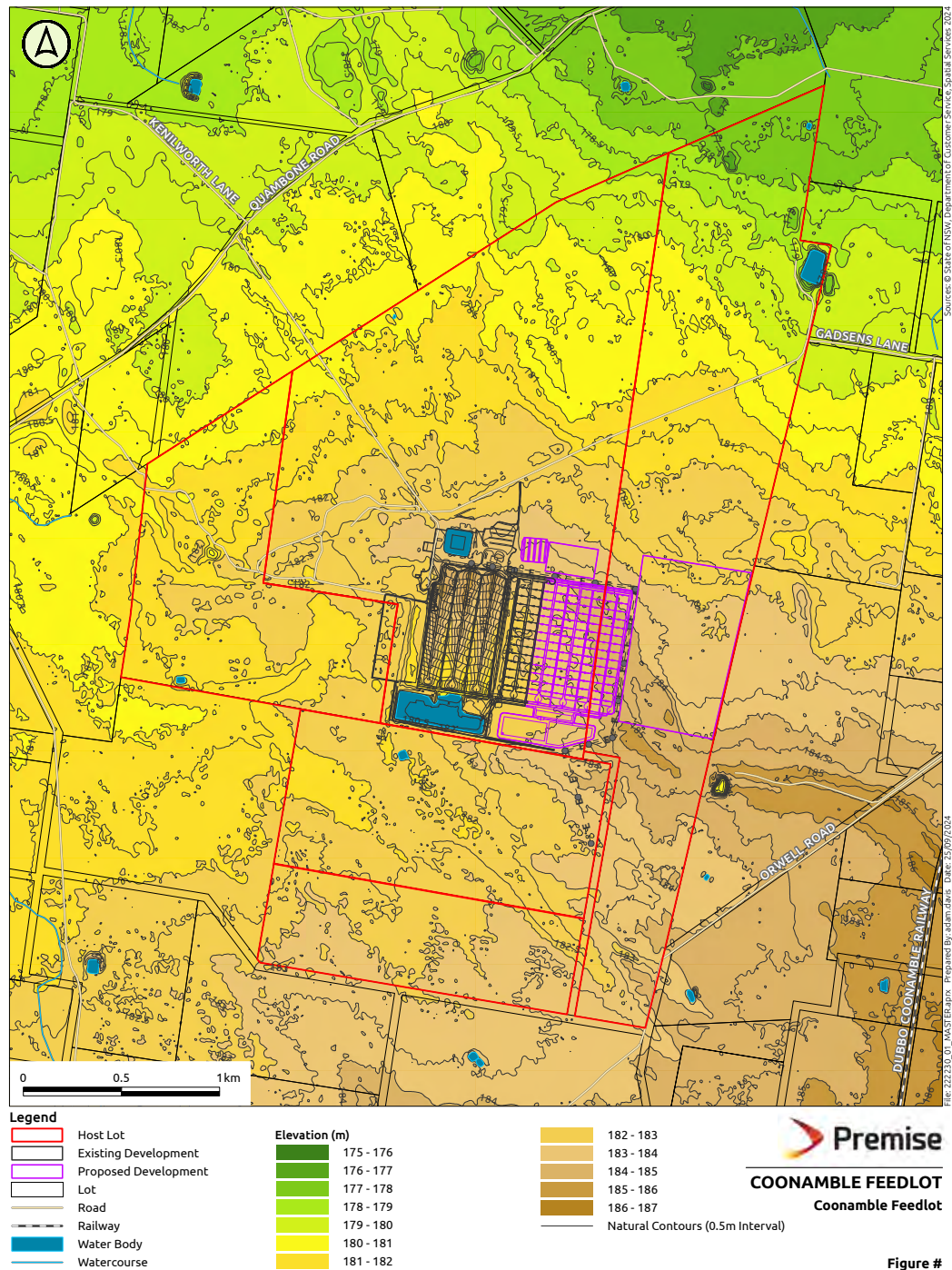
It shows that the elevation within the facility is fairly constant over the site with the elevation varying between a minimum of 175 m on its north-east end and a maximum of 187 m on its south-east site (Australian Height Datum (AHD)). Most of the site sits between 181 m to 184 m. Considering the site covers an area over 1,000 ha, it is sensible to consider the topography of the site a flat.

Figure 9 illustrates that most of the proposed irrigation area is located within an elevation of 181 m to 184 m, within only the south-west part of proposed irrigation area one sitting within an elevation of 184 to 187 m. This confirms the description of a flat landscape by Premise environmental technician during soil sampling at the proposed irrigation area.



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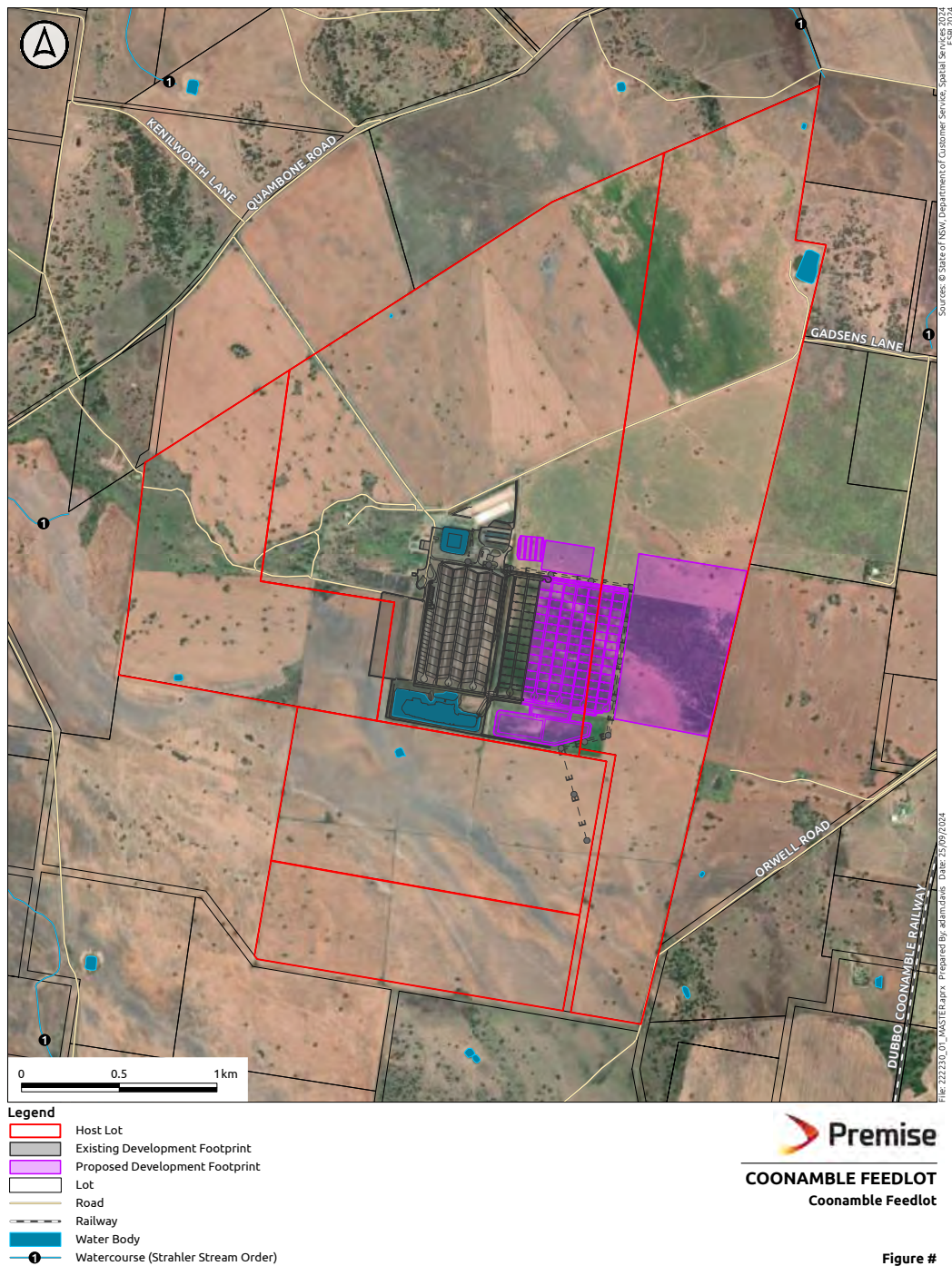
4.1.6 DRAINAGE

The feedlot is located approximately three (3) kilometres (km) west of the Castlereagh River. No hydroline is located within the facility licensed lots (**Figure 10**). The closest hydroline to the site is located 50 m from the north-east end of the feedlot.



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4.1.7 WATER ACCESS LICENSE

Considering the feedlot water usage data between 2022 and 2024 (**Table 3**), the feedlot would require around 765 ML of water per year to operate the feedlot at 30,000 head.

The facility holds a total water access license (WAL) for 1,003 ML per year and a Bore Extraction Limit (BEL) for 850 ML per year. Details of the WALs are presented in **Table 4**.

With its BEL limitation, the feedlot will have sufficient water to support 30,000 head of cattle.

Table 3 – Feedlot drinking water

Year	Units	Value
2022-23	L/head/day	72.4
2023-24	L/head/day	66.1
2022-24	L/head/day	69.7

Table 4 - Facility water license

WAL	Approval Number	Entitlement (ML/year)	Water Source	Water sharing plan
15726	80WA704193	400	Surat Groundwater	NSW Great Artesian Basin Groundwater Sources 2020
15725	80CA704183	603	Surat Groundwater	NSW Great Artesian Basin Groundwater Sources 2020

4.1.8 STORMWATER MANAGEMENT

The feedlot expansion will sit within a designed controlled drainage area (CDA) to ensure all runoff is captured by the effluent management system. Water balance modelling will assess if the existing and design CDA can effectively manage the run-off from the exiting feedlot and proposed feedlot expansion (i.e. each holding pond with a spilling frequency less than 1 in 10 years).

4.1.9 GROUNDWATER

No groundwater was encountered during field work conducted for soil sampling with bore holes dug up to one (1) m deep.

Table 5 details the bores within and around the facility. **Figure 11** shows their locations.



All the bores outside the facility are at greater distance than 250 m from the feedlot site (suggested separation distance for bores supplying potable water as defined in the Reuse Guidelines). The two bores within the facility are used for stock/domestic purposes: GW041028 is used to supply water to the cattle and GW039301 is used for the house on site and some paddocks surrounding the feedlot. Both these bores are located at a greater distance than 800 m from the proposed irrigation area.

According to Water NSW Work Summary, the water bearing zones below the site are first encountered at 215.8 m for GW039301 and 461 m for GW041028.

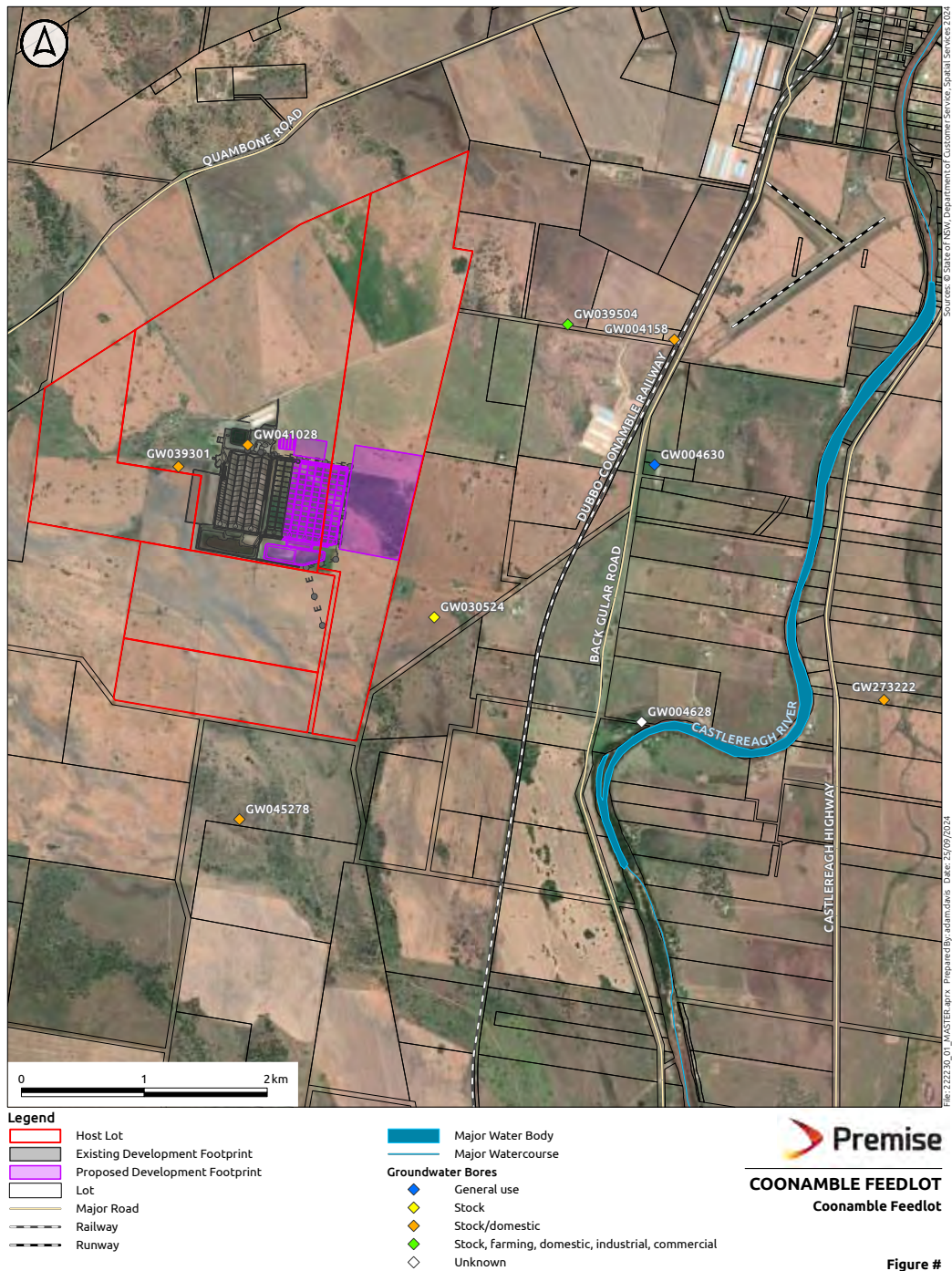
Table 5 – Groundwater bores

Location	Bore ID	Purpose	Standing water level (SWL) (m)	Water bearing zone first encounter (m)
Within the facility	GW041028	Stock/domestic	NA	461
	GW039301	Stock/domestic	8.6	215.8
Outside of the facility	GW030524	Stock	2.9	37.2
	GW039504	Stock, farming, domestic, industrial, commercial	NA	452
	GW004158	Stock/domestic	44.8	44.8
	GW004630	General use	NA	43
	GW045278	Stock/domestic	12.8	73.1
	GW004628	Unknown	3.6	6
	GW273222	Stock/domestic	NA	345
NA: Not available				



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4.1.10 SEPARATION DISTANCE

4.1.10.1 Separation distance from effluent irrigation

Relevant separation (buffer) distances for the proposed development were derived from the environmental guidelines: *Use of effluent by irrigation guidelines*. Suggested buffer distance from ephemeral stream and property boundary is derived from the Dairy Guidelines for the land application of effluent and manure (DPI, 2008). Separation distance from the use of effluent by irrigation guidelines considers distance to effluent reuse area (i.e. irrigation area), while dairy guidelines suggest distances from land application of effluent, manure, or sludge.

The suggested minimum separation from these references and the distance adopted for effluent reuse are listed in **Table 6**.

Table 6 - Suggested and adopted minimum separation distances for effluent reuse

Feature	Separation distance (Use of effluent by irrigation guidelines)		Separation distance (Dairy guidelines), m	Distance adopted
	Low strength effluent, m	Medium to high strength effluent, m		
Natural waterbodies (e.g. rivers, lakes)	50	50		50
Other waters (e.g. artificial waters with beneficial uses, small streams, intermittent streams, water distribution and drainage channels, farm dams)	Site specific	Site specific		50
Dry runoff/erosion gullies on property (ephemeral stream)			40	40
Domestic well used for household water supply	Site specific	250		250
Town water supply bores	Site specific	1,000		1,000
Where spray irrigation gives rise to aerosols near houses, schools, playing fields, roads, public open space, and waterbodies	50	50		50
Property boundary			10	10



4.1.10.2 Separation distance from manure spreading

Relevant separation (buffer) distance to surface water were derived from the NSW Feedlot manual. Suggested minimum separation from these references and the distance adopted for manure spread are listed in **Table 7**. Other buffer distances are derived from the Dairy Guidelines for the land application of effluent and manure (DPI, 2008).

Table 7 – - Suggested and adopted minimum separation distances for manure spreading

Feature	Separation distance (NSW manual feedlot), m	Separation distance (DPI, 2008), m	Distance adopted
Downslope surface water	100		100
Bore, well or spring supplying potable water		100	100
Major River and Creek	100		100
Minor or intermittent watercourses		50	100
Dry run-off/erosion gullies on properties		10	10
Property boundaries		10	10

4.2 Available reuse areas

4.2.1 IRRIGATION AREA

Figure 12 shows the location of the proposed 45 ha irrigation area.

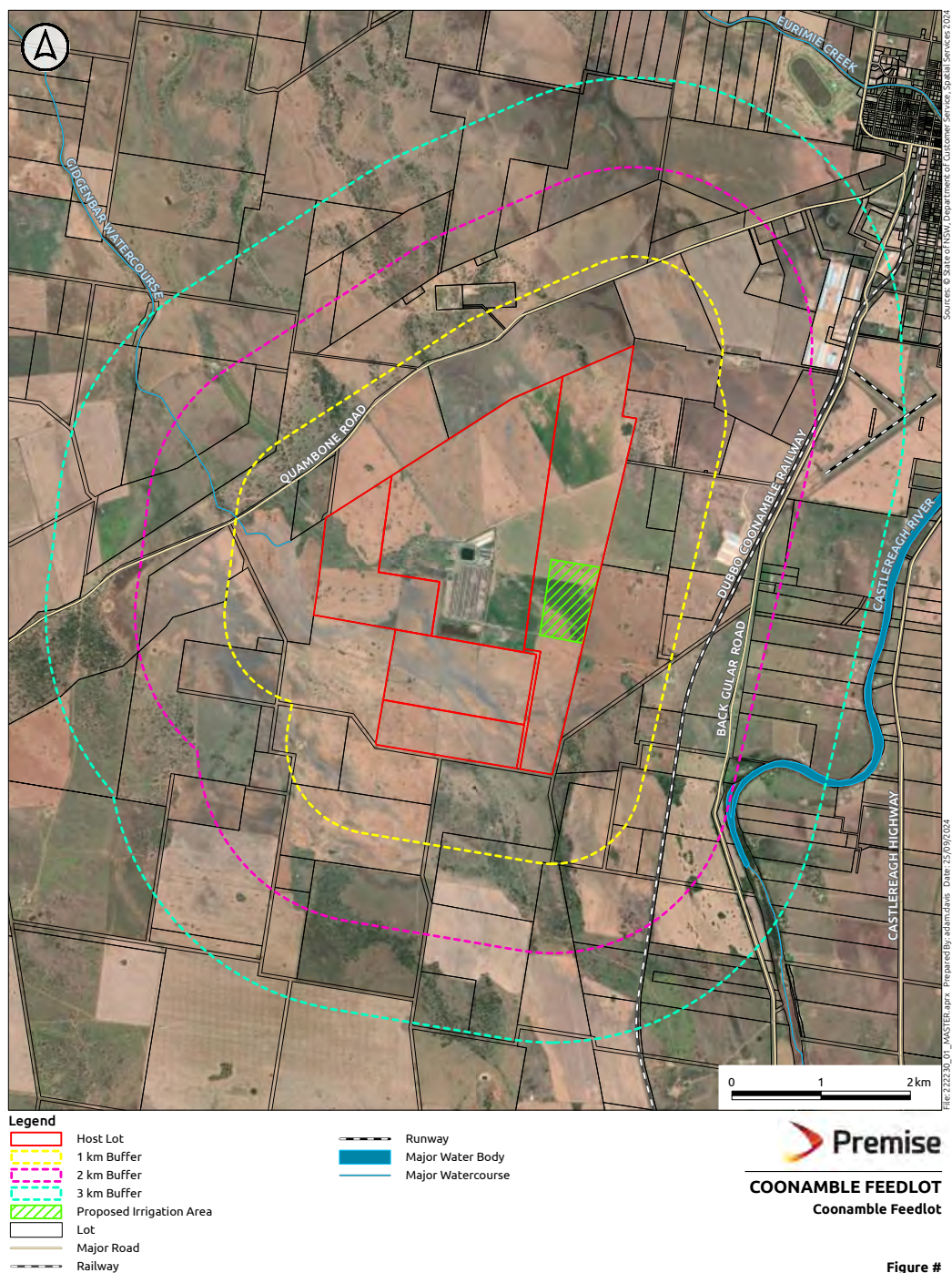
The closest hydroline (ephemeral stream) is located at a distance greater than 1 km from the proposed irrigation areas. The closest bore outside the facility (GW030524), used for stock purpose, is located at a distance exceeding 500 meters, while the closest bore within the site (GW041028), used to supply drinking water to the cattle, is located at a greater distance than 850 m.

Property boundary is located at greater distance than 10 m from the proposed irrigation areas.



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4.2.2 CROPPING LAND FOR MANURE SPREADING

The closest offsite bore, used for stock purposes, is located at a greater distance than 350 m from the site boundary.

100 m buffer distance is considered for:

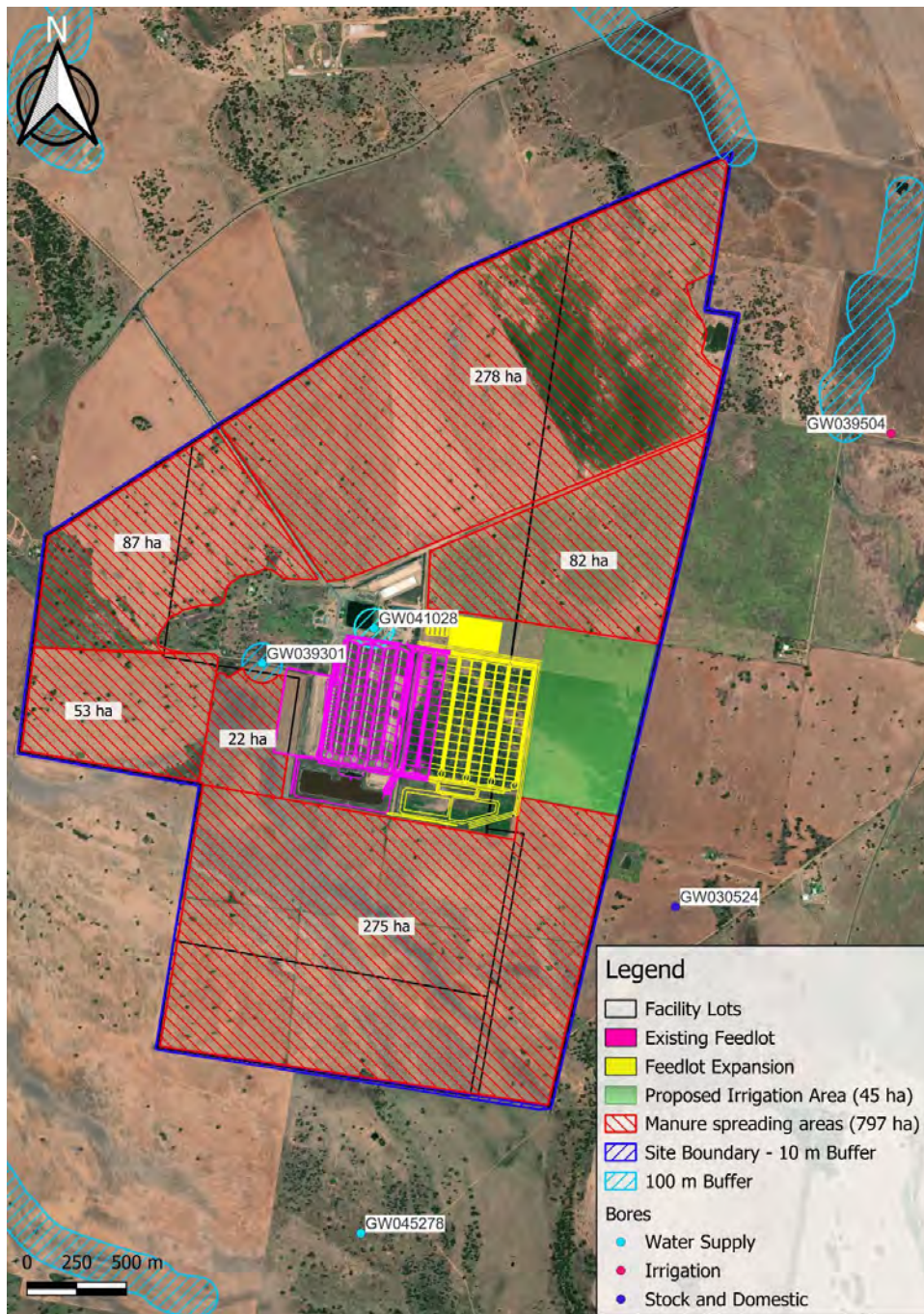
- > The bore used for the house within the site (GW039301); and
- > The hydroline located at the north-east end of the site (all other hydroline being at greater distance from the licensed lots of the feedlot).

The feedlot has around 797 ha of cropping land for manure spreading, accounting for buffer zones, and 45 ha for effluent reuse.

Figure 13 illustrates the location of the cropping land designated for manure spreading, deducting the proposed irrigation area.



Figure 13 - Manure spreading areas



4.3 Site Suitability

The consideration of the feedlot environmental values demonstrates that the site is suitable for the proposed feedlot development. Key considerations are:

- > the proposed irrigation areas are located above the 5% AEP flood level;
- > soils across the proposed irrigation areas are suitable for managed recycled water irrigation with no major limitations;
- > the soil at the location of the proposed sedimentation basins and holding pond can be engineered to form a low permeability clay liner;
- > there are no external groundwater users in the area and minimum separation distances can be applied;
- > there are no hydrolines within the feedlot site and minimum separation distances can be applied;
- > the site can be managed to meet the suggested minimum separation distances for the application of effluent and solids; and
- > the feedlot will only increase its number of cattle heads according to its increasing WAL. The feedlot will require around 765 ML of water per year to supply drinking water to 30,000 cattle.

5. MANURE MANAGEMENT SYSTEM

5.1 Effluent management system

5.1.1 OVERVIEW

The proposed feedlot pen expansion would be located to the east of the existing feedlot pens. The proposed effluent management system for the feedlot expansion will be separate to and operate independently to the existing effluent management system. Both effluent ponds (existing and proposed) will supply effluent to a 45 ha irrigation area.

The layout of the proposed feedlot expansion is presented in **Figure 3**.

5.1.2 EFFLUENT MANAGEMENT SYSTEM

A controlled drainage area (CDA) has been designed around the existing feedlot and the proposed feedlot expansion area to ensure all runoff is captured by the effluent management system. Both CDA operate independently and supply effluent to the same 45 ha irrigation area.

Run-off from the proposed handling facility would be collected in a designed sedimentation basin before being pumped into the proposed CDA.



5.1.3 EXISTING SEDIMENTATION BASINS

5.1.3.1 Existing feedlot

The existing feedlot sedimentation basin 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 sedimentation basin 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).

5.1.3.2 Existing rehabilitation pens

The existing rehabilitation sedimentation basin has a volume of 1,800 m³. The maximum surface area is 2,033 m². This volume is more than the volume required to cater for the peak flow rate from a design storm having an ARI of 20 years (1,512 m³) (Premise, 2023).

5.1.4 SEDIMENTATION BASINS FOR FEEDLOT EXPANSION

Two sedimentations basins were sized for the feedlot expansion:

1. One sedimentation basin to collect run-off water from the proposed handling 'Exit facility.' The water is then pumped to the proposed CDA through a ten (10) litres per second (L/s) pump to the proposed CDA; and
2. One sedimentation basin to collect water from the proposed CDA.

The proposed sedimentation basins for the feedlot expansion were 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 basins are given in **Table 8**:

Table 8 - CDA catchment areas

System	Catchment type	Catchment area (m ²)	Runoff coefficient	Equivalent runoff area
Sedimentation basin (proposed handling facility)	Pens	10,000	0.8	8,000
	Hard	10,000	0.8	8,000
	Soft	17,500	0.4	7,000
	Total	37,500	0.72	27,000
Sedimentation basin feedlot expansion	Pens	225,000	0.8	180,000
	Hard	41,700	0.8	33,360
	Soft	12,100	0.4	4,840
	Total	278,800	0.78	224,896

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 9**.



Table 9 - Expansion pens parameters

Sedimentation basin	Parameters	Value	Units
Sedimentation basin (proposed handling 'Exit facility')	Pen slope	1.00	%
	Drain Slope	0.50	%
	Pen overland flow length	50	m
	Pen overland flow time	9.7	min
	Drain length	30	m
	Drain flow time*	1	min
	Time of concentration (t_c)	10.7	min
Sedimentation basin feedlot expansion	Pen slope	3.00	%
	Drain Slope	0.50	%
	Pen overland flow length	56.1	m
	Pen overland flow time	8.1	min
	Drain length	678.0	m
	Drain flow time*	22.6	min
	Time of concentration (t_c)	30.7	min
*Based of a drain velocity of 0.7m/s			

The peak flow for a catchment time of concentration of 11 min for a 20 ARI storm event is, $Q_p = 0.91 \text{ m}^3/\text{s}$.

The peak flow for a catchment time of concentration of 31 min for a 20 ARI storm event is, $Q_p = 4.79 \text{ m}^3/\text{s}$.

The minimum sediment basin volumes required for the peak flow, with a 10% buffer capacity are:

- > $V_p = 1,000 \text{ m}^3$ for the handling 'Exit facility' sedimentation basin; and
- > $V_p = 5,300 \text{ m}^3$ for the feedlot expansion sedimentation basin.

The designed sedimentation basin for the handling facility sedimentation basin was modelled with a maximum volume of $1,700 \text{ m}^3$. This volume 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.

The designed sedimentation basin for the feedlot expansion has a maximum volume capacity of $5,500 \text{ m}^3$. This volume 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.



5.1.5 EXISTING HOLDING POND

Volumes of the existing holding pond from a survey are presented in **Table 10** (Premise, 2023). 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 capacities of the holding pond are to the points where it would back-up into the sediment basin and where, in very wet conditions and in the worst case, it would reach the effluent drain (i.e. the inlet of the sedimentation basin).

Table 10 – Surveyed existing holding pond parameters (Premise, 2023)

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

5.1.6 PROPOSED HOLDING POND FOR FEEDLOT EXPANSION

The proposed holding pond for the feedlot expansion presents a volume to the base of slotted board on sedimentation basin of 50,000 m³ with a corresponding surface area of 45,788 m². Its volume to the lower end of the feedlot drainage is 125,000 m³.

5.1.7 WATER BALANCE MODELLING

Water balance modelling was undertaken to determine if the existing and proposed holding ponds, associated with a 45 ha irrigation area, could maintain a spilling frequency for each pond less than once in every ten years.

It is important noting that the proposed holding pond is constructed the same as the existing one, in a way that the holding pond cannot spill, until stored effluent backs up into the bottom third of the existing pens and drains. The holding pond design capacities considered are the point where it would back-up into the sediment basin and when it would back up into the drainage lines (i.e. the inlet of the sedimentation basin).

5.1.7.1 Control drainage area and hydrology

The existing feedlot and the proposed feedlot expansion have their own control drainage area (CDA).

Existing feedlot CDA includes:

- > existing feed pens, access laneway, feed lanes and drains;
- > existing rehabilitation pens;
- > existing sedimentation basin and existing rehabilitation sedimentation basin;
- > existing manure pad; and
- > existing holding pond.



The proposed feedlot expansion CDA includes:

- > proposed feedlot expansion pens, access laneway, feed lanes and drains;
- > proposed handling facility;
- > proposed sedimentation basins; and
- > proposed holding pond.

Daily-step hydrological modelling of the CDA, sedimentation basins and holding ponds has been used to establish that the sedimentation basins (existing and proposed) and the holding ponds (existing and proposed) can accommodate effluent from their own CDA.

The model uses 135 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:

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

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 11**.

Table 11 - 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



5.1.7.2 Irrigation module

The water cycle model includes an irrigation reuse component that is based on a soil moisture balance to calculate the irrigation demand. Irrigation scheduling was set to apply 10 mm when the soil moisture deficit was greater than 15 mm below field capacity. This allows to consider the soil low hydraulic conductivity and maintains a buffer in the soil profile. Should a storm follow irrigation, the soil is in a condition to accept the first 5 mm of moisture, effectively absorbing much of the remaining surface nutrients. This effect minimises the risk of any runoff contamination.

The soil moisture calculations are based on the following equation:

$$\text{Change in Soil Storage} = \text{Precipitation} + \text{Irrigation} - \text{Evapotranspiration} - \text{Runoff} - \text{Drainage}$$

The above equation is used to track soil moisture using a daily time step as described by the following equation:

$$\theta_d = \theta_{d-1} + P_d + I_d - ET_d - R_o - D_d$$

- Where θ_d = soil moisture at the end of the current day
- θ_{d-1} = soil moisture at the end of the previous day
- P_d = rainfall for the current day
- I_d = irrigation for the current day
- ET_d = crop evapotranspiration for the current day
- R_o = runoff

D_d = drainage below the root zone for the current day.

The model adopts the following soil properties:

- > Soil depth 1 m
- > Soil texture 32% coarse sand / 30% fine sand / 15% silt / 24% clay (laboratory results)
- > Maximum water holding capacity 390 mm/m (θ_{max})
- > Field capacity 343 mm/m (θ_{FC})
- > Crop stress 270 mm/m (θ_{stress})
- > Wilting point 248 mm/m (θ_{WP})
- > Maximum drainage 174 mm/day (k_{drain})



The following calculations are made based on soil moisture (θ):

> Runoff, $R_o = r_c \times P$

Where P = rainfall

r_c = runoff coefficient: $r_c = 0$ when $\theta \leq \theta_{FC}$ and $P < 5\text{mm}$

$r_c = 0.1 \times P$ if $P > 5\text{mm}$

$r_c = (\theta - \theta_{FC}) / (\theta_{max} - \theta_{FC})$ when $\theta > \theta_{FC}$

> Actual evapotranspiration, AET: AET = PET when $\theta > \theta_{stress}$

AET = $(\theta - \theta_{WP}) / (\theta_{stress} - \theta_{WP}) \times \text{PET}$ when $\theta_{WP} < \theta \leq \theta_{stress}$

AET = 0 when $\theta \leq \theta_{WP}$

Where PET = potential evapotranspiration (pan evaporation x crop factor)

> Deep drainage, D : $D = (\theta - \theta_{FC}) / (\theta_{max} - \theta_{FC}) \times k_{drain}$ when $\theta > \theta_{FC}$

$D = 0$ when $\theta \leq \theta_{FC}$

5.1.7.3 Water balance results

Water balance model results for combined existing and expansion feedlot are displayed in **Figure 14** and **Figure 15**. This model used:

- > The CDA of the existing feedlot (including the existing pens, the existing rehabilitation pens, and the existing expanded manure pad);
- > The CDA of the proposed feedlot (including the proposed pens);
- > The existing and proposed sediment basins;
- > A 10 L/s pump in the handling facility sedimentation basin pumping water to the proposed CDA;
- > The existing and proposed holding ponds (nominal design volume of 60 and 120 ML for the existing holding pond and 50 and 125 ML for the proposed holding pond);
- > An irrigation area of 45 ha (with the existing holding pond irrigating 30 ha and the proposed holding pond irrigating 15 ha).

Effluent is removed from the holding ponds through evaporation and irrigation. (noting that the ponds do not actually spill).

Water balance model results show that:

- > Handling area sedimentation basin would spill an average of 1 in 11.25 years (91 percentile);
- > Effluent would reach the base of sediment basin from the existing holding pond an average of 1 in 27 years (96 percentile);
- > Effluent would reach the base of sediment basin from the proposed holding pond an average of 1 in 33.8 years (97 percentile);



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- > Effluent does not back up from the existing holding pond to the main effluent drain in the 135 years modelled; and
- > Effluent does not back up from the proposed holding pond to the main effluent drain in the 135 years modelled.

Water balance results show that the combined existing and proposed expansion systems, associated with 45 ha of irrigation, can manage the runoff through its CDA.



Figure 14 - Water balance - Effluent backing up to sedimentation basin

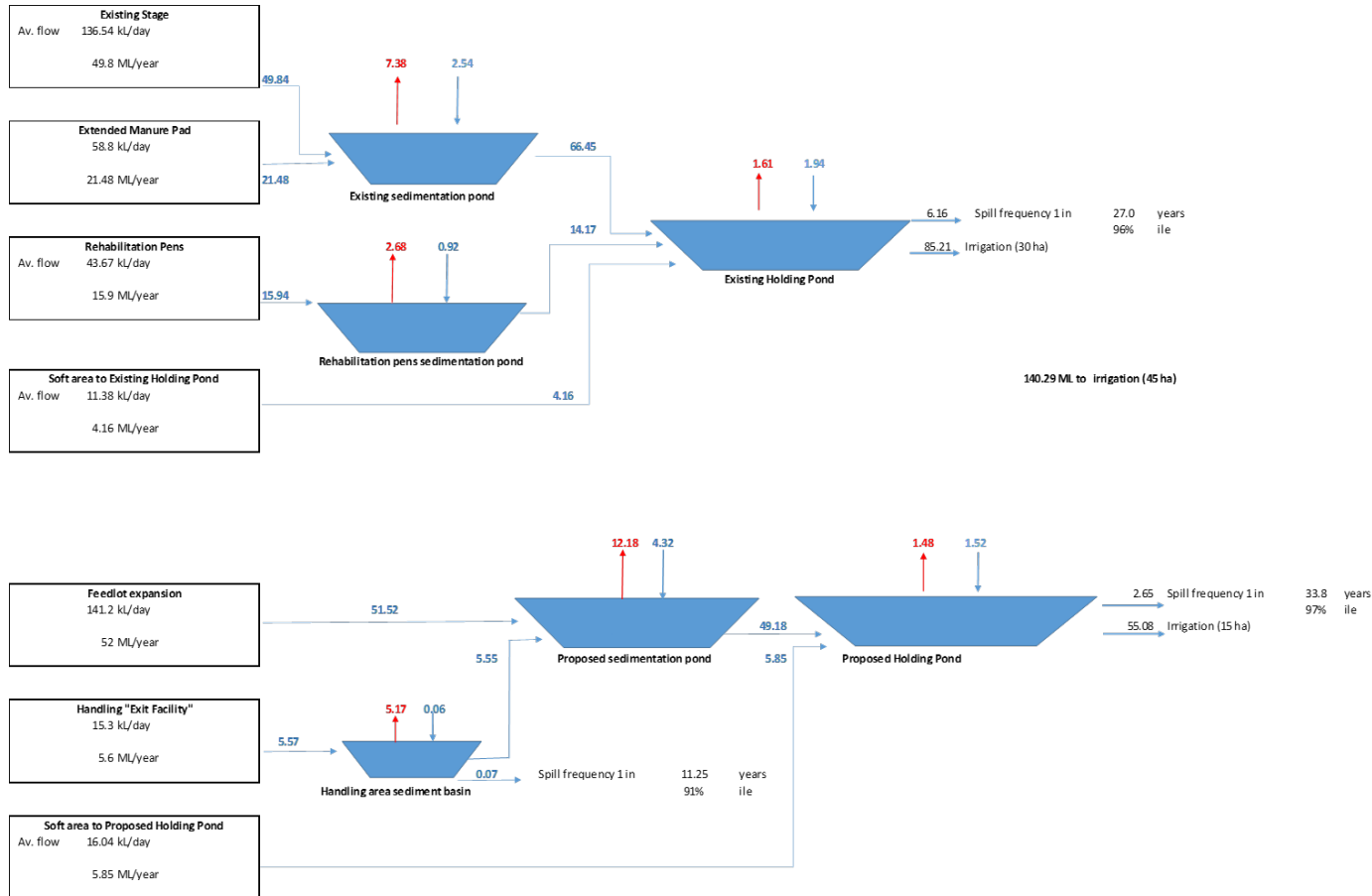
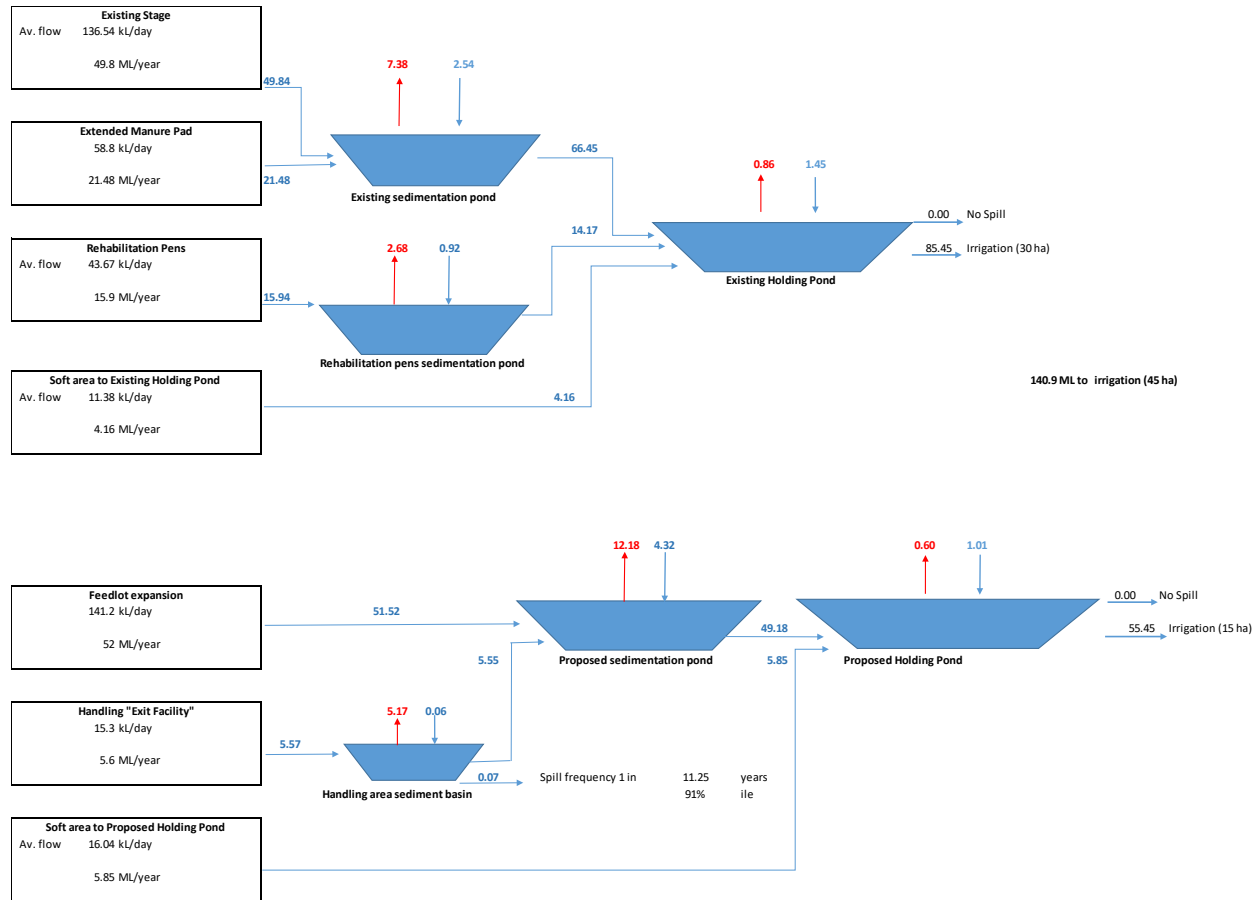


Figure 15 - Water balance - Effluent backing up to drainage lines



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5.1.8 POND LINERS

The sediment basins and holding pond for the feedlot expansion would be constructed with compacted clay liners. In accordance with the National Guidelines for Beef Cattle Feedlots in Australia, the minimum depth recommended for the clay liner is 300 mm after compaction. This should assure clay liners to have a maximum permeability of 1×10^{-9} m/s.

5.2 Waste utilisation

5.2.1 LIQUID EFFLUENT

Liquid effluent would be irrigated across a 45 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 140.4 megalitres (ML)/year would be irrigated which equates to a hydraulic load of 3.12 ML/ha/year across the 45 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 five years cropping program consisting of four (4) years of lucerne and one (1) year of barley and sorghum.

5.2.2 HYDRAULIC, ORGANIC AND NUTRIENT LOADING

5.2.2.1 Hydraulic loading

The feedlot runoff modelling indicates an average runoff volume of 140.3 ML/year, which would be irrigated after pond losses.

This equates to an average irrigation application of 3.12 ML/ha/year over 45 ha. This is a low annual irrigation which would not fully meet crop water requirements.

To account of the low irrigation and the inability to meet full crop requirement, an 80% crop yield was factored into the nutrient modelling.

5.2.2.2 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.

Typical effluent quality generated from rainfall over the feedlot area are presented in **Table 12** (The Inter-Departmental Committee on Intensive Animal Industries, 1997).



Table 12 – Typical feedlot effluent quality

Parameter	Unit	Typical feedlot quality
Chemical Oxygen Demand (COD)	mg/L	2,100
Biochemical Oxygen Demand (BOD)	mg/L	500
Total nitrogen as N	mg/L	148
Total phosphorus as P	mg/L	40
Potassium	mg/L	460
Sodium	mg/L	260
Calcium	mg/L	100
Magnesium	mg/L	72
Chloride	mg/L	620
SAR		4.6
Electrical Conductivity (EC)	dS/m	4.5
pH		8

These values represent the concentration expected in the effluent stream after it passes through both a sedimentation basin and a holding pond. For this modelling, the considered concentration of total nitrogen and total phosphorus are:

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

The five (5) years cropping program (four (4) years lucerne and one (1) year of barley and sorghum) is designed to reduce the nutrient concentration within the irrigation soil by absorbing these nutrients.

Table 13 presents the cropping program nutrient uptake.

Table 13 – Cropping program yield and nutrient uptake

Crop	years	Yield (t/ha/year)	Nitrogen% (kg/ha/year)	Phosphorus% (kg/ha/year)
Lucerne	4	15	3.5%	0.4%
			525	60
Barley	0.5	7.5	1.8%	0.4%
			135	30
Sorghum	0.5	12	1.8%	0.3
			216	36



Crop	years	Yield (t/ha/year)	Nitrogen% (kg/ha/year)	Phosphorus% (kg/ha/year)
Barley + Sorghum	1	19.5	351	66
Cropping program	5	15.9	490	61
80% yield factor	5	12.7	392	49

Table 14 shows the nutrient balance for the cropping program previously mentioned, considering:

- > The 45 ha proposed irrigation area;
- > An average effluent application of 3.12 ML/ha/year;
- > A conservative nitrogen volatilisation of 20 % during irrigation;
- > A cropping yield factor of 80 % to account the low irrigation; and
- > Nutrient removal rates listed in **Table 13**.

The nutrient balance for a 45 ha irrigation area indicates a small deficit in nitrogen and a slight surplus of phosphorus. This phosphorus excess would be retained in the soil profile. Soil within the proposed irrigation area presents an average phosphorus sorption capacity of 4300 kg/ha. The slight phosphorus excess could accumulate in the soil profile for around 57 years before some phosphorus movement through the soil profile may occur. Nitrogen deficit could be compensated by manure and/or fertiliser application.

Table 14 – Effluent utilisation area nutrient balance – 50 ha

Parameter	Units	Nitrogen	Phosphorus
Effluent applied	ML/ha/year	3.12	3.12
Nutrient content	mg/L	150	40
Irrigated effluent available for plan uptake	kg/ha/year	374	125
Total crop removal	kg/ha/year	392	49
Balance	kg/ha/year	-18	76

5.2.3 SOLID WASTES

Manure would be collected from the pen surface through regular pen cleaning. Collected manure would be stockpiled before being used across farming land on “Moonya” and/or sold offsite. **Table 15** shows the total manure harvested from the feedlot considering:

- > 30,000 head with an average weight of 568 kg;
- > An pens occupancy rate of 90%;
- > A harvested yield of manure from feedlots that retain an interface layer of 0.42 tonne (t) Total Solids (TS)/Standard Cattle Unit (SCU)/year (*Beef cattle feedlots: waste management and utilisation, 2015*)



Table 15 – Manure harvesting

Parameter	Units	Value
Cattle	head	30,000
Cattle	SCU	28,400
Cattle (90% occupancy rate)	SCU	25,560
Harvested yield of manure from feedlots that retain the interface layer	t TS/SCU/year	0.42
Total harvested manure from feedlot	t/year	10,735

Table 16 shows the solids spreading area needed for nutrient balance considering:

- > 2.18% nitrogen content in manure
- > 0.8 % phosphorus content in manure

Moonya feedlot can utilise about 797 ha of cropping land used to grow winter cereals. Results of Table 16 shows that 3,578 ha of winter cereals are needed to obtain a yearly phosphorus balance. It means that the feedlot will have to export some of its manure. Table 17 details the amount of manure suitable for spreading on the 797 hectares of on-site cropping land and the quantity for exportation.

Table 16 – Area requirements for solids spreading

Parameter	Units		Nitrogen		Phosphorus	
	%	t/year	2.18*	214.2	0.8*	78.6
Nutrient recovery						
Nutrient remove by winter cereal	kg/ha/year		160		24	
Area required for nutrient spreading	ha		1,463		3,578	
*Typical composition of Australian feedlot aged (stockpiled) manure - Beef cattle feedlots: waste management and utilisation (Meat & Livestock Australia, 2015);						

Table 17 – Manure utilisation

Compost use	%	Tonnes/year
Compost reuse at the facility (780 ha)	22	2,391
Compost for exportation	78	8,344



6. ASSESSEMENT

6.1 Soil resource

6.1.1 SETTING

Soil investigations demonstrate that the proposed irrigation area is suitable for managed effluent irrigation. Suitable fill is available onsite as the earth excavated from the proposed sedimentation basin and holding pond will be used to build the proposed feedlot pens.

6.1.2 POTENTIAL IMPACTS

Potential soil resource impacts include:

- > Erosion and soil loss during construction.
- > Nutrient buildup in reuse areas.

6.1.3 MITIGATION MEASURES

Potential soil resources impacts would be mitigated by:

- > Appropriate erosion and sediment control measures during construction.
- > Managing effluent and solids application in accordance with the EPA license 12467 and adapting the plan if required in response to any observed trends.
- > Monitoring of the manure management system in accordance with the EPA license 12467.

6.2 Stormwater management

6.2.1 SETTING

The feedlot expansion will sit within a designed controlled drainage area (CDA) to ensure all runoff is captured by the effluent management system. Water balance showed that the existing and design CDA, combined with 45 ha of irrigation area can effectively manage the run-off from the existing and proposed feedlot expansion (i.e. each holding pond with a spilling frequency less than 1 in 10 years).

It is important to note that the system is constructed in such a way that the two feedlot holding ponds cannot spill, until stored effluent backs up into the bottom third of the existing pens and drains. The nominal design capacities of the holding ponds are to the points where effluent would back-up into the sediment basin and into the effluent drain (i.e. the inlet of the sedimentation basin).

6.2.2 POTENTIAL IMPACTS

Potential stormwater impacts would include an increase in site runoff volume and/or peak flow.



6.2.3 MITIGATION MEASURES

Potential stormwater impacts would be mitigated by:

- > Providing a CDA to ensure all runoff is captured by the effluent management system;
- > Providing sedimentation basins constructed for a 20 year ARI rainfall event;
- > Providing a sedimentation basin to collect run-off from the handling 'Exit facility' with a 10 L/s pump pumping effluent back to the proposed CDA to limit the frequency of discharge from the basin to less than 10% of years;
- > Providing a 50 ML holding pond to limit the frequency of discharge from the system to less than 10% of years, noting that the holding does not actually spill until stored effluent backs up into the bottom third of the existing pens and drains; and
- > Providing a 45 ha irrigation area for effluent reuse.

6.3 Flooding

6.3.1 SETTING

Flood modelling for the proposed development showed that the proposed irrigation area is not affected by a 5% AEP rain event.

6.3.2 POTENTIAL IMPACTS

Flooding occurring during or soon after irrigation and contaminating surface water.

6.3.3 MITIGATION MEASURES

- > Effluent irrigation would not occur during flooding; and
- > Irrigation scheduling in accordance with weather forecasts.

6.4 Surface water

6.4.1 SETTING

The feedlot is located approximately three (3) kilometres (km) west of the Castlereagh River. No hydroline is located within the facility licensed lots (**Figure 10**). The closest hydroline (ephemeral stream) to the site is located 50 m from the north-east end of the premises.

6.4.2 POTENTIAL IMPACTS

- > Excess build-up of nutrients in the soil moving to surface water;

6.4.3 MITIGATION MEASURES

- > Managing the effluent and solids application program to ensure excess nutrients are not available to move to the surface water systems;



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- > Providing a sedimentation basin to collect water from the handling 'Exit facility' with a pump system to limit the frequency of discharge from the basin to less than 10% of years;
- > Providing a holding pond to limit the frequency of discharge from the system to less than 10% of years;
- > Implementing appropriate erosion and sediment controls during construction; and
- > Monitoring the manure management system in accordance with EPL license 12467.

6.5 Groundwater

6.5.1 SETTING

It is understood that the water bearing zones below the feedlot are first encountered at 215.8 m for GW039301 and 461 m for GW041028. Coupled with low permeability of soils, leaching of effluent is restricted.

All the bores outside of Moonya feedlot are at greater distance than 350 m from the manure spreading areas. This is greater than the 250 m separation buffer defined by the use of effluent by irrigation guidelines and the 100 m buffer distance defined in the Dairy Guidelines for the land application of effluent and manure. Bores within the facility are further than 850 m from the effluent reuse area.

Four (4) groundwater monitoring bores are present at the site, identified as MP9 to MP12, noting that MP12 corresponds to GW041028. Monitoring is conducted quarterly in accordance with EPL 12467, and three (3) of these bores (MP9 to MP11) are consistently recorded as being dry, however the depths of these bores is not specified. A perched or shallow water table is not considered to be present. Bore MP12 is regularly sampled, and analysis indicates negligible impact from feedlot operations is apparent.

6.5.2 POTENTIAL IMPACTS

Potential groundwater impacts would include:

- > Leaching from the pens area.
- > Leakage from the effluent system.
- > Excessive leaching through the soil profile from irrigation.

6.5.3 MITIGATION MEASURES

Potential groundwater impacts would be mitigated by:

- > Adopting efficient irrigation scheduling to avoid over irrigation and excessive downward water movement. It is noted that the soil profile has a low hydraulic conductivity. This lower conductivity would help to limit significant downward water movement.
- > Monitoring of the manure management system in accordance with EPL license 12467.
- > Lining the proposed sedimentation basin and holding pond with a 300 mm compacted clay liner to assure a maximum permeability of 1×10^{-9} m/s.
- > Continued monitoring of groundwater bores MP9 to MP12 for water levels (if water is present) and quality parameters, in accordance with EPL 12467.

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7. MANAGEMENT PLAN

7.1 Drought conditions water supply

The facility relies on groundwater extraction from bore GW041028 to supply water to its cattle. Despite experiencing drought conditions in the past, the feedlot has consistently ensured the provision of drinking water to their cattle without encountering any restrictions or limitations on water extraction from their bore. This remained true even during the last significant drought from 2017 to 2019, commonly known as the "Millennium Drought."

In the event of a major bore water supply failure, cattle are relocated to paddocks with access to dam water (72 ML freshwater dam), which serves as a backup water supply. Location of the dam is shown in **Figure 3**.

Considering a water demand of 70 L/head/day for 30,000 head, the dam can sustain the herd for approximately 34 days. During this period, management will coordinate solutions such as relocating animals or arranging for water to be transported from external sources to ensure the continuity of operations at the feedlot.

In the future, Rural Marketing plans to expand its cattle numbers in line with its increasing Water Access Licence (WAL), ensuring a secured supply of 70 litres per head per day for drinking water.

7.2 Sediment and erosion controls

Best management practices for erosion and sedimentation are to be undertaken during construction activities. These controls must be in accordance with the guideline *Managing Urban Stormwater: Soils and Construction*, 4th Edition (Landcom, 2004) (referred as the blue book). Control will include but are not limited to:

- > Minimise disturbance:
 - disturbance will be no further than 5 m from the edge of any essential engineering activity; and
 - Access areas will be limited to a maximum width of 10 m.
- > Stockpiling and soil management: construction work does not require any stockpiling as the earth excavated for the proposed sedimentation basin and holding pond is being used for the feedlot expansion construction. If any stockpiling is to be necessary, stockpiles will:
 - be at least 2 m from roads, channelised flows and vegetation;
 - be covered or at least 60% vegetated within 10 days; and
 - have earth bank installed upslope and sediment fence downslope.
- > Water and drainage
 - Clean water will be accordingly diverted outside of the feedlot expansion construction area;
 - Dirty water will be collected by the proposed sedimentation basin and proposed holding pond as the earth for the construction of the feedlot expansion is being excavated from these two areas.



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- > Dust control: ground surface within and around the construction area will be regularly moistened to effectively minimize dust emissions using water trucks and/or sprinkler systems.
- > Sedimentation fences shall be installed downstream of the construction area in accordance with Standards drawing SD 6-8 -Sediment fence of the blue book.
- > Control measure inspections will be conducted one week before and after a rain event. During these inspections, all controls will be inspected, cleaned, and repaired as required.

7.3 Stormwater management system

The feedlot expansion will sit within a designed controlled drainage area (CDA) to ensure all runoff is captured by the effluent management system. Water balance showed that the existing and design CDA, combined with 45 ha of irrigation area can effectively manage the run-off from the existing and proposed feedlot expansion (i.e. each holding pond with a spilling frequency less than 1 in 10 years).

7.4 Waste management

7.4.1 CARCASSE MANAGEMENT

The feedlot has of a carcass disposal pit, located to the west of the feedlot. Dead cattle are removed immediately from the pen if autopsying is not required and placed in the burial pit and covered with dirt. Death reports generated by computer are completed and are sent monthly to the vet for analysis (livestock staff are trained in autopsy methods by vet).

Details of all deaths are recorded on Daily Movement Sheet including:

- > Date
- > Lot number
- > Tag number
- > Cause of death
- > Pen number

In the case of a mass death, a burial pit would be dug in accordance with Ausvetplan requirements.

The feedlot has procedures in place to ensure that its accounts on the National Livestock Identification System (NLIS) is reconciled at least once a year.

7.4.2 MANURE MANAGEMENT

During pen cleaning any manure removed is either sold to neighbouring and local farmers or stockpiled. Manure sold off-site is weighed and the weights are recorded.

Stockpiled manure is spread on the farm as a valuable fertiliser. The farm can utilise 797 ha of farming land for manure spreading. The manure is spread with consideration of the buffer distances mentioned in **Table 7**. The feedlot maintains records of each manure application on every paddock, which are compiled into a monthly record.

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If solids are removed from the premises, feedlot management records, as per operating condition O6.1 of the license:

- > The date of removal of the solids;
- > The estimated weight of the solids removed; and
- > The identity of the person removing the solid.

Appendix C displays the general ledger of manure sales, encompassing transactions from 9 September 2021 through 4 January 2024.

Stockpiled manure is within the existing feedlot CDA with its run-off collected by the existing sedimentation basin.

The manure is tested off-site, and the test results are recorded. **Table 18** shows manure quality indicators from July 2022 until May 2023 (Premise, 2023). Results show that the nutrients and electrical conductivity are generally lower than the average values of Australian feedlot stockpiled manure.

Table 18 – Manure quality indicators

Parameter	Units	July 2022	October 2022	January 2023	May 2023	Typical average value*	Typical maximum level*
Electrical conductivity	µS/cm	1840	2400	7390	6410	8,260	17,200
pH	unit	7.4	8.2	7.8	8	7.22	8.66
Nitrate	mg/kg	499	<0.5	721	<5.0	307	1,115
Total nitrogen	mg/kg	10,700	17,500	19,900	12,000	21,800	33,000
Total phosphorus	mg/kg	5,820	7,250	6,070	3,790	8,000	11,000
Potassium	mg/kg	1,630	1,420	8,360	10,100	18,600	32,000
* Typical composition of Australian feedlot aged (stockpiled) manure - Beef cattle feedlots: waste management and utilisation - Meat & Livestock Australia, 2015							

As per requirement of condition M5 of the license (Recording of pollution complaints), any odour complaint is recorded in the feedlot complaints register.

7.4.3 EFFLUENT MANAGEMENT

A dedicated 45 ha effluent area is proposed for effluent irrigation reuse (**Figure 12**). Effluent management implies:

- > A 10 m buffer maintained between the effluent irrigation area and property boundary;
- > Testing of the effluent before application;



- > Recording of the effluent volumes applied to the irrigation area;
- > Soil testing and monitoring to monitor nutrient loads on effluent irrigation area as per license point M2.2 - Water and /or Land Monitoring requirements;
- > Odour complaints recording in the facility complaints register.

7.5 Monitoring

Monitoring at the facility is required by EPL for the facility. The following sections outline a proposed monitoring program to inform the development of the varied EPL.

7.5.1 EPL MONITORING POINTS

EPL 12467 includes twelve (12) licensed monitoring points. A summary of how these would be incorporated in the new facility is provided in **Table 19**. Four (4) new monitoring points are proposed to replace those points that are no longer relevant. Sequential numbering continuing from the existing EPL points is used to identify the proposed new points.

Table 19 – EPL monitoring point summary

EPA ID Number	Type of monitoring point	Existing facility location description	Retained for proposed facility?	Comment
Existing monitoring points				
1	Effluent Quality & Volume Monitoring		Yes	
2	Manure Quality & Mass Monitoring	Manure stockpile – Point 2	Yes	
3	Soil Quality Monitoring	New Effluent Irrigation Area – Point 3	No	Effluent irrigation will not occur in this area.
5	Soil Quality Monitoring	Manure Utilisation Area – Point 5	No	The current EPL includes monitoring of soils in areas where solids are spread. As described Section 4.2.3 , it is proposed to use solids in a managed cropping program across around 780 ha of dryland cropping
6	Soil Quality Monitoring	Manure Utilisation Area – Point 6	No	



EPA ID Number	Type of monitoring point	Existing facility location description	Retained for proposed facility?	Comment
7	Soil Quality Monitoring	Manure Utilisation Area – Point 7	No	areas; which would be a significant monitoring area. The following records would be maintained in lieu of soil sampling: <ul style="list-style-type: none"> • Application records including loading rates and spreading methods • Dates and areas used for solids application • Details of crops • Any agronomic soil analysis
8	Soil Quality Monitoring	Manure Utilisation Area – Point 8	No	
9	Groundwater Quality Monitoring	Point 9	Yes	
10	Groundwater Quality Monitoring	Point 10	Yes	
11	Groundwater Quality Monitoring	Point 11	Yes	
12	Groundwater Quality Monitoring	Point 12	Yes	
13	Weather Monitoring	Weather Station on Moonya Station	Yes	
Proposed new monitoring points				
14	Soil Quality Monitoring	Effluent Utilisation Area – Point 14	-	Soil transect across the pivot area. Sampled at two (2) depths.
15	Effluent quality monitoring /	Expansion pens holding	-	Volume and quality of the effluent from the expansion pens holding pond



EPA ID Number	Type of monitoring point	Existing facility location description	Retained for proposed facility?	Comment
	Volume monitoring	pond – Point 15		
16	Groundwater Quality Monitoring	Point 16	-	Additional groundwater monitoring point upgradient of the proposed irrigation area.
17	Groundwater Quality Monitoring	Point 17	-	Additional groundwater monitoring point downgradient of the proposed irrigation area.

7.5.2 MONITORING PLAN

The assessment demonstrates that the hydraulic and nutrient load in the irrigated effluent can be managed on site without significant environmental risk. However, management of the effluent irrigation scheme needs to be adaptive in response to monitoring data. While the assessment indicates the expected hydraulic and nutrient load is adequate for the system, monitoring is used to identify at an early stage any departure from the outcomes projected by the assessment and would be used as the basis to adjust aspects of the irrigation scheme if required.

Monitoring is an integral component of sustainable irrigation and productive agriculture. The objectives of the monitoring are to:

- > Obtain timely data to ensure manure management processes and farming practices can adapt or change in a timely manner as appropriate;
- > Provide data to allow a complete review of the system performance prior to annual review;
- > Ensure legislative compliance; and
- > Monitor environmental interactions.

Monitoring would include:

- > Weather monitoring;
- > Irrigation records;
- > Irrigation quality monitoring;
- > Solids;
- > Soil;
- > Groundwater (depth and quality); and
- > Crop monitoring.

An outline of the proposed monitoring plan is provided in the following sections.



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7.5.2.1 Weather Monitoring

Existing EPL monitoring point 13.

The following climate data would be recorded at the facility:

- > Rainfall – continuous measurement summed over 24 hours
- > Wind speed and direction – continuous measurement averaged over 15 minutes
- > Temperature – continuous measurement averaged over 15 minutes

7.5.2.2 Irrigation Volume Records

EPL compliance monitoring

Where: Existing EPL point 1 and proposed EPL point 15. The volume irrigated which would reflect the effluent pumped from each holding pond.

When: Readings would be recorded daily during irrigation.

What for: Daily volume would be recorded using a flow or pump hour meter.

Visual assessment of the irrigation area would also be conducted as part of each irrigation event, including:

- > determining soil moisture prior to irrigation;
- > checking the irrigating system during irrigation; and
- > assessing the area for water ponding following irrigation.

7.5.2.3 Irrigation Quality Monitoring

EPL Compliance Monitoring

Where: Existing EPL point 1 and proposed EPL point 15.

When: Samples would be collected every three (3) months commencing at the start of operations.

What for: Samples would be analysed for the following parameters:

- > pH
- > Conductivity ($\mu\text{S}/\text{cm}$)
- > Calcium (mg/L)
- > Magnesium (mg/L)
- > Potassium (mg/L)
- > Sodium (mg/L)
- > Sodium Adsorption Ration (SAR)
- > Chloride (mg/L)

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- > Nitrate (mgN/L)
- > Ammonia (mgN/L)
- > Total Nitrogen (mg/L)
- > Total Phosphorus (mg/L)
- > Reactive phosphorus (mg/L)

Duration and review. Sample collection every three (3) months would continue for at least one year from the commencement of operations. The frequency may be reduced to every six (6) months, or annually, once an adequate dataset is established, in consultation with the EPA.

7.5.2.4 Manure records

Where: Existing EPL point 2, manure stockpile

If solids are removed from the premises, record, as per operating condition O6.1 of the license:

- > The date of removal of the solids
- > The estimated weight of the solids removed
- > The identity of the person removing the solid

If solids are applied onto Moonya dryland cropping areas, record of:

- > Loading rates (t/ha)
- > Spreading methods
- > Dates and areas used for solids application

When: Record every manure transport from the feedlot and/or every manure spreading onto Moonya dryland.

What for: Daily mass (tonnes)

7.5.2.5 Solids Quality Monitoring

Where: Solids samples would be collected from the solids stockpile area.

When: Samples will be collected every three (3) months commencing at the start of operations. Manure mass will be monitored for each manure application or exportation.

What for: Samples will be analysed for the following parameters:

- > Moisture Content (%)
- > pH
- > Electrical conductivity (µS/cm)
- > Calcium (mg/kg)
- > Magnesium (mg/kg)



- > Potassium (mg/kg)
- > Sodium (mg/kg)
- > Chloride (mg/kg)
- > Nitrate (mgN/kg)
- > Ammonia (mgN/kg)
- > Total Nitrogen (mg/kg)
- > Total Phosphorus (mg/kg)
- > Organic Carbon (%)
- > Sulphur (mg/kg)

Duration and review. Sample collection every three (3) months would continue for at least one year from the commencement of operations. The frequency may be reduced to every six (6) months, or annually once an adequate dataset is established.

7.5.2.6 Soils

Where: Soil reference point along transect. Proposed EPL Point 13 samples would comprise:

- > Topsoil composite sample (0-100 mm) made up of at least 20 individual samples
- > Subsoil composite sample (300-600 mm) made up of at least 5 individual samples

When: Samples would be collected annually in September.

What for: Samples would be analysed for the following parameters:

Topsoil

- pH (1:5 water)
- pH (CaCl)
- electrical conductivity (1:5 water), dS/m
- exchangeable cations & CEC, cmol (+)/kg
- exchangeable sodium percentage
- nitrate, mgN/kg
- total Kjeldahl nitrogen (TKN), mgN/kg
- total nitrogen (mg/kg)
- available phosphorus (Olsen), mg/kg
- total phosphorus, mg/kg
- organic carbon, g/100g

Subsoil

- pH (1:5 water)
- pH (CaCl)
- electrical conductivity (1:5 water), dS/m
- exchangeable cations & CEC, cmol (+)/kg
- exchangeable sodium percentage
- nitrate, mgN/kg
- total Kjeldahl nitrogen (TKN), mgN/kg
- total nitrogen (mg/kg)
- available phosphorus (Olsen), mg/kg
- total phosphorus, mg/kg
- phosphorus sorption capacity, mg/kg

7.5.2.7 Groundwater

Where: Existing EPL monitoring points 9,10,11, and 12 and proposed EPL points 16 and 17.

When: Samples would be collected every three (3) months commencing at the start of operations.



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- > pH
- > Electrical conductivity ($\mu\text{S}/\text{cm}$)
- > Total nitrogen (mg/L) and nitrogen species
- > Total phosphorus (mg/L)
- > Reactive phosphorus (mg/L)
- > Standing water level (mAHD)

Duration and review. Sample collection every three (3) months would continue for at least one year from the commencement of operations. The frequency may be reduced to every six (6) months, or annually, once an adequate dataset is established, in consultation with the EPA.

7.5.2.8 Crops

Where: Representative samples from different crop types across the irrigation effluent reuse area and the manure spreading area**When:** Annually during harvest (winter and summer crops)**What for:** Crops will be monitored for:

- > Crop yield (t/ha)
- > Total nitrogen (%)
- > Total phosphorus (%)
- > Dry matter (%)

An annual visual assessment of crops growing within the irrigation area would be undertaken for signs of toxicity or degradation.

7.6 Contingency measures

The key critical sustainability factors for the manure management system are:

- > The effluent volume;
- > The effluent nitrogen and phosphorus content remaining for irrigation;
- > Soil salinity; and
- > Soil sodicity.

Table 20 summarises contingency actions that are to be implemented when approaching or exceeding critical sustainability triggers.

Monitoring results will be reviewed on an annual basis to identify trends and any departures from the design basis.



It should be noted that the design values indicate there is adequate capacity in the effluent irrigation scheme to buffer short term changes and changes in effluent reuse schemes over extended periods. Therefore, trigger values have been set cognisant of these factors. This will avoid excessive frequent reviews and will use actual monitoring data to provide informed management decisions.

Table 20 – Contingency measures

Parameter	Trigger	Actions
Effluent annual volume	+20% design value for greater than one year of operation	<ul style="list-style-type: none"> Obtain actual effluent production records Review water balance calculations Resize irrigation area if required
Effluent quality	Nitrogen load +20% of design value Phosphorus load +20% of design value	<ul style="list-style-type: none"> Obtain actual effluent quality records Review effluent nutrient data Undertake sampling through the manure management system to check nutrient partitioning Review annual soil monitoring data to identify if there are any adverse trends Review nutrient balances based on observed data No specific action required if nutrient concentrations are lower than used in design
Soil nutrient content	+25% of design value for greater than one year of operation	<ul style="list-style-type: none"> Conduct a resampling at the site to ensure accurate measurement Review effluent nutrient data Obtain soil data from similar soil type that has not had effluent and or solids applied (e.g. under fence lines) If required, undertake remedial action that may include: <ul style="list-style-type: none"> Resting the irrigation area Cropping rotation
Soil salinity	> 2.5 dS/m increase in topsoil salinity compared with background levels	<ul style="list-style-type: none"> Review effluent salinity data and compare to design values Review annual soil monitoring data to identify if there are any adverse trends Undertake remedial action that may include: <ul style="list-style-type: none"> Undertaking an irrigation leaching event to improve the soil salinity Cropping rotation Resting an irrigation area



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Parameter	Trigger	Actions
Soil sodicity	Topsoil ESP > 5	<ul style="list-style-type: none"> • Review effluent salinity and SAR data and compare to design values • Review annual soil monitoring data to identify if there are any adverse trends • Undertake remedial action that may include: <ul style="list-style-type: none"> – Undertaking an irrigation leaching event to improve the soil salinity – Adding soil ameliorants such as gypsum – Cropping rotation – Cultivation/deep ripping – Resting an irrigation area



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Appendix A

Soil analysis report

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CLIENT SAMPLE ID					T1 0-30	T1 30-70	T1 70-100	T2 0-30
					0-30	30-70	70-100	0-30
DEPTH								
Test Parameter	Method Description	Method Reference	Units	LOR	240944-1	240944-2	240944-3	240944-4
PAWC (volumetric)	Shaw & Yule	24.4.1	mm/m	na	110	95.4	108	87.1
PAWC (gravimetric)	Shaw & Yule	24.4.1	%	na	7.35	5.96	6.78	5.12
WMAX Field Capacity	Shaw & Yule	24.4.1	%	na	27.7	22.2	21.5	17.9
WMIN Wilting Point	Shaw & Yule	24.4.1	%	na	20.4	16.2	14.7	12.8
Bulk Density	Cylinder	ASTM F 1815-97	g/cm3	na	1.5	1.6	1.6	1.7
Total Kjeldahl Nitrogen	Kjeldahl	In House	mg/kg	na	913	448	283	599
pH (1:5 in CaCl2)	Electrode	R&L 4B2	pH units	na	6.95	7.90	7.95	6.57
Electrical Conductivity	Electrode	R&L 3A1	dS/m	0.01	0.13	1.38	0.13	0.09
E.C.e	Calc	R&L 3A1	dS/m	na	1.12	0.16	1.12	0.77
Extractable Nitrate-N	DA	DAP-03	mg/kg	1	6.52	2.57	1.53	3.64
Phosphorus Buffer Index	UV-Vis	PMS-12	mg/kg	10	61.8	54.1	68.1	48.9
Phosphorus (Colwell)	Bicarb/UV-Vis	R&L 9B1	mg/kg	5	138	29.5	18.4	121
Phosphorus Sorption Capacity	Calc	PMS-12	mg/kg	na	367	312	376	298
Phosphorus Sorption Capacity	Calc	na	kg/ha	na	5130	4370	5260	4170
Exchangeable Potassium	NH4Cl/ICP	R&L 15A1	mg/kg	10	610	200	109	399
Exchangeable Calcium	NH4Cl/ICP	R&L 15A1	mg/kg	20	2250	4353	4737	1459
Exchangeable Magnesium	NH4Cl/ICP	R&L 15A1	mg/kg	10	391	477	495	267
Exchangeable Sodium	NH4Cl/ICP	R&L 15A1	mg/kg	10	59.8	131	146	29.0
Exchangeable Potassium	R&L 15A1	R&L 15A1	cmol/kg	na	1.56	0.51	0.28	1.02
Exchangeable Calcium	R&L 15A1	R&L 15A1	cmol/kg	na	11.3	21.8	23.7	7.30
Exchangeable Magnesium	R&L 15A1	R&L 15A1	cmol/kg	na	3.26	3.98	4.13	2.23
Exchangeable Sodium	R&L 15A1	R&L 15A1	cmol/kg	na	0.26	0.57	0.63	0.13
ECEC	Calculation	PMS-15A1	cmol/kg	na	16.3	26.8	28.7	10.7
Ca/Mg Ratio	Calculation	PMS-15A1	cmol/kg	na	3.45	5.48	5.74	3.28
K/Mg Ratio	Calculation	PMS-15A1	cmol/kg	na	0.48	0.13	0.07	0.46
Exchangeable Potassium %	Calculation	PMS-15A1	%	na	9.58	1.91	0.97	9.59



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CLIENT SAMPLE ID					T1 0-30	T1 30-70	T1 70-100	T2 0-30
					0-30	30-70	70-100	0-30
DEPTH								
Test Parameter	Method Description	Method Reference	Units	LOR	240944-1	240944-2	240944-3	240944-4
Exchangeable Calcium %	Calculation	PMS-15A1	%	na	68.9	81.1	82.5	68.4
Exchangeable Magnesium %	Calculation	PMS-15A1	%	na	20.0	14.8	14.4	20.9
Exchangeable Sodium %	Calculation	PMS-15A1	%	na	1.59	2.12	2.21	1.18
Saturated Hydraulic Conductivity	30cm tension	ASTM F1815-97	mm/hr	0.1	8.08	7.83	6.74	8.84
Texture	Field	Northcote	Class	na	SC	SC	SC	SC
Emerson Aggregate Test	Class	PMS-21	Number	na	5	5	4	3a
Gravel >2.0mm	Sieve	ASTMD422-63	%	na	<0.1	<0.1	0.1	0.1
Coarse Sand 0.2-2.0mm	Sieve	ASTMD422-63	%	na	27.7	22.8	27.3	42.9
Fine Sand 0.02-0.2mm	Sieve	ASTMD422-63	%	na	26.7	26.8	29.5	27.3
Silt 0.002-0.02mm	Hydrometer	ASTMD422-63	%	na	16.9	18.4	13.8	13.5
Clay <0.002mm	Hydrometer	ASTMD422-63	%	na	28.7	32.0	29.3	16.2



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CLIENT SAMPLE ID					T2 30-70	T2 70-100	T3 0-30	T3 30-70
					30-70	70-100	0-30	30-70
DEPTH								
Test Parameter	Method Description	Method Reference	Units	LOR	240944-5	240944-6	240944-7	240944-8
PAWC (volumetric)	Shaw & Yule	24.4.1	mm/m	na	75.2	91.6	78.1	64.8
PAWC (gravimetric)	Shaw & Yule	24.4.1	%	na	4.18	5.39	4.59	4.05
WMAX Field Capacity	Shaw & Yule	24.4.1	%	na	17.0	18.8	15.4	13.6
WMIN Wilting Point	Shaw & Yule	24.4.1	%	na	12.8	13.4	10.8	9.56
Bulk Density	Cylinder	ASTM F 1815-97	g/cm3	na	1.8	1.7	1.7	1.6
Total Kjeldahl Nitrogen	Kjeldahl	In House	mg/kg	na	339	262	609	389
pH (1:5 in CaCl2)	Electrode	R&L 4B2	pH units	na	7.76	7.93	6.38	6.75
Electrical Conductivity	Electrode	R&L 3A1	dS/m	0.01	0.13	0.12	0.14	0.08
E.C.e	Calc	R&L 3A1	dS/m	na	1.12	1.03	1.20	0.69
Extractable Nitrate-N	DA	DAP-03	mg/kg	1	2.35	1.60	6.57	2.62
Phosphorus Buffer Index	UV-Vis	PMS-12	mg/kg	10	47.3	38.2	41.0	41.7
Phosphorus (Colwell)	Bicarb/UV-Vis	R&L 9B1	mg/kg	5	32.9	19.1	135	45.9
Phosphorus Sorption Capacity	Calc	PMS-12	mg/kg	na	279	229	257	251
Phosphorus Sorption Capacity	Calc	na	kg/ha	na	3910	3210	3600	3510
Exchangeable Potassium	NH4Cl/ICP	R&L 15A1	mg/kg	10	137	85.1	521	299
Exchangeable Calcium	NH4Cl/ICP	R&L 15A1	mg/kg	20	2886	3217	1154	1808
Exchangeable Magnesium	NH4Cl/ICP	R&L 15A1	mg/kg	10	328	360	235	318
Exchangeable Sodium	NH4Cl/ICP	R&L 15A1	mg/kg	10	68.1	93.0	<10.0	74.7
Exchangeable Potassium	R&L 15A1	R&L 15A1	cmol/kg	na	0.35	0.22	1.34	0.77
Exchangeable Calcium	R&L 15A1	R&L 15A1	cmol/kg	na	14.4	16.1	5.77	9.04
Exchangeable Magnesium	R&L 15A1	R&L 15A1	cmol/kg	na	2.73	3.00	1.96	2.65
Exchangeable Sodium	R&L 15A1	R&L 15A1	cmol/kg	na	0.30	0.40	0.04	0.32
ECEC	Calculation	PMS-15A1	cmol/kg	na	17.8	19.7	9.11	12.8
Ca/Mg Ratio	Calculation	PMS-15A1	cmol/kg	na	5.28	5.36	2.95	3.41
K/Mg Ratio	Calculation	PMS-15A1	cmol/kg	na	0.13	0.07	0.68	0.29
Exchangeable Potassium %	Calculation	PMS-15A1	%	na	1.97	1.11	14.7	6.00



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CLIENT SAMPLE ID					T2 30-70	T2 70-100	T3 0-30	T3 30-70
					30-70	70-100	0-30	30-70
DEPTH								
Test Parameter	Method Description	Method Reference	Units	LOR	240944-5	240944-6	240944-7	240944-8
Exchangeable Calcium %	Calculation	PMS-15A1	%	na	81.0	81.6	63.4	70.7
Exchangeable Magnesium %	Calculation	PMS-15A1	%	na	15.3	15.2	21.5	20.7
Exchangeable Sodium %	Calculation	PMS-15A1	%	na	1.66	2.05	0.48	2.54
Saturated Hydraulic Conductivity	30cm tension	ASTM F1815-97	mm/hr	0.1	5.56	6.74	6.57	7.16
Texture	Field	Northcote	Class	na	SC	SC	FSC	SC
Emerson Aggregate Test	Class	PMS-21	Number	na	5	5	3b	3b
Gravel >2.0mm	Sieve	ASTMD422-63	%	na	<0.1	0.1	0.3	<0.1
Coarse Sand 0.2-2.0mm	Sieve	ASTMD422-63	%	na	40.0	30.4	46.0	42.7
Fine Sand 0.02-0.2mm	Sieve	ASTMD422-63	%	na	30.4	37.7	32.7	26.8
Silt 0.002-0.02mm	Hydrometer	ASTMD422-63	%	na	11.4	13.6	9.2	11.0
Clay <0.002mm	Hydrometer	ASTMD422-63	%	na	18.2	18.3	11.8	19.5



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CLIENT SAMPLE ID					T3 70-100	T4 0-30	T4 30-70	T4 70-100
					70-100	0-30	30-70	70-100
DEPTH					240944-9	240944-10	240944-11	240944-12
Test Parameter	Method Description	Method Reference	Units	LOR				
PAWC (volumetric)	Shaw & Yule	24.4.1	mm/m	na	79.6	90.3	65.4	75.1
PAWC (gravimetric)	Shaw & Yule	24.4.1	%	na	5.31	5.64	4.67	5.01
WMAX Field Capacity	Shaw & Yule	24.4.1	%	na	14.0	19.2	15.3	14.4
WMIN Wilting Point	Shaw & Yule	24.4.1	%	na	8.67	13.5	10.7	9.39
Bulk Density	Cylinder	ASTM F 1815-97	g/cm3	na	1.5	1.6	1.4	1.5
Total Kjeldahl Nitrogen	Kjeldahl	In House	mg/kg	na	267	734	405	218
pH (1:5 in CaCl2)	Electrode	R&L 4B2	pH units	na	6.78	7.57	7.88	7.96
Electrical Conductivity	Electrode	R&L 3A1	dS/m	0.01	0.07	0.19	0.14	0.12
E.C.e	Calc	R&L 3A1	dS/m	na	0.60	1.63	1.20	1.03
Extractable Nitrate-N	DA	DAP-03	mg/kg	1	1.23	4.47	1.68	<1.00
Phosphorus Buffer Index	UV-Vis	PMS-12	mg/kg	10	47.9	58.3	69.4	76.8
Phosphorus (Colwell)	Bicarb/UV-Vis	R&L 9B1	mg/kg	5	32.5	134	37.3	24.1
Phosphorus Sorption Capacity	Calc	PMS-12	mg/kg	na	281	349	385	414
Phosphorus Sorption Capacity	Calc	na	kg/ha	na	3930	4890	5385	5800
Exchangeable Potassium	NH4Cl/ICP	R&L 15A1	mg/kg	10	101	618	357	550
Exchangeable Calcium	NH4Cl/ICP	R&L 15A1	mg/kg	20	2224	3016	4146	4985
Exchangeable Magnesium	NH4Cl/ICP	R&L 15A1	mg/kg	10	394	335	369	435
Exchangeable Sodium	NH4Cl/ICP	R&L 15A1	mg/kg	10	63.8	38.9	72.6	71.1
Exchangeable Potassium	R&L 15A1	R&L 15A1	cmol/kg	na	0.26	1.58	0.92	1.41
Exchangeable Calcium	R&L 15A1	R&L 15A1	cmol/kg	na	11.1	15.1	20.7	24.9
Exchangeable Magnesium	R&L 15A1	R&L 15A1	cmol/kg	na	3.28	2.79	3.08	3.63
Exchangeable Sodium	R&L 15A1	R&L 15A1	cmol/kg	na	0.28	0.17	0.32	0.31
ECEC	Calculation	PMS-15A1	cmol/kg	na	14.9	19.6	25.0	30.3
Ca/Mg Ratio	Calculation	PMS-15A1	cmol/kg	na	3.39	5.40	6.74	6.88
K/Mg Ratio	Calculation	PMS-15A1	cmol/kg	na	0.08	0.57	0.30	0.39
Exchangeable Potassium %	Calculation	PMS-15A1	%	na	1.73	8.07	3.66	4.66



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CLIENT SAMPLE ID					T3 70-100	T4 0-30	T4 30-70	T4 70-100
					70-100	0-30	30-70	70-100
DEPTH					70-100	0-30	30-70	70-100
Test Parameter	Method Description	Method Reference	Units	LOR	240944-9	240944-10	240944-11	240944-12
Exchangeable Calcium %	Calculation	PMS-15A1	%	na	74.4	76.8	82.8	82.3
Exchangeable Magnesium %	Calculation	PMS-15A1	%	na	22.0	14.2	12.3	12.0
Exchangeable Sodium %	Calculation	PMS-15A1	%	na	1.86	0.86	1.26	1.02
Saturated Hydraulic Conductivity	30cm tension	ASTM F1815-97	mm/hr	0.1	8.84	7.96	11.2	8.34
Texture	Field	Northcote	Class	na	SC	SC	SC	SC
Emerson Aggregate Test	Class	PMS-21	Number	na	5	4	4	4
Gravel >2.0mm	Sieve	ASTMD422-63	%	na	<0.1	<0.1	<0.1	<0.1
Coarse Sand 0.2-2.0mm	Sieve	ASTMD422-63	%	na	29.0	30.7	26.4	31.3
Fine Sand 0.02-0.2mm	Sieve	ASTMD422-63	%	na	37.0	35.1	32.8	34.2
Silt 0.002-0.02mm	Hydrometer	ASTMD422-63	%	na	12.8	13.7	15.1	16.9
Clay <0.002mm	Hydrometer	ASTMD422-63	%	na	21.2	20.5	25.7	17.6

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Soils are air dried at 40°C and ground <2mm.

NB: LOR is the Lowest Obtainable Reading.

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results you can rely on

Page 7 of 7

CREATING  GREATER

RURAL MARKETING AUSTRALIA PTY LTD
MOONYA FEEDLOT EXPANSION
SOIL AND WATER IMPACT ASSESSMENT AND WASTE AND WASTEWATER MANAGEMENT

Appendix B

Manure sales general ledger detail



General Ledger Detail

Rural Marketing Australia Pty Limited For the period 1 July 2021 to 30 April 2024

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
41400 - Manure sales										
9 Sept 2021	Manure sales	Receivable Invoice	JW Jackson & Sons #69794650 - 08.09.21 - 20.22T of Cattle Manure @ \$8/T excl.	MYOB:	-	161.76	(161.76)	(16.18)	10.00%	GST on Income
9 Sept 2021	Manure sales	Receivable Invoice	Parmedman Pastoral Co. - 10.08.21 - 42.52T of Cattle Manure @ \$8/T excl. (Rego XN63DB)	MYOB:	-	340.32	(502.08)	(34.03)	10.00%	GST on Income
9 Sept 2021	Manure sales	Receivable Invoice	Parmedman Pastoral Co. - 19.08.21 - 31.64T of Cattle Manure @ \$8/T excl. (Rego XN63DB)	MYOB:	-	253.12	(755.20)	(25.31)	10.00%	GST on Income
9 Sept 2021	Manure sales	Receivable Invoice	Parmedman Pastoral Co. - 19.08.21 - 28.69T of Cattle Manure @ \$8/T excl. (Rego XN63DB)	MYOB:	-	229.60	(984.80)	(22.96)	10.00%	GST on Income
9 Sept 2021	Manure sales	Receivable Invoice	Parmedman Pastoral Co. - Tax adjustment: 19.08.21 - 28.69T of Cattle Manure @ \$8/T excl. (Rego XN63DB)	MYOB:	0.08	-	(984.72)	-	0.00%	GST Free Income
23 Nov 2021	Manure sales	Receivable Invoice	Younghusband Agriculture - Ticket 0006 - 16.7t of Cattle Manure @ \$8/t excl. (collected 19/10/21)	MYOB:	-	133.60	(1,118.32)	(13.36)	10.00%	GST on Income
23 Nov 2021	Manure sales	Receivable Invoice	Younghusband Agriculture - Ticket 0007 - 19.82t of Cattle Manure @ \$8/t excl. (collected 19/10/21)	MYOB:	-	158.56	(1,276.88)	(15.86)	10.00%	GST on Income

General Ledger Detail

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
23 Nov 2021	Manure sales	Receivable Invoice	Younghusband Agriculture - Ticket 10763 - 22.96t of Cattle Manure @ \$8/t excl. (collected 20/10/21)	MYOB:	-	183.60	(1,460.48)	(18.36)	10.00%	GST on Income
23 Nov 2021	Manure sales	Receivable Invoice	Younghusband Agriculture - Tax adjustment: Ticket 10763 - 22.96t of Cattle Manure @ \$8/t excl. (collected 20/10/21)	MYOB:	-	0.08	(1,460.56)	-	0.00%	GST Free Income
23 Nov 2021	Manure sales	Receivable Credit Note	Younghusband Agriculture - Ticket 0007 - 19.82t of Cattle Manure @ \$8/t excl. (collected 19/10/21)	MYOB:	158.56	-	(1,302.00)	15.86	10.00%	GST on Income
23 Nov 2021	Manure sales	Receivable Credit Note	Younghusband Agriculture - Ticket 10763 - 22.96t of Cattle Manure @ \$8/t excl. (collected 20/10/21)	MYOB:	183.60	-	(1,118.40)	18.36	10.00%	GST on Income
23 Nov 2021	Manure sales	Receivable Credit Note	Younghusband Agriculture - Ticket 0006 - 16.7t of Cattle Manure @ \$8/t excl. (collected 19/10/21)	MYOB:	133.60	-	(984.80)	13.36	10.00%	GST on Income
23 Nov 2021	Manure sales	Receivable Credit Note	Younghusband Agriculture - Tax adjustment: Ticket 10763 - 22.96t of Cattle Manure @ \$8/t excl. (collected 20/10/21)	MYOB:	0.08	-	(984.72)	-	0.00%	GST Free Income
23 Nov 2021	Manure sales	Receivable Invoice	PW Concrete and Gravel - Ticket 10768 - 23.38t of Cattle Manure @ \$8/t excl.	MYOB:	-	187.04	(1,171.76)	(18.70)	10.00%	GST on Income

General Ledger Detail

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
29 Nov 2021	Manure sales	Receive Money	Pre Conversion - Manure Sales (Rabo Bulk Payment)	CR001707 (Rabo Bulk Payment)	-	523.42	(1,695.18)	-	0.00%	BAS Excluded
9 Mar 2022	Manure sales	Receivable Invoice	PB & MJ Cosgrove #69794507 - 17/2/22 - 38.88t of Cattle Manure @ \$10/t excl. Ticket 10883	MYOB:	-	388.80	(2,083.98)	(38.88)	10.00%	GST on Income
9 Mar 2022	Manure sales	Receivable Invoice	PB & MJ Cosgrove #69794507 - 18/2/22 - 36.72t of Cattle Manure @ \$10/t excl. Ticket 10884	MYOB:	-	367.20	(2,451.18)	(36.72)	10.00%	GST on Income
9 Mar 2022	Manure sales	Receivable Invoice	PB & MJ Cosgrove #69794507 - 18/2/22 - 49.28t of Cattle Manure @ \$10/t excl. Ticket 10885	MYOB:	-	492.80	(2,943.98)	(49.28)	10.00%	GST on Income
9 Mar 2022	Manure sales	Receivable Invoice	Gillendoon Farming #69794933 - 7/2/22 - 83.56t of Cattle Manure @ \$10/t excl. Ticket 10875	MYOB:	-	835.60	(3,779.58)	(83.56)	10.00%	GST on Income
9 Mar 2022	Manure sales	Receivable Invoice	Gillendoon Farming #69794933 - 14/2/22 - 43.50t of Cattle Manure @ \$10/t excl. Ticket 10877	MYOB:	-	435.00	(4,214.58)	(43.50)	10.00%	GST on Income
9 Mar 2022	Manure sales	Receivable Invoice	Gillendoon Farming #69794933 - 14/2/22 - 39.19t of Cattle Manure @ \$10/t excl. Ticket 10878	MYOB:	-	391.90	(4,606.48)	(39.19)	10.00%	GST on Income
9 Mar 2022	Manure sales	Receivable Invoice	Gillendoon Farming #69794933 - 15/2/22 - 38.54t of Cattle Manure @ \$10/t excl. Ticket 10879	MYOB:	-	385.40	(4,991.88)	(38.54)	10.00%	GST on Income
9 Mar 2022	Manure sales	Receivable Invoice	Gillendoon Farming #69794933 - 15/2/22 - 36.36t of Cattle	MYOB:	-	363.60	(5,355.48)	(36.36)	10.00%	GST on Income

General Ledger Detail

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
8 Apr 2022	Manure sales	Receivable Invoice	Manure @ \$10/t excl. Ticket 10880 Argunya Ag. - XN47UH - 23.50t of Cattle Manure @ \$10/t excl. (Manual Ticket 10902)	MYOB:	-	182.00	(5,537.48)	(18.20)	10.00%	GST on Income
20 Apr 2022	Manure sales	Receivable Invoice	Argunya Ag. - XN47UH - 23.16t of Cattle Manure @ \$10/t excl. (Manual Ticket 10915)	MYOB:	-	231.60	(5,769.08)	(23.16)	10.00%	GST on Income
30 June 2022	Manure sales	Manual Journal	Adjusting Journal till 30/06/22	#7905	-	1,160.00	(6,929.08)	-	0.00%	BAS Excluded
11 July 2022	Manure sales	Receivable Invoice	TD & EL Cain - 9.26t of Processed Cattle Manure @ \$50/t excl.	10947	-	463.00	(7,392.08)	(46.30)	10.00%	GST on Income
31 July 2022	Manure sales	Receivable Invoice	R & A Williams - 23.94t of Cattle Manure @ \$10/t excl. Collected 25/7/22 - BK37GS Manual Ticket 10805	10805	-	239.40	(7,631.48)	(23.94)	10.00%	GST on Income
8 Aug 2022	Manure sales	Receivable Invoice	LL & BL Giblin - 11.52t of Processed Cattle Manure @ \$50/t excl. Collected 2/8/22. CK70SH	10809	-	576.00	(8,207.48)	(57.60)	10.00%	GST on Income
15 Aug 2022	Manure sales	Receivable Invoice	R & A Williams - 26.26t of Cattle Manure @ \$10/t excl. Collected 11/8/22 Rego: BK37GS Manual Ticket #10814	10814	-	262.60	(8,470.08)	(26.26)	10.00%	GST on Income
6 Sept 2022	Manure sales	Receivable Invoice	Head Pastoral Co - 11.82t of Processed Manure @ \$50/t excl. Ticket No.: 10823 Rego: XO67EM Collected: 1/9/22	10823	-	591.00	(9,061.08)	(59.10)	10.00%	GST on Income
20 Sept 2022	Manure sales	Receivable Invoice	R & A Williams - Ticket 10828 - 25.52t of	INV-0011	-	255.20	(9,316.28)	(25.52)	10.00%	GST on Income

General Ledger Detail

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
20 Sept 2022	Manure sales	Receivable Invoice	Cattle Manure @ \$10/t excl. R & A Williams - Ticket 10830 - 26.96t of Cattle Manure @ \$10/t excl.	INV-0011	-	269.60	(9,585.88)	(26.96)	10.00%	GST on Income
20 Sept 2022	Manure sales	Receivable Invoice	R & A Williams - Ticket 10831 - 21.78t of Cattle Manure @ \$10/t excl. (Grand Total - 74.26t)	INV-0011	-	217.80	(9,803.68)	(21.78)	10.00%	GST on Income
18 Jan 2023	Manure sales	Receivable Invoice	R & A Williams - Ticket #33 - 26.80t of Manure @ \$10/t excl. Ticket #35 - 26.30t of Manure @ \$10/t excl. Ticket #36 - 29.58t of Manure @ \$10/t excl. Ticket #37 - 29.04t of Manure @ \$10/t excl. Ticket #40 - 28.08t of Manure @ \$10/t excl. Ticket #41 - 29.80t of Manure @ \$10/t excl. Ticket #42 - 28.66t of Manure @ \$10/t excl. Ticket #43 - 27.32t of Manure @ \$10/t excl. Ticket #44 - 28.34t of Manure @ \$10/t excl. Ticket #45 - 31.54t of Manure @ \$10/t excl. Ticket #47 - 27.70t of Manure @ \$10/t excl. Ticket #48 - 26.70t of Manure @ \$10/t excl. Total - 339.86t	INV-0025	-	3,398.60	(13,202.28)	(339.86)	10.00%	GST on Income
18 Jan 2023	Manure sales	Receivable Invoice	Coonamble Equipment - Ticket #55 - 24.26t of Manure @ \$10/t excl.	INV-0026	-	891.60	(14,093.88)	(89.16)	10.00%	GST on Income

General Ledger Detail

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
			Ticket #56 - 21.88t of Manure @ \$10/t excl. Ticket #57 - 21.96t of Manure @ \$10/t excl. Ticket #58 - 21.06t of Manure @ \$10/t excl. Total - 89.16t							
21 Feb 2023	Manure sales	Receivable Invoice	Providore Pastoral - 17.72t of Manure @ 10/t excl. 17.2.23: XO68EQ, Ticket #81 - 17.72t	INV-0031	-	177.20	(14,271.08)	(17.72)	10.00%	GST on Income
21 Feb 2023	Manure sales	Receivable Invoice	Ryan Farming Pty Ltd - 327.05t of Manure @ \$10/t excl. 25.1.23: JMD509, Ticket #61 - 36.79t 25.1.23: JMD509, Ticket #63 - 43.75t 27.1.23: JMD509, Ticket #64 - 39.13t 30.1.23: XN17KN, Ticket #67 - 37.20t 02.2.23: XN17KN, Ticket #69 - 43.62t 02.2.23: XN17KN, Ticket #70 - 43.00t 03.2.23: XN17KN, Ticket #71 - 39.60t 03.2.23: XN17KN, Ticket #72 - 43.96t	INV-0030	-	3,270.50	(17,541.58)	(327.05)	10.00%	GST on Income
1 Mar 2023	Manure sales	Receivable Invoice	PT & SJ Barnard - 18.58t of Manure @ \$10/t excl. Collected 28/2/23: Rego XN43NS	96	-	185.80	(17,727.38)	(18.58)	10.00%	GST on Income
3 Mar 2023	Manure sales	Receivable Invoice	J & N Jenkins - 159.75t of Manure @ \$10/t excl. 21.2.23 - Ticket 86, Rego XO92BJ. 58.63t	INV-0034	-	1,597.50	(19,324.88)	(159.75)	10.00%	GST on Income

General Ledger Detail

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
21 Apr 2023	Manure sales	Receivable Invoice	02.3.23 - Ticket 99, Rego XO92BJ. 53.76t 02.3.23 - Ticket 100, Rego XO92BJ. 47.36t BG & LM Hawke - 31/03/23 Ticket #127 - Rego: XQ13IO. 24.28t of Manure @ \$10/t Excl.	INV-0040	-	242.80	(19,567.68)	(24.28)	10.00%	GST on Income
21 Apr 2023	Manure sales	Receivable Invoice	BG & LM Hawke - 14/04/23 Ticket #136 - Rego: XQ13IO. 19.42t of Manure @ \$10/t Excl.	INV-0040	-	194.20	(19,761.88)	(19.42)	10.00%	GST on Income
24 May 2023	Manure sales	Payable Invoice	PT & SJ Barnard - Less Inv 35 for Manure	77	-	185.80	(19,947.68)	(18.58)	10.00%	GST on Income
25 May 2023	Manure sales	Receivable Invoice	J & N Jenkins - 106.63t of Manure @ 10/t excl. 05.05.23 - Ticket 154, Rego XN11OK. 35.69t. 08.05.23 - Ticket 155, Rego XN11OK. 35.59t. 10.05.23 - Ticket 159, Rego XN11OK. 35.35t.	INV-0043	-	1,066.30	(21,013.98)	(106.63)	10.00%	GST on Income
7 June 2023	Manure sales	Receivable Invoice	Gidginbilla Trust - 07/06/23: Manual Ticket 179. Rego XO92BB. 13.24t of Cattle Manure @ \$10/t excl.	179	-	132.40	(21,146.38)	(13.24)	10.00%	GST on Income
25 Sept 2023	Manure sales	Receivable Invoice	Darren Millstead - Large Square Lucerne Bale @ \$265/Bale excl.	241	-	1,060.00	(22,206.38)	(106.00)	10.00%	GST on Income
20 Nov 2023	Manure sales	Payable Credit Note	PT & SJ Barnard - 26.00t of Manure @ 10/t Excl. 23.90t of Manure @ \$10/t Excl.	Manure 001	-	499.00	(22,705.38)	(49.90)	10.00%	GST on Income

General Ledger Detail

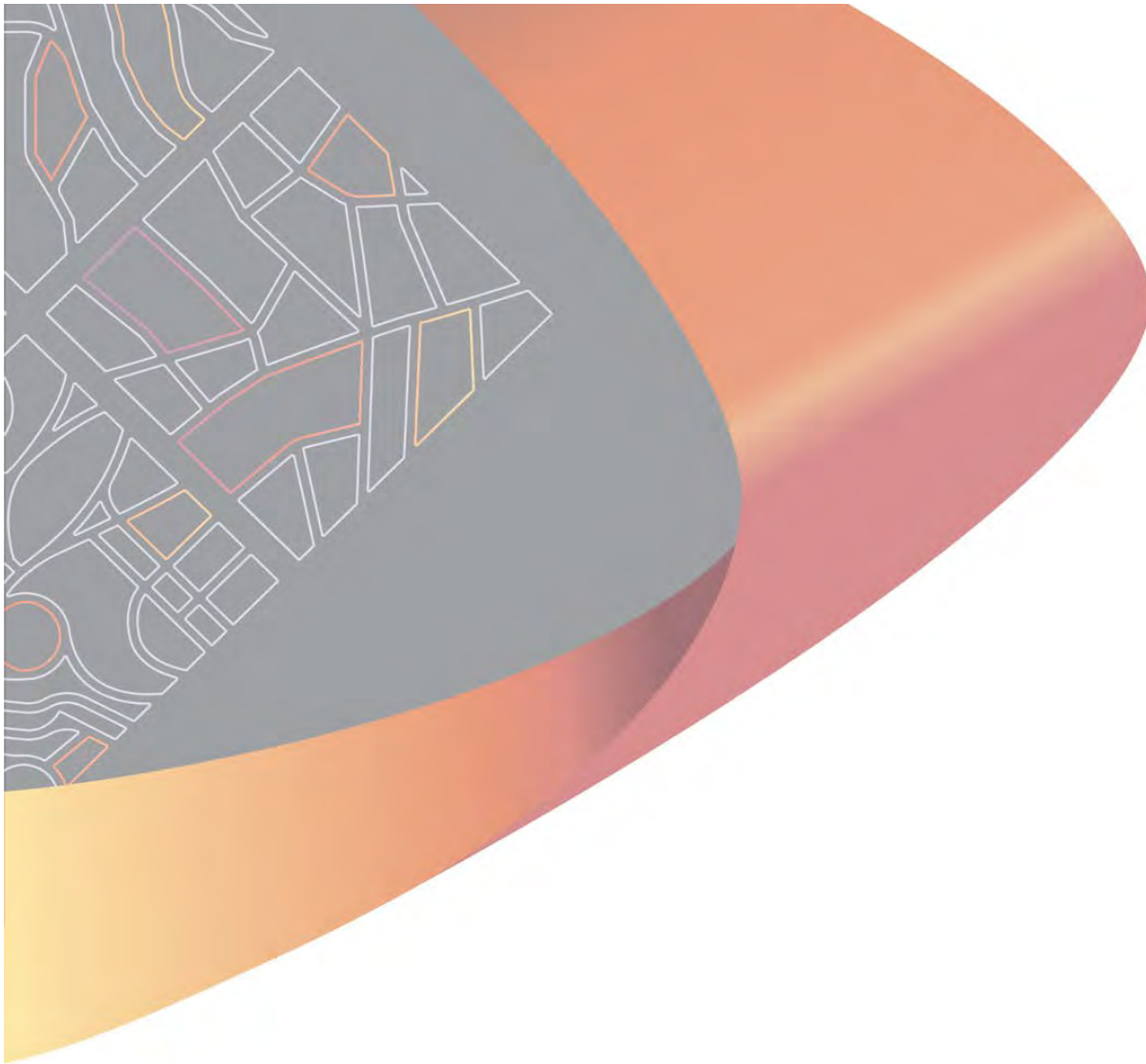
DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
12 Dec 2023	Manure sales	Receivable Invoice	Danny Galea - Rego-KIWIK2 38.56t of cattle manure @ \$10.00/t excl	275	-	385.60	(23,090.98)	(38.56)	10.00%	GST on Income
16 Jan 2024	Manure sales	Receivable Invoice	Coonamble Equipment - 15.22t of Cattle Manure @ 10/t Excl. Ticket 290 Rego: XO55EM	INV-0068	-	152.20	(23,243.18)	(15.22)	10.00%	GST on Income
16 Jan 2024	Manure sales	Receivable Invoice	Coonamble Equipment - 15.04t of Cattle Manure @ 10/t Excl. Ticket 291 Rego: XO55EM	INV-0068	-	150.40	(23,393.58)	(15.04)	10.00%	GST on Income
16 Jan 2024	Manure sales	Receivable Invoice	Coonamble Equipment - 19.26t of Cattle Manure @ 10/t Excl. Ticket 292 Rego: XO55EM	INV-0068	-	192.60	(23,586.18)	(19.26)	10.00%	GST on Income
28 Jan 2024	Manure sales	Receivable Invoice	R & A Williams - 116.32T manure @ \$10/T excl. 23/1/24 Ticket - 299 - 17.18T Ticket - 295 - 20.30T Ticket - 296 - 18.92T Ticket - 297 - 19.56T Ticket - 298 - 19.48T Ticket - 294 - 20.88T	Manure Jan 24	-	1,163.20	(24,749.38)	(116.32)	10.00%	GST on Income
28 Jan 2024	Manure sales	Receivable Invoice	R & A Williams - 115.32T Manure @ \$10/T excl. 24/1/24 Ticket - 306 - 21.36T Ticket - 301 - 18.96T Ticket - 302 - 18.12T Ticket - 303 - 20.28T Ticket - 304 - 19.84T Ticket - 305 - 16.76T	Manure Jan 24	-	1,153.20	(25,902.58)	(115.32)	10.00%	GST on Income
12 Feb 2024	Manure sales	Receivable Invoice	Rodger Nalder - 29.16t of Cattle Manure @ \$20/t excl. Collected 3/2/24	309	-	583.20	(26,485.78)	(58.32)	10.00%	GST on Income

General Ledger Detail

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME
1 Apr 2024	Manure sales	Receivable Invoice	Ticket 309, Rego CG97QJ A and L Fisher - 26.3.24 - Rego XO65AA. Docket 0339 14.46t of Cattle Manure @ \$15/t excl.	339	-	216.90	(26,702.68)	(21.69)	10.00%	GST on Income
1 Apr 2024	Manure sales	Receivable Invoice	Ryan Farming Pty Ltd - 196.61t of Cattle Manure @ \$10/t Excl. 13.2.24 - Rego XN17KN. Docket 0315 31.41t	INV-0082	-	314.10	(27,016.78)	(31.41)	10.00%	GST on Income
1 Apr 2024	Manure sales	Receivable Invoice	Ryan Farming Pty Ltd - 13.2.24 - Rego XN17KN. Docket 0317 28.54t	INV-0082	-	285.40	(27,302.18)	(28.54)	10.00%	GST on Income
1 Apr 2024	Manure sales	Receivable Invoice	Ryan Farming Pty Ltd - 27.2.24 - Rego XN17KN. Docket 0324 24.50t	INV-0082	-	245.00	(27,547.18)	(24.50)	10.00%	GST on Income
1 Apr 2024	Manure sales	Receivable Invoice	Ryan Farming Pty Ltd - 28.2.24 - Rego XN17KN. Docket 0326 28.81t	INV-0082	-	288.10	(27,835.28)	(28.81)	10.00%	GST on Income
1 Apr 2024	Manure sales	Receivable Invoice	Ryan Farming Pty Ltd - 28.2.24 - Rego XN17KN. Docket 0328 28.28t	INV-0082	-	282.80	(28,118.08)	(28.28)	10.00%	GST on Income
1 Apr 2024	Manure sales	Receivable Invoice	Ryan Farming Pty Ltd - 29.2.24 - Rego XN17KN. Docket 0329 27.89t	INV-0082	-	278.90	(28,396.98)	(27.89)	10.00%	GST on Income
1 Apr 2024	Manure sales	Receivable Invoice	Ryan Farming Pty Ltd - 29.2.24 - Rego XN17KN. Docket 0330 27.18t	INV-0082	-	271.80	(28,668.78)	(27.18)	10.00%	GST on Income
Total 41400 - Manure sales					475.92	29,144.70	(28,668.78)	(2,698.54)		
Net movement					-	28,668.78	-	-		

General Ledger Detail

DATE	ACCOUNT	SOURCE	DESCRIPTION	REFERENCE	DEBIT	CREDIT	RUNNING BALANCE	GST	GST RATE	GST RATE NAME	
Total					475.92	29,144.70	(28,668.78)	(2,698.54)			





Biodiversity Assessment Report

Proposed Development at “Moonya Feedlot”

701 Quambone Road Coonamble NSW 2829

Lot 1/-/DP1124929, Lot 121/-/DP754199, Lot 113/-/DP754199, Lot 124/-/DP754199 and Lot 119/-/DP754199

**Prepared for Premise | Level 1, 60-62 McNamara Street
Orange NSW 2800**

24 May 2024



About this document

This document has been approved for release to client by our Senior Ecologist, Simon Vinson, Accredited Biodiversity Assessor NSW licence BAAS23004.

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Document Tracking

Version	Document Author	Reviewer	Date of review
v1.0	Dylan Robb, Finbar Shields	Simon Vinson	24/05/2024

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Abbreviations and common terms

AOBV	Area of Biodiversity Value declared under the NSW BC Act
AWS	Automatic weather station
BAM	Biodiversity Assessment Method
BC Act	Biodiversity Conservation Act 2016 (NSW)
BDAR	Biodiversity Development Assessment Report
BVM	Biodiversity Values Map
BOS	Biodiversity Offset Scheme
BOSET	Biodiversity Offset Scheme Entry Threshold
CE	denotes a species, population or ecological community listed as Critically Endangered under Commonwealth and/or State legislation
Cwlth	Commonwealth
DA	Development Application
DPIE	Department of Planning, Industry and Environment
E	denotes a species, population or ecological community listed as Endangered under Commonwealth and/or State legislation
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)
FM Act	Fisheries Management Act 1994
ha	Hectare
HTE	High Threat Exotic - a type of declared weed in NSW
IBRA	Interim Biogeographic Region of Australia
km	kilometres
LEP	Local Environmental Plan—a type of planning instrument made under the EP&A Act
LGA	Local Government Area
LLS	Local Land Services
MNES	Matters of National Environmental Significance
NSW	New South Wales
PCT	Plant Community Type
SEPP	State Environmental Planning Policy—a type of planning instrument made under the EP&A Act
sp./spp.; subsp.	species (singular) / species (plural); subspecies
TEC	Threatened Ecological Community or equivalent (terms may vary across jurisdictions)
V	denotes a species, population or ecological community listed as Vulnerable under Commonwealth and/or State legislation
var.	Variety
VMP	Vegetation Management Plan
WONS	Weeds of National Significance

1 Introduction

Ecology Consulting have been commissioned by Premise (the client) to prepare a Biodiversity Assessment Report (BAR) report to be submitted with a Development Application (DA) for the proposed expansion of the existing 'Moonya Feedlot' at 701 Quambone Road, Coonamble 2829 (1/-DP1124929, 121/-/DP754199, 113/-/DP754199, 124/-/DP754199).

The DA seeks consent for the construction of a further twenty-six (26) feed pens to the east of the existing feedlot (to increase the maximum capacity of cattle from 10,000 to 30,000) and associated works at 701 Quambone Road – 'Moonya Feedlot'. It also includes the addition of at least one of three proposed irrigation areas to the east and northeast of the proposed additional feed pens.

1.1 Purpose and scope of this report

The purpose of this report is to provide an expert assessment of the:

- biodiversity present or likely to be present in the study area and work area,
- likely ecological impacts of the proposed development, both before and after mitigation,
- requirements of key biodiversity legislation, including whether the proposed development meets certain thresholds for significant impacts on biodiversity and requires entry to the Biodiversity Offset Scheme (BOS), and

The purpose is also to address Secretary's Environmental Assessment Requirements (SEARS) biodiversity requirements, including:

- accurate predictions of any vegetation clearing on site or for any road upgrades,
- a detailed assessment of the potential impacts on any threatened species, populations, endangered ecological communities or their habitats, groundwater dependent ecosystems and any potential for offset requirements in accordance with the current Biodiversity Conservation and Science Group legislation and guidelines,
- details of weed management during construction and operation in accordance with existing State, regional or local weed management plans or strategies,
- a detailed description of the measures to avoid, minimise, mitigate and/or offset biodiversity impacts.

1.2 Study area

The study area is located approximately 180 m above sea level, 7 km south west of Coonamble and 85 km north of Gilgandra (**Figure 1**). It is within the:

- Coonamble Shire Council local government area (LGA),
- North West Local Land Services (NW LLS) Management Area,
- Castlereagh-Barwon sub-region of the Darling Riverine Plains region according to the Interim Biogeographic Regionalisation of Australia (IBRA), and
- Is located in the Macquarie-Castlereagh catchment.

The study area is bounded by large, primarily agricultural lots zoned RU1: Primary Production, in all directions. It comprises approximately 187 hectares (ha) and according to the current Coonamble Local Environmental Plan 2011 (the LEP), it:

- is zoned RU1 – Primary Production,

- has a minimum lot size of 1000 ha, and
- is listed for terrestrial biodiversity.

The study area consists of:

- predominately exotic cropped pastures with very limited understory habitat,
- woodland vegetation in the form of remnant overstory patches and paddock trees,
- disturbed native roadside vegetation,
- internal unsurfaced roadways along fence lines,
- stock water and feed troughs,
- wire fencing along boundaries,
- utility poles for electricity in the centre and south, and
- manure stockpile site in the south.

An aerial view of the study area and surrounds is provided in **Figure 2**.

1.3 Work area

The client has advised that the proposed development will involve the construction of 26 new feed pens and other associated works to the east of the existing feedlot. It also includes the addition of at least one of three proposed irrigation areas to the east and northeast of the proposed additional feed pens and associated structures (**Figure 3** and **Figure 4**).

In assessing its impacts, this report considers the following works (the work area):

- Vegetation clearing and earthworks for:
 - 26 new feed pens (~ 24.83 ha),
 - silage bunks (~ 1.15 ha),
 - sedimentation basin (~ 1.09 ha),
 - holding pond (~ 5.87 ha),
 - relocation of electricity line (~3.23 ha), and
 - road upgrade (Quambone Road) (~0.16 ha).
- Vegetation modification as a result of proposed irrigations areas (either 1, 2 or 3, each ~50 ha)

The maximum development footprint combining the works described above is estimated at ~85.80 ha. Impacts of the proposed development as described above are presented in **Section 3**.

FIGURE 1: STUDY AREA IN ITS REGIONAL CONTEXT

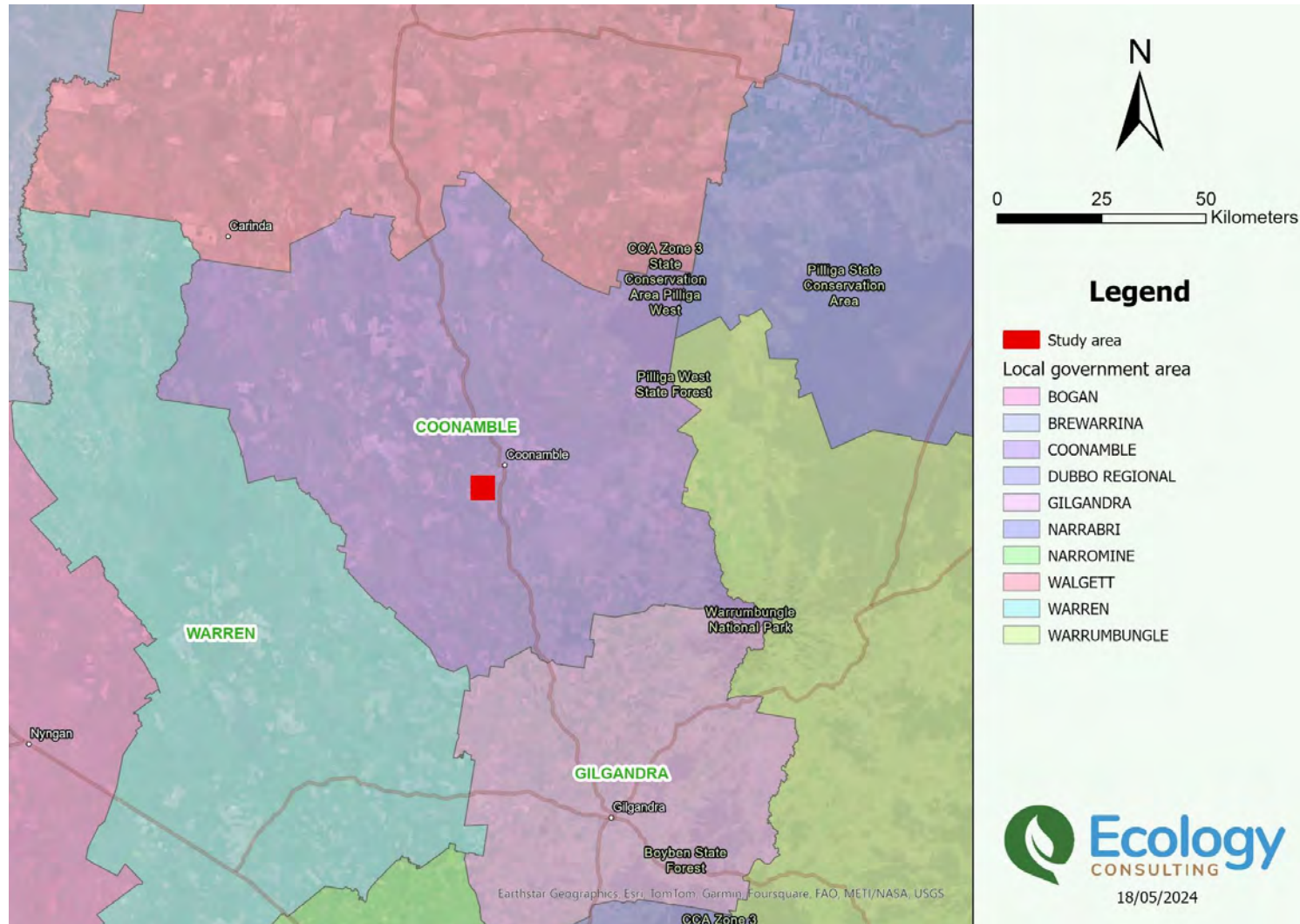


FIGURE 2: AERIAL VIEW OF THE STUDY AREA AND SURROUNDS

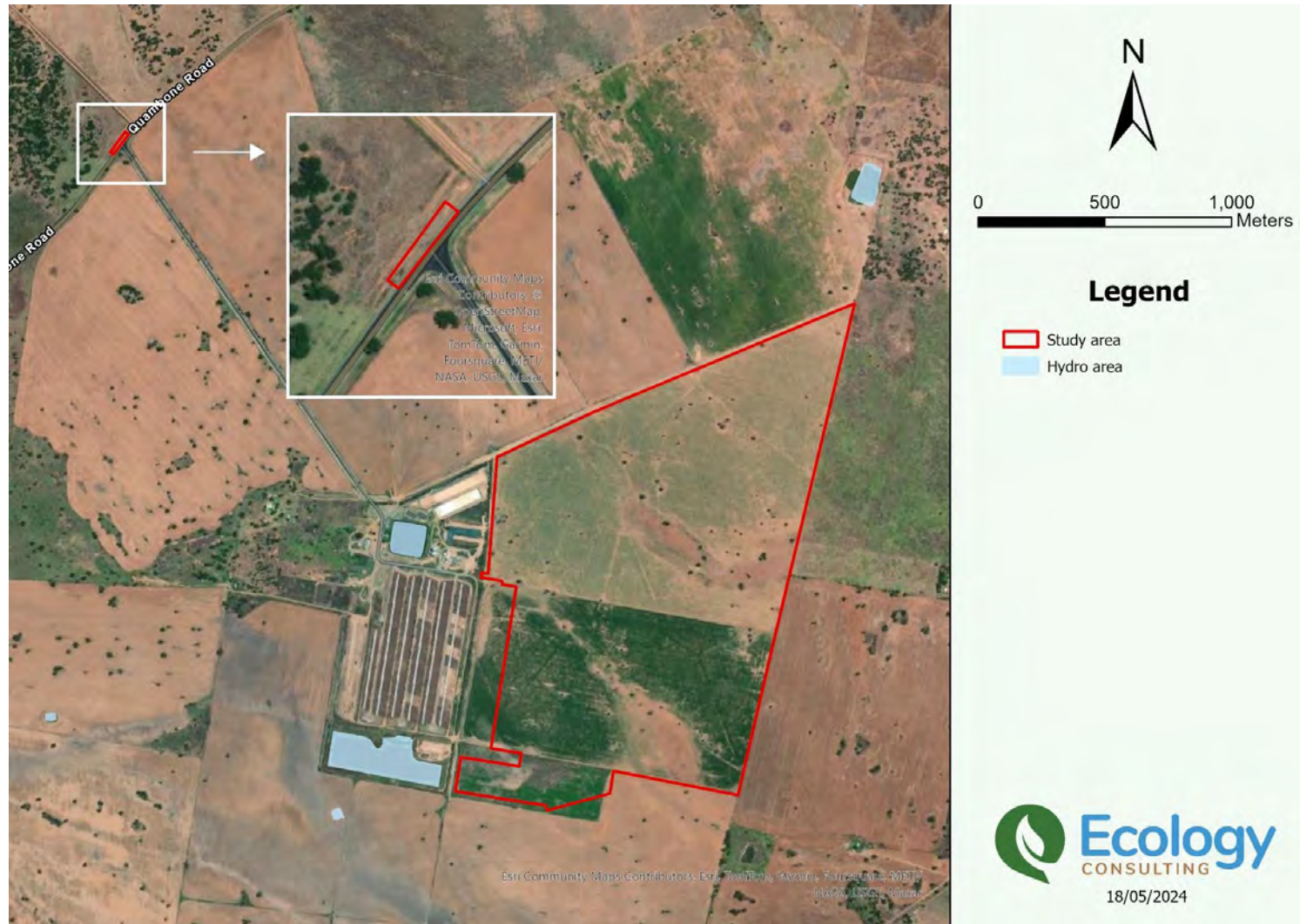


FIGURE 3: DEVELOPMENT PLANS (CLIENT SUPPLIED)

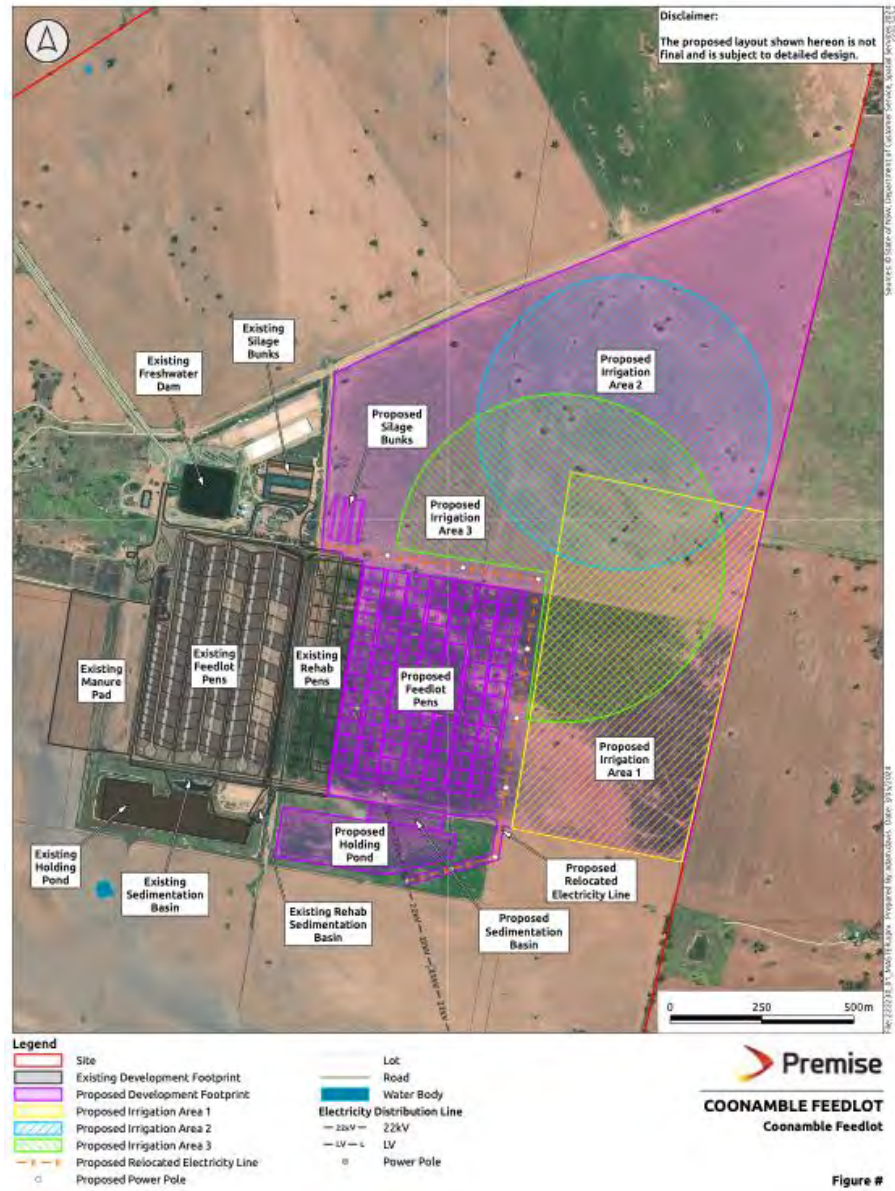
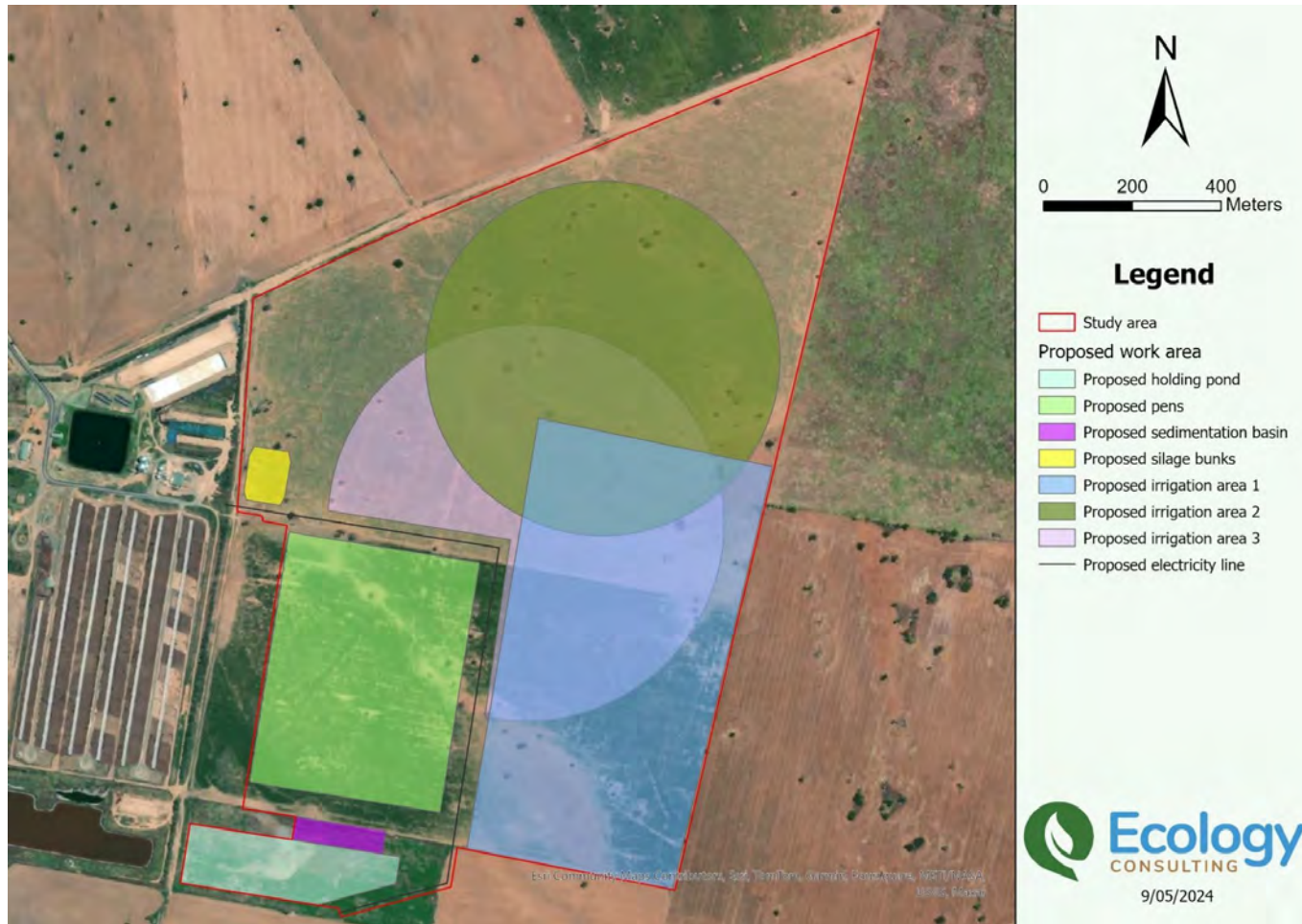


FIGURE 4: INDICATIVE DEVELOPMENT LAYOUT



1.4 Methodology

This report was prepared, based on:

- desktop data published by relevant publications and databases,
- field data collected on site by professional ecologists, and
- revision of supplied client documentation.

1.4.1 Desktop assessment

Desktop research was undertaken to identify site characteristics, landscape context and threatened species and ecological communities known or likely to occur within 10 km of the study area. Databases and search tools included the:

- Commonwealth EPBC Act Protected Matters Search Tool (pmst.awe.gov.au)
- National Species Profiles and Threats (SPRAT) database (<https://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl>)
- National Atlas of Living Australia (ala.org.au)
- BioNet Atlas of NSW Wildlife (bionet.nsw.gov.au)
- NSW Threatened Biodiversity Profile tool (www.environment.nsw.gov.au/threatenedSpeciesApp)
- NSW Biodiversity Values Map (www.environment.nsw.gov.au/biodiversity/biodiversity-values-map.htm)
- NSW eSpade soil and land information database (espade.environment.nsw.gov.au)
- SEED environmental data portal (seed.nsw.gov.au)
- eBird for the Coonamble (<https://ebird.org/hotspot/L5677401>), Coonamble Sewage Treatment Plant (<https://ebird.org/hotspot/L4487793>) and Quambone Road hotspots (<https://ebird.org/hotspot/L8277191>)

1.4.2 Field inspections (Ground truthing)

Field inspection of the study area was undertaken on 17 and 18 April 2024 by Ecologists Finbar Shields and Dylan Robb. Survey work was undertaken to assess the general biodiversity values, and the type and condition of vegetation in the study area.

1.4.3 Flora and vegetation surveys

Survey work involved a random meander across the study area with data collected, and observations made about:

- plant species present onsite,
- plant community types (PCTs) present, which were identified with reference to species composition and structure, landscape position and the known geographical distribution of plant communities, and
- an assessment of habitat relevant to potential threatened flora species known or likely to occur within the study area and surrounds.

1.4.4 Targeted threatened flora surveys

An assessment was made of the likelihood of the study area containing threatened flora species known or likely to be present within 10 km (**Appendix B**).

Targeted surveys were not conducted for the three potential threatened flora species. Instead, active searches were conducted throughout the duration of the inspections for threatened plant species, despite the very poor quality of habitat available within the study area. Formal targeted threatened flora surveys were not considered a requirement due to the historic modification of understory vegetation within the study area through agricultural practices such as cropping, grazing and clearing. These activities have significantly reduced the potential for the study area to support threatened flora species.

1.4.5 BAM plots

The NSW Biodiversity Assessment Method (BAM) forms part of the Biodiversity Offsets Scheme (BOS) under the NSW *Biodiversity Conservation Act 2016* (BC Act) and provides a consistent method of vegetation survey to assess impacts on biodiversity values from a proposed development.

Seven full floristic and vegetation integrity plots (BAM plots) were undertaken (**Figure 5**) in the interests of:

- highlighting biodiversity values that may occur within the study area;
- presenting the standardised condition of vegetation; and
- determining whether the vegetation is consistent with 'low conservation value grasslands or groundcover' for assessment of Category 1 – exempt land (NSW Office of Environment and Heritage, 2018).

In accordance with the BAM, detailed data was collected on a wide range of matters including the:

- plant species and plant community types (PCTs) present,
- vegetation composition (cover and abundance), structure and function, and
- other matters relevant to site condition e.g., site history, disturbances, geology, soil type, abundance of bare ground, coarse woody debris etc.

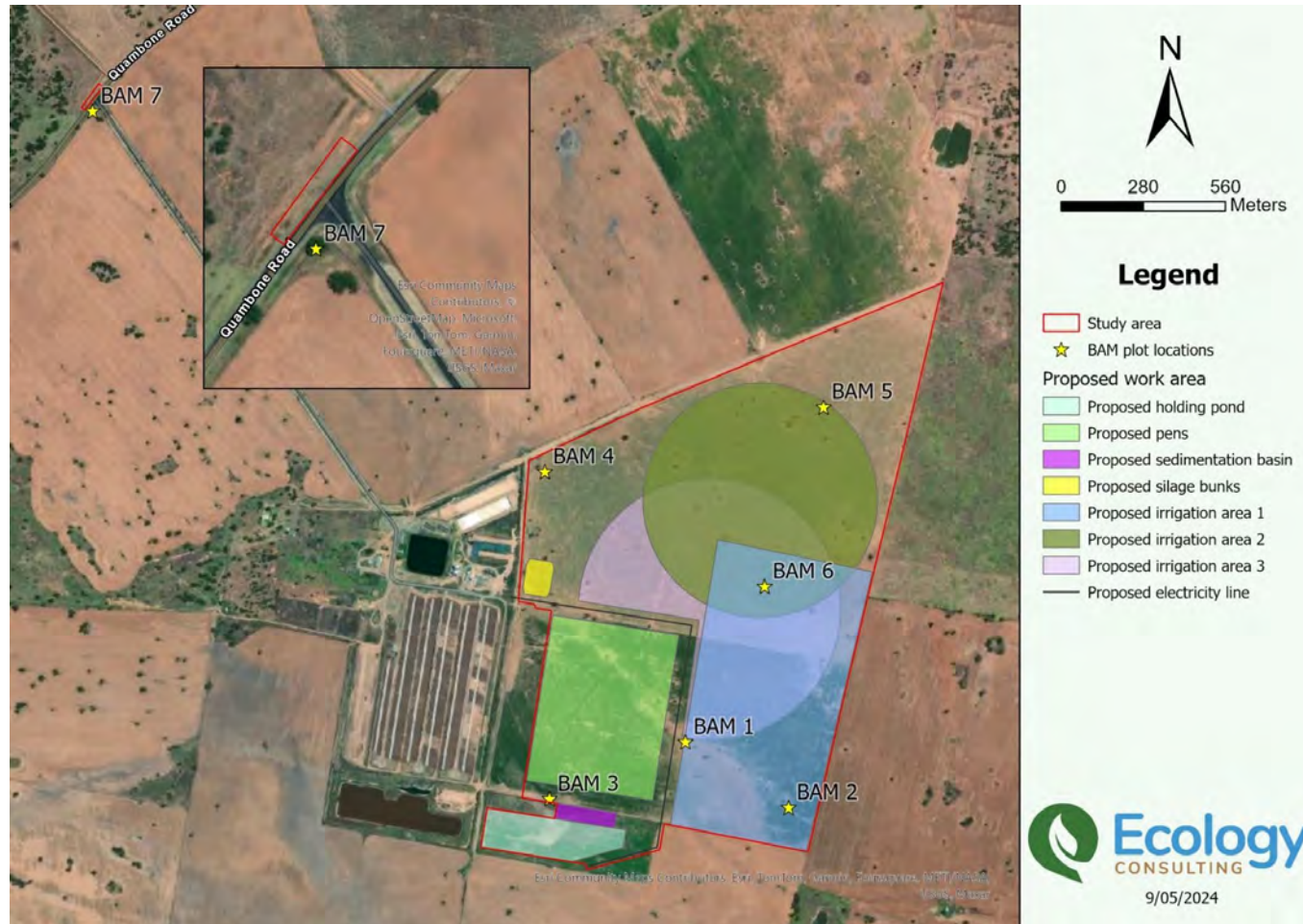
Plot data was entered into the BAM Calculator (BAM-C) to enable calculation of composition, structure, function, and vegetation integrity scores for designated vegetation zones.

1.4.6 Fauna habitat

A field assessment was undertaken to determine the presence of habitat within the study area for fauna and threatened fauna species considered likely to occur on the proposal area. This involved traversing the study area with surveys focusing on key habitat types including:

- hollow-bearing trees and associated attributes such as size of hollows (diameter) and distance from the ground for each hollow,
- presence of any scattered rocks and rocky outcrops,
- the extent and condition of any riparian habitat, including waterways, drainage lines and riparian vegetation,
- presence of stick nests (particularly focussing on presence of large stick nests for threatened raptors), and
- presence of any mistletoe and flowering and fruiting trees providing potential foraging resources for threatened birds.

FIGURE 5: BAM PLOT LOCATIONS



1.4.7 Survey limitations

Conditions at the time of fieldwork were suitable to enable most plant species in the study area to be identified with confidence. However, the results of fieldwork may not be applicable to rule out some species, because some plants and animals are only detectable during certain times of year and after certain weather events. Furthermore, some plant species can only be identified to species when in flower.

For fauna, it should also be noted that fieldwork was not intended to provide a comprehensive survey of all the animal species that may utilise the site over time. However, habitat surveys were undertaken for the quantity and quality of habitat that may be suitable for different species.

1.4.8 Weather conditions

Prevailing weather conditions during the surveys (highlighted) and during the lead-up to the surveys are presented in Table 1. The data was collated for the nearest Bureau of Meteorology weather station at Coonamble Airport AWS (station 051161) (Bureau of Meteorology, 2023).

TABLE 1: WEATHER CONDITIONS PRIOR AND DURING FIELD SURVEYS

Date	Specific Survey	Min Temp °C	Max Temp °C	Rainfall (mm)	Max Wind Gust (km/h)
13 April 2024	-	10.4	26.2	0	19
14 April 2024	-	9.4	28.8	0	35
15 April 2024	-	12.5	30.4	0	31
16 April 2024	-	13.8	29.6	0	30
17 April 2024	Field inspection	12.6	26.3	0	50
18 April 2024		13.3	25.1	2	37

2 Biodiversity findings

2.1 Landscape context

2.1.1 IBRA Bioregions and subregions

Under the Interim Biogeographic Regionalisation for Australia (IBRA v7), the study area is located in the Castlereagh-Barwon Subregion of the Darling Riverine Plains Region.

2.1.2 NSW Mitchell Landscape ecosystem

NSW (Mitchell) Landscapes were developed for conservation planning and reserve establishment purposes, to provide consistent state-wide ecological units finer than the existing bioregions and subregions (State Government of NSW and NSW DCCEEW, 2016). They group ecosystems into larger meso-ecosystems representing natural entities based on topography and geology, and each landscape's name includes both location and descriptive information.

The study area primarily occurs within the Castlereagh Channels and Floodplains Landscape Ecosystem detailed below (Department of Climate Change and Environment NSW, 2002).

Holocene fluvial sediments of the channel and meander plain facies of the Marra Creek Formation associated with the Castlereagh River alluvial fan and distributary stream system, relief in the channels 10 to 15m. Stream flow is nearly permanent. Sinuous channels entrenched in the meander plain with a fine sand bed load. Banks and plains with brown to grey silt, cracking clay layers of red-brown sand. Areas of streambed aggradation reported near Coonamble and sand is moving downstream.

River red gum (Eucalyptus camaldulensis), black box (Eucalyptus largiflorens), river cooba (Acacia stenophylla) and coolibah (Eucalyptus microtheca) on channel margins. Plains support open grasslands with scattered coolibah, black box, bumble box (Eucalyptus populnea), belah (Casuarina cristata), wilga (Geijera parviflora), lignum (Muehlenbeckia cunninghamii) and myall (Acacia pendula).

The southwestern corner of the study area occurs within the Castlereagh Alluvial Plains Landscape Ecosystem detailed below.

Holocene fluvial sediments of backplain and channelised backplain facies of the Marra Creek Formation associated with the Castlereagh River main alluvial fan and distributary stream system, relief 1 to 3m. Dark yellow-brown silty clay with patches of sand and carbonate nodules deposited from suspended sediments in floodwater, often with gilgai. Slightly elevated areas with red-brown texture-contrast soils.

Open grasslands with scattered coolibah (Eucalyptus microtheca), black box (Eucalyptus largiflorens), river cooba (Acacia stenophylla), bumble box (Eucalyptus populnea), belah (Casuarina cristata), lignum (Muehlenbeckia cunninghamii), saltbush (Atriplex sp.), warrior bush (Apophyllum anomalum) and myall (Acacia pendula).

2.1.3 Topography, geology and soils

The study area is generally flat with very a minor slope to the north and south east. Elevation is mostly consistent at ~ 180 m with minor variations occurring across its extent.

As described in the Castlereagh Channels and Floodplains Landscape (NSW Mitchell Landscape), the study area contains Holocene fluvial sediments of the channel and meander plain facies of the Marra Creek Formation associated with the Castlereagh River alluvial fan. General relief in the channels is 10 – 15 m and sinuous channels often contain a fine sand bed load. Banks and plains are composed of brown to grey silt and cracking clay layers of red-brown sand. Soils include red and brown kandosols and chromosols on meander plains, brown and grey vertosols on back plains, brown vertosols in channels and also grey vertosols in areas of depression.

No areas of geological significance (karsts, caves, crevices, or cliffs) are known or observed to be present within the study area. The study area or immediate surrounds (within 1500 m) is not mapped as occurring on acid sulphate soils nor mapped as having risk/probability of exhibiting occurrence of acid sulphate soils (Fitzpatrick *et al.*, 2011).

2.1.4 Hydrology

The study area does not contain any natural waterways such as a hydro line or any built aquatic features such as dams. Given the limited slope of the study area, it's likely that during heavy rainfall events water accumulates within the landscape and is not quickly transported into surrounding waterways.

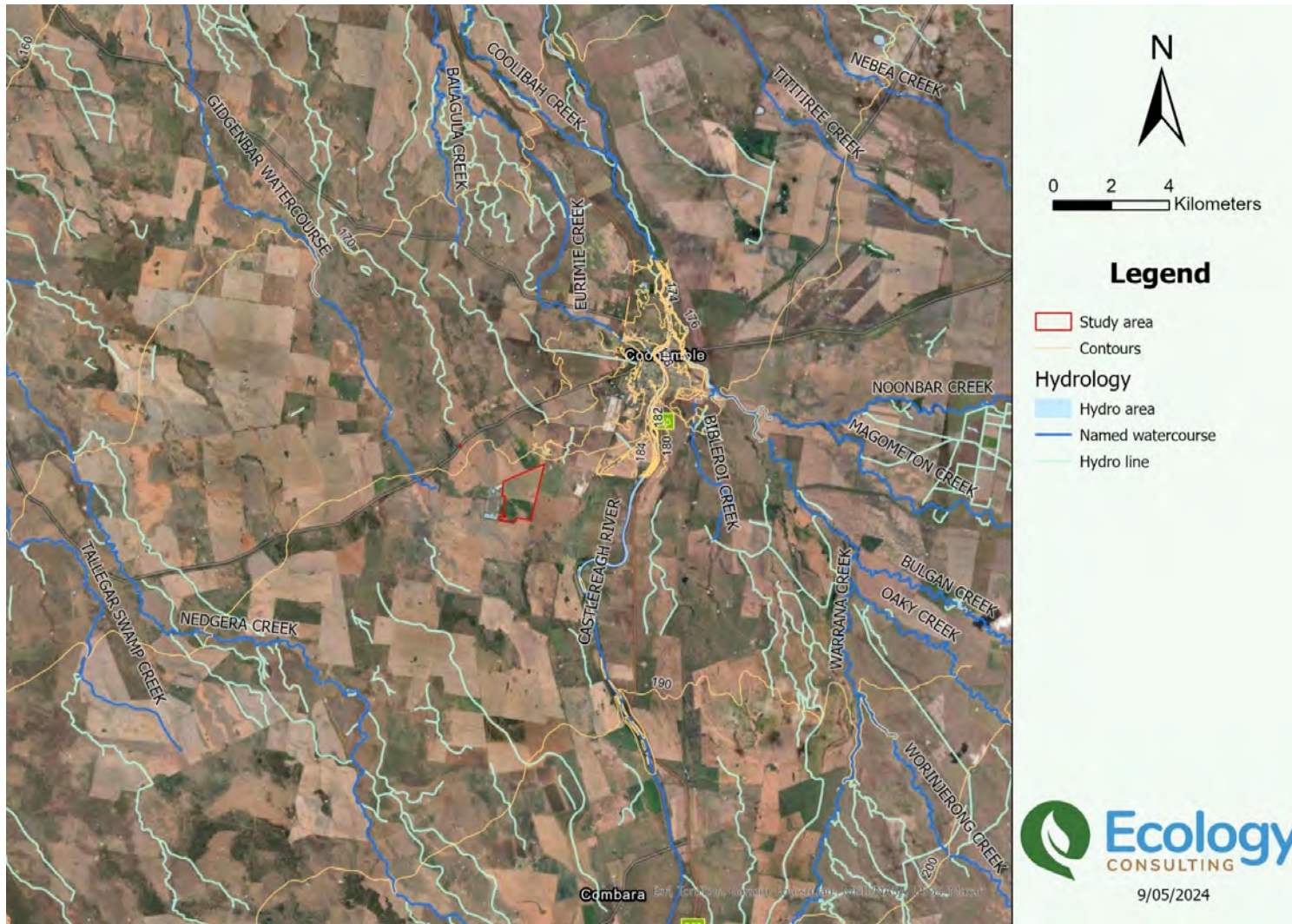
While no hydrological features are mapped or were recorded during field inspections within the study area, a number are present within the surrounding landscape. The closest of these is a large water catchment dam to the west of the study area (within the Moonya Feedlot) (**Figure 6**). Other waterways include the Gidgenbar Watercourse which is located ~ 1.9 km to the west of the study area (**Figure 7**) and is Biodiversity Values Mapped (BVM) as Biodiverse Riparian Land (**Figure 8**). Biodiverse Riparian Land on the BVM also occurs in the Castlereagh River ~ 4.8 km east of the study area (**Figure 8**). The Castlereagh River is further mapped as containing Key Fish Habitat (**Section 4.4**).

Given the distance of these waterways from the work areas, and topography of the site, it is considered unlikely that they will be impacted. However, potential indirect impacts should be addressed through implementation of industry standard environmental controls, primarily aimed to minimise any erosion, sedimentation and pollution which may arising from run-off during heavy rain. When conducting works, it is important to establish effective sediment barriers to prevent runoff from the work site, entering neighbouring properties and waterways mentioned above. For a more detailed discussion of the impacts and recommended mitigations, refer to **Section 5**.

FIGURE 6: MOONYA FEEDLOT INTERNAL DAM



FIGURE 7: LANDSCAPE CONTEXT



2.2 Biodiversity context

The study area is situated on the property of the Coonamble feedlot, just outside the regional town of Coonamble, which is surrounded by mix of cleared farmland as well as some areas of remnant and regenerating native vegetation. The study area encompasses a large area and is mostly surrounded by agriculturally utilised land.

The vegetation in and surrounding the study area appears to be heavily modified, however, retains some remnant native plant species. These mostly occur along and surrounding Quambone Road, such as the large patch of vegetation to the north-east of Quambone Road. Overstorey vegetation within the study area has low connectivity to the surrounding landscape and any areas intact woodland. This is due the lack of native understorey, and sparsely scattered trees throughout the study area.

Although the study area and surrounds are mostly cleared, the remaining trees are well established and were recorded to provide valuable habitat for local fauna such as a diversity of bird species, some reptiles, and potentially some native mammals.

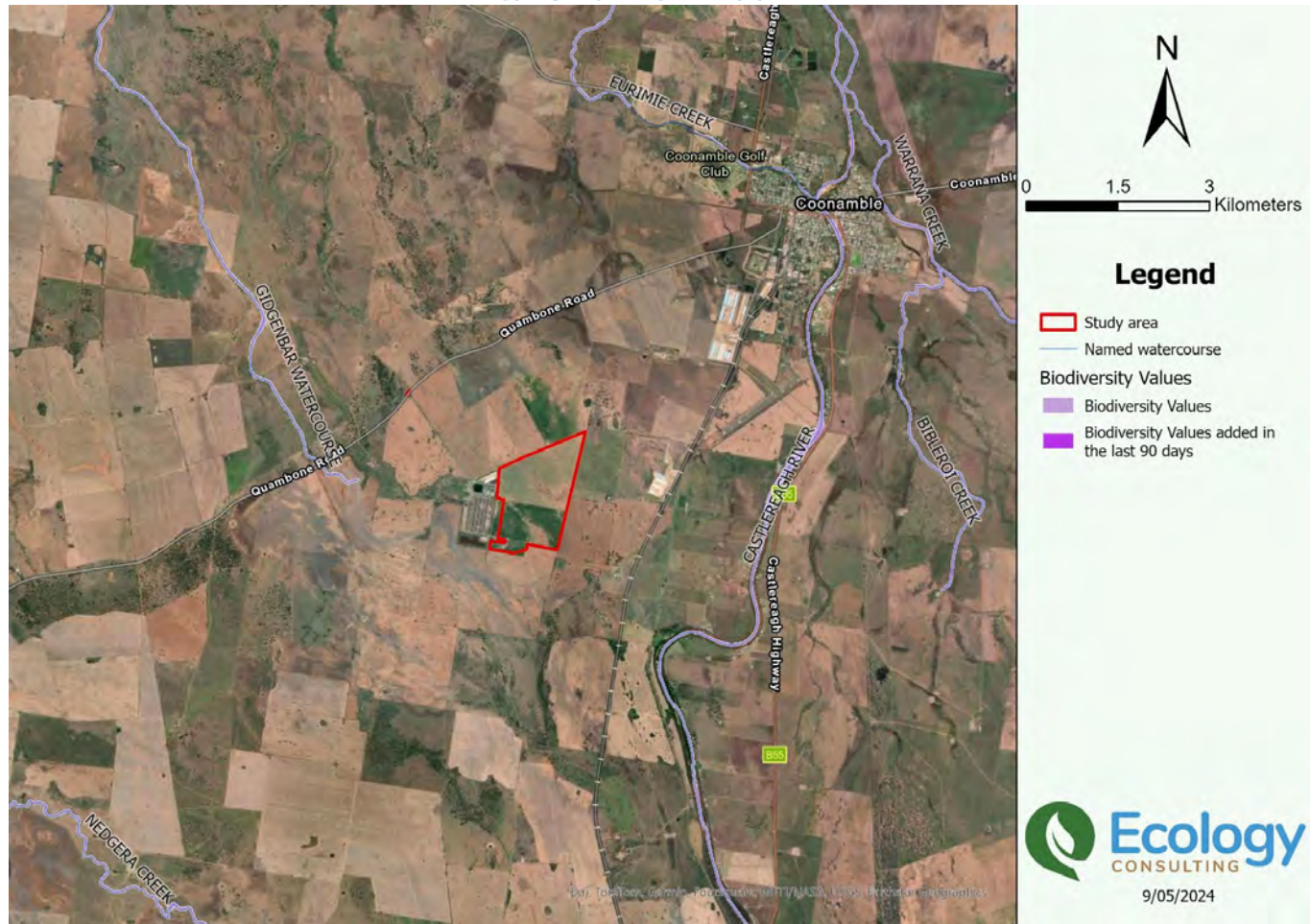
Within the broader landscape several high-condition areas of biodiversity are present, these include:

- Piliga Nature Reserve (Piliga West) ~ 60 km east,
- Macquarie Marshes ~ 40 km west, and
- Warrumbungle National Park ~ 65 km south-east.

These are examples of biodiverse areas in the broader landscape, and although they mostly do not share any of the common ecological communities of the study area, they share many similar individual species that may have utilised the study area prior to historical modification.

Biodiverse Riparian Land on the BVM is present across the Gidgenbar Watercourse to west of the study area (**Figure 8**). Nearby there is also the Castlereagh River system, in which the river itself, as well as the several small creeks that run off the river are also Biodiverse Riparian Land on the BVM, forming a very large area of riparian corridors surrounding the site.

FIGURE 8: BIODIVERSITY VALUES MAP



2.2.1 Vegetation

Vegetation within the study area was found to be largely modified from its original native condition. This modification has occurred through long-term agricultural practices such as cropping, grazing and clearing which has impacted and extensively reduced the extent of native vegetation within the study area (**Figure 11**). These impacts were recorded across the entirety of the study area, except for the Quambone Road roadside.

Native vegetation within the study area is limited to scattered remnant overstory trees and some disturbance tolerant ground layer forb and grass species. Native species cover and diversity was recorded to be greater surrounding trees and fence lines as these areas had been less impacted by ground layer disturbances like cropping.

At the time of inspection, the northern paddock contained established Sorghum (*Sorghum bicolor*) and the southern paddock establishing Oats (*Avena barbata*). These species formed the dominant ground layer vegetation within each paddock as well as scatterings to large patches of invasive weeds species (**Figure 12** and **Figure 16**). Cropping of both paddocks encompasses the entirety of each paddock, within the exception of some directly below trees and under fence lines.

The southern extension of the south paddock was currently being used for manure holding (**Figure 13**). This area has not been recently cropped with Oats and adjoins the southern paddock (north of the referenced southern paddock extension). Groundcover vegetation in this area largely consisted of exotic forbs and grasses, that appeared to be managed through regular slashing.

Plant Community Type

Areas of remnant native vegetation within the study area have been assessed as most closely aligning with the BioNet Vegetation Classification Plant Community Type (PCT) (**Table 9** within **Appendix A**):

- ID 244: Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

The study area does not meet the minimum condition thresholds for listing as its associated Threatened Ecological Community (TEC) – Poplar Box Grassy Woodland on Alluvial Plains (**Appendix B**).

Canopy

A sparse mature canopy containing a limited range of age classes is present across most of the study area. The dominant tree species is Bimble Box (*Eucalyptus populnea* subsp. *bimbi*), which mostly occurs as isolated paddock trees or in small stands. Other tree and small tree species that form part of the canopy in the study area include:

- White Cypress Pine (*Callitris glaucophylla*),
- Kurrajong (*Brachychiton populneus*),
- Western Rosewood (*Alectryon oleifolius*),
- Willow Wattle (*Acacia salicina*), and
- Wilga (*Geijera parvifolia*).

Midstory

Midstory vegetation had been almost entirely removed throughout entirety of the study area. It is currently limited to a few individual Willow Wattles (*A. salicina*) surrounding the bases of Bimble Box in the southern paddock and sparse scatterings of the invasive African Boxthorn (*Lycium ferocissimum*).

Groundlayer

Groundlayer vegetation within the study area primarily consisted of exotic species such as cropped Sorghum and Oats, as well as invasive weed species. Native vegetation within the stratum was very sparse and mostly limited to disturbance tolerant grasses and forbs such as:

- Common Couch (*Cynodon dactylon*),
- Small Crumbleweed (*Dysphania pumilio*),
- Button Grass (*Dactyloctenium radulans*), and
- Hog Weed (*Zaleya galericulata*).

A more diverse native groundlayer was recorded in areas of reduced disturbance such as surrounding trees and along fence lines, these areas also recorded a high cover of exotic invasive species. Native species recorded in these areas included the small shrubs Black Rolypoly (*Sclerolaena muricata*) and Galvanized Burr (*S. birchii*), as well as grasses and forbs including:

- Windmill Grass (*Chloris truncata*),
- Curly Windmill Grass (*Enteropogon acicularis*),
- Bluebells (*Wahlenbergia* sp.),
- Pigweed (*Portulaca oleracea*),
- Climbing Saltbush (*Einadia nutans*), and
- Yellow Wood-sorrel (*Oxalis perennans*).

Quambone Road recorded the greatest diversity of the observed study area, very likely due to the reduced agricultural pressure. This area recorded a range of small shrub, grass and forb species that were not observed elsewhere in the study area, such as:

- Variable Glycine (*Glycine tabacina*),
- Ruby Saltbush (*Enchylaena tomentosa*),
- Thorny Saltbush (*Rhagodia spinescens*),
- Slender Bamboo Grass (*Austrostipa verticillata*),
- Red Grass (*Bothriochloa macra*),
- Knob Sedge (*Carex inversa*), and
- Berry Saltbush (*Einadia hastata*).

There were 34 exotic species observed within the study area, including four High Threat Exotics (HTE) and one Weed of National Significance (WoNS). Some exotic species were observed to have high abundance such as Bathurst Burr (*Xanthium spinosum*) and Paddy Melon (*Cucumis myriocarpus*) and formed dense infestation in areas of the study area, particularly in areas of reduced cropping such as fence lines and below trees (**Figure 16**). Other exotic species that were recorded in abundance include:

- Buffel Grass (*Cenchrus ciliaris*)^{HTE},
- African Boxthorn (*Lycium ferocissimum*)^{WoNS},
- Potato Weed (*Heliotropium europaeum*),
- Common Thornapple (*Datura stramonium*), and
- Viper's Bugloss (*Echium vulgare*).

For a complete list of all the plant species found in the study area, see **Appendix A**.

BAM plot results

Data collected from the BAM plots reflects field survey findings of highly modified, predominately exotic vegetation, which contains a poor functioning, scattered mature overstorey with small range of age classes and no recorded regeneration. Vegetation lacked diversity and native species cover as well as most areas recording limited functional habitat features such as fallen logs and litter cover. Overstorey regeneration was not observed to be occurring throughout the study area.

BAM plot data was used to inform the mapping of vegetation zones within the study area. Three condition classes (vegetation zones) were defined based on the broad condition as follows (Figure 9):

- Zone 1 – scattered native trees,
- Zone 2 – low conservation value grasslands (Category 1-exempt land), and
- Zone 3 – derived grassland.

As presented in Table 2, plots conducted in Zone 2 were shown to have a very low combined vegetation integrity score (VIS) (0.9) which reflects the limited native vegetation cover, diversity and function within this zone. Each plot (1-5) within Zone 2 recorded a VIS score of less than 15.

BAM 6 conducted in Zone 1 recorded a low composition condition score, moderate structure condition score and a low function condition score (100 is the highest value for all scores). BAM 7 conducted in Zone 3 recorded a moderate score across composition, structure, function, and VIS. Plots sampled in Zone 1 and 3 recorded greater values than those conducted in Zone 2 due to their increased native vegetation cover, diversity and structure which lead to a low-moderate vegetation integrity score of 21 and 48.7 respectively.

Only vegetation from Zones 1 and 3 have been classified as PCT 244. It should also be noted that BAM 7 (Zone 3) was not directly conducted in Zone 3 impact area due to its proximity to Quambone Road in the north of the study area. Instead, it was conducted on the adjacent road corner where there was allowable space and representative vegetation. This area contained two large trees allowing for a higher function score than that which would have been presented in the impact area (as no trees occur in the Zone 3 impact area).

TABLE 2: BAM PLOT CALCULATION

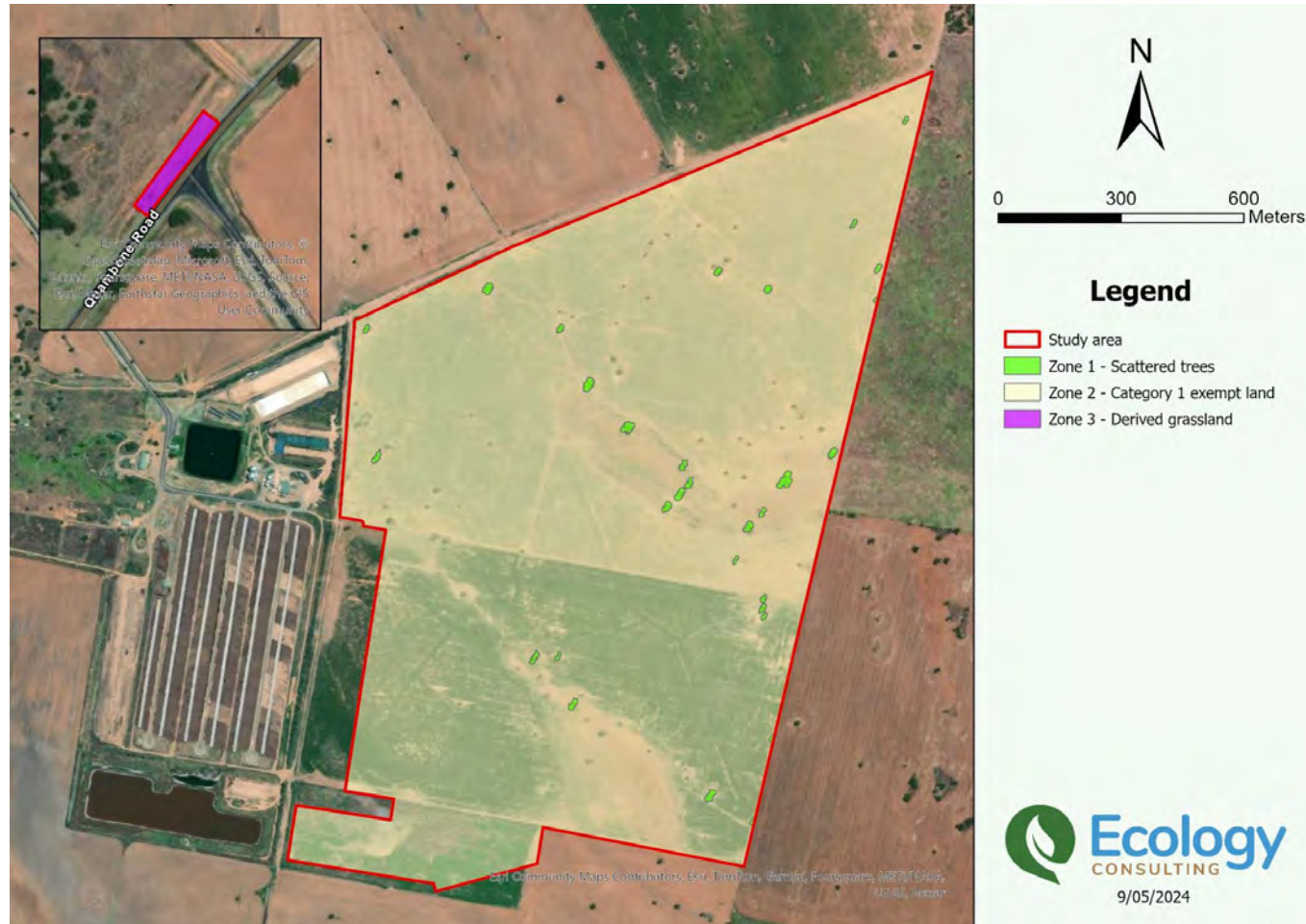
Zone	Plots	Composition condition score	Structure condition score	Function condition score	Vegetation integrity score
1	BAM 6	5.2	50.1	35	21
2	BAM 1, 2, 3, 4 and 5	4.4	0	5.4	0.9
3	BAM 7	51.7	52.9	42.2	48.7

For supporting data, photos, and details on BAM plots, see Appendix A2.1.

Summary

Vegetation across the study area has been extensively modified and no longer represents its original native composition and extent of PCT 244: Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt), or other potential PCTs that are no longer identifiable.

FIGURE 9: VEGETATION ZONES WITHIN THE STUDY AREA



Category 1 – exempt land

The draft native vegetation regulatory (NVR) map has been prepared by the Department of Planning and Environment¹ under Part 5A of the Local Land Services (LLS) Act. The development site contains areas on the draft NVR map as (**Figure 10**):

- Category 1 – exempt land (blue), and
- Category 2 – regulated land (yellow).

Definitions of category 1 – exempt land relative to the development site include:

- Land cleared of native vegetation as of 1 January 1990 or lawfully cleared after 1 January 1990 and before 25 August 2017; and
- Land containing low conservation value grasslands or groundcover.

The study area is predominately mapped as containing Category 1-exempt land as seen in **Figure 10**. This mapping encompasses most understory vegetation and areas lacking overstory cover. Scatterings of Category 2 – regulated land are also present and identify remnant overstory trees and patches. Not all patches of Category 2 – regulated land on the NVR map are reflective of remnant overstory trees and may be incorrectly mapped.

Confirmation of this mapping was made through the collection of survey data, primarily in the form of BAM plots to assess the conservation value of ground cover. Field surveys confirmed that the areas identified as category 1 – exempt land on the draft NVR map contain low conservation groundcover that is primarily modified and exotic in composition. This is supported by a Vegetation Integrity Score of less than 15 recorded across the sample plots in Zone 2 (**Table 2**), which follows Stage 3: Native species assessment, of the *Interim Grasslands and other Groundcover Assessment Method Determining conservation value of grasslands and groundcover vegetation in NSW* (NSW Office of Environment and Heritage (2018)).

2.2.2 Fauna and habitat

The study area contains key habitat features for native fauna that are predominantly situated within the present paddock trees as well as some foraging resources present in native and cropped understory. Key habitat features include (**Figure 15**):

- hollow bearing trees, in a range of different sizes, provide habitat for any hollow nesting or hollow dwelling species of bird, reptile and mammal that may be present,
- rough barked trees providing foraging opportunities for small bird and some reptile species,
- stick nests in a range of sizes, and
- open packs with trees and powerlines provide feeding habitat and perches for feeding raptors.

The most frequent habitat features observed were hollows and stick nests situated in the scattered paddock trees. The most common trees found to contain these habitat features were mature Bimble Box as well as some Willow Wattle and other tree species such as Western Rosewood and Kurrajong.

While all 38 trees recorded within the study area contain habitat suitable for roosting, foraging and dispersal, 28 were observed to contain key habitat features (e.g., nests and hollows) including (**Figure 15**):

¹ <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=DraftNVRmap>

- 21 hollow bearing trees, and
- 15 trees containing stick nests.

All nests recorded were either small or medium, with no large stick nests (indicating threatened raptor use) recorded in or directly surrounding the study area. Some of the stick nests were also observed as in use by native birds like the Australian Raven (*Corvus coronoides*) and Australian Magpie (*Gymnorhina tibicen*).

Most of the hollows recorded were small, with only a few being recorded as medium or large. Some of the hollows were observed being utilised by native bird species such as Cockatiels (*Nymphicus hollandicus*). With a high abundance in the area it is likely that this species will utilise and nest in most of the hollows present in the study area.

The nests and hollows are also likely to provide habitat for a range of native bird, reptile and mammal species unrecorded during the brief site visit.

The study area also provides potential foraging habitat for raptors due to the large open environment, though some raptor species are unlikely to be currently nesting in the area. It is plausible for Nankeen Kestrels (*Falco cenchroides*) that were observed in the study area to utilise the hollows in the area as nesting habitat. Multiple raptor species were observed hunting in and around the study area.

East of the study area within the 'Moonya Feedlot' is a large catchment dam (**Figure 6**). This dam contains moderate riparian fringing habitat in the form of Broadleaf Cumbungi (*Typha orientalis*), which was observed being utilised by a range of waterbirds such as Little Grebe (*Tachybaptus ruficollis*), Eurasian Coot (*Fulica atra*) and Australian Reed Warbler (*Acrocephalus australis*). Other waterbirds recorded in this area include Little Pied Cormorant (*Microcarbo melanoleucos*) and White Ibis (*Threskiornis molucca*). There's potential that some of these waterbird species may utilise habitats within the study area, such as paddocks, at particular times of the year (e.g., following large rainfall events).

For a complete list of the recorded fauna, see **Appendix A**.

FIGURE 10: LLS NATIVE VEGETATION REGULATORY MAP

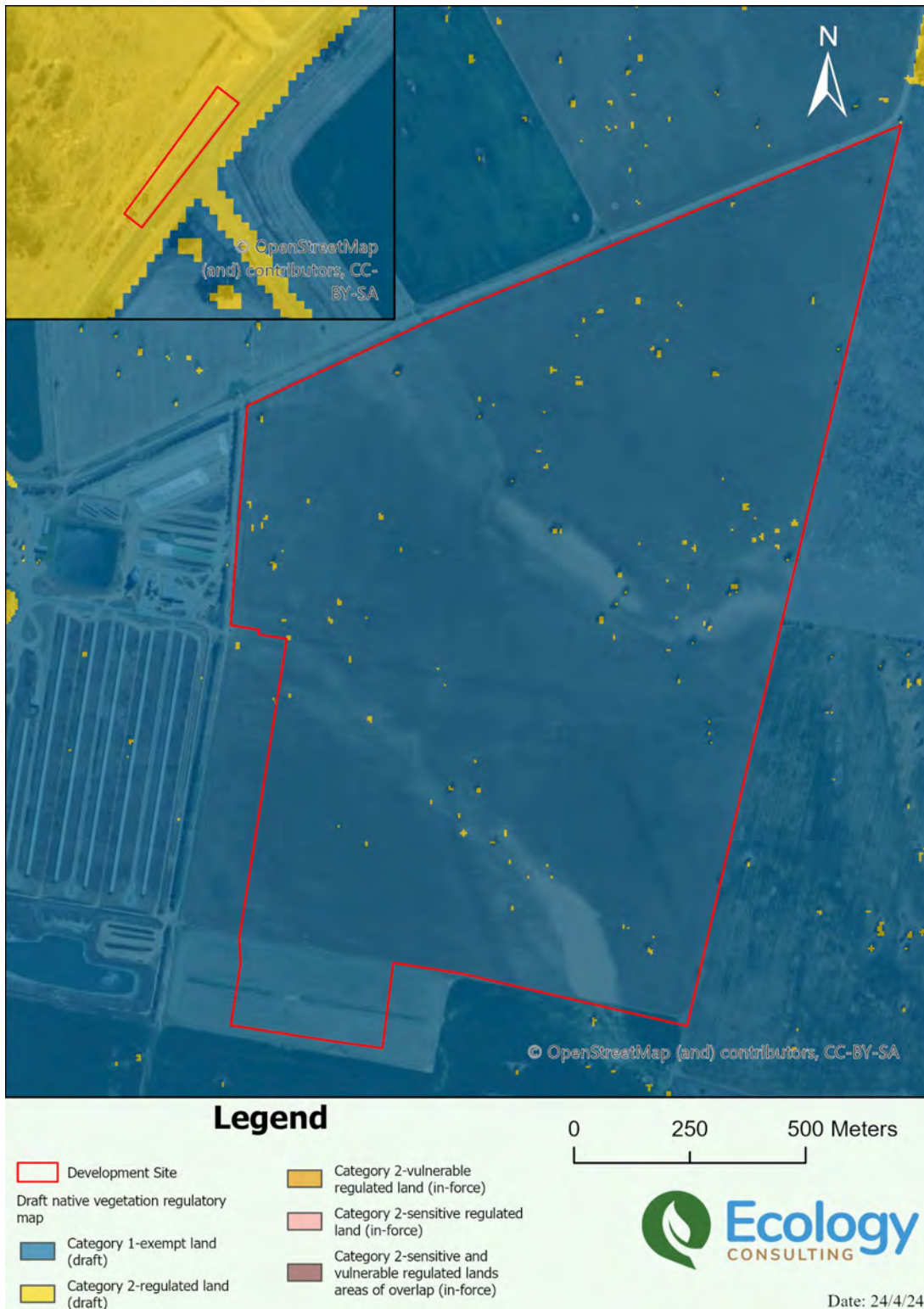


FIGURE 11: REMNANT BIMBLE BOX WITH HIGHLY MODIFIED UNDERSTORY



FIGURE 12: SORGHUM CROPPING IN FOREGROUND AND WHEAT IN BACKGROUND



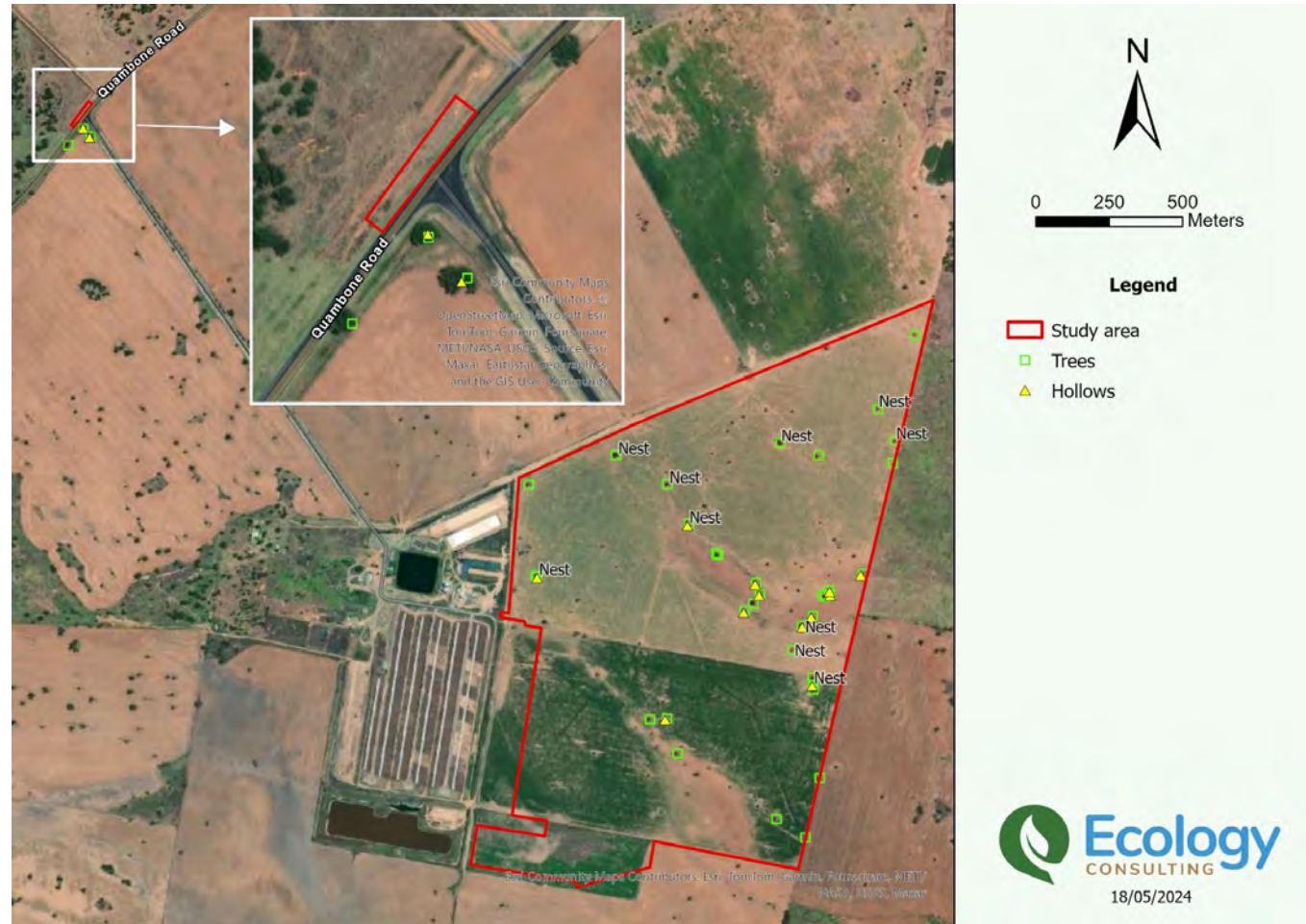
FIGURE 13: MANURE STOCKPILE AND SOUTHERN Paddock



FIGURE 14: SMALL TO MEDIUM SIZED HOLLOW EXAMPLE



FIGURE 15: KEY FAUNA HABITAT FEATURES PRESENT



2.2.3 Threatened Ecological Communities (TECs)

Desktop research found that 10 Commonwealth and/or NSW-listed TECs are known or may occur within 10 km of the study area.

The present PCT 244: Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt), is associated with three TECs:

- Poplar Box Grassy Woodland on Alluvial Plains (EPBC Act),
- Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions (BC Act), and
- Artesian Springs Ecological Community in the Great Artesian Basin (BC Act).

Based on its geographic characteristics and distinct floristic compositions associated, PCT 244 within the study area was assessed as most closely aligning with the TEC: Poplar Box Grassy Woodland on Alluvial Plains. However, the study area does not meet the minimum condition requires for protection as this TEC. For an assessment into each TEC individually, see **Appendix B**.

2.2.4 Threatened plant species

Desktop research found that three threatened plant species are known to or may occur within 10 km of the study area. Of these species, all were determined to have a low high likelihood of occurring within the study area. This is due to the highly modified condition of vegetation within the study area which is heavily grazed and cropped (**Figure 12**). The three threatened species include two species of Peppergrass (*Lepidium aschersonii* and *L. monoplacoides*) and Slender Darling-pea (*Swainsona murrayana*), all of which are forbs and sensitive to grazing.

For detail into the assessment of each threatened flora species individually, see **Appendix B**.

2.2.5 Threatened animal species

Desktop research found that 37 threatened fauna species are known to or may occur within 10 km of the study area. During field inspections, no evidence of threatened fauna species was observed within the study area. There is potential, however, that minor foraging, breeding and transitory habitat exists for a variety of threatened species as noted below.

The following discussion focuses on those species assessed as having a medium to high likelihood of occurrence in the study area and immediate surrounds. For a complete list of all the threatened animal species considered in preparing this report, refer to **Appendix B**.

Threatened birds

Based on their habitat requirements, there is a medium to high likelihood that larger birds may opportunistically utilise the study area. These bird species may range over large areas and include parrots and raptors such as:

- Swift Parrot (*Lathamus discolor*),
- Turquoise Parrot (*Neophema pulchella*),
- Barking Owl (*Ninox connivens*),
- Spotted Harrier (*Circus assimilis*),
- Black Falcon (*Falco subniger*), and
- Little Eagle (*Hieraaetus morphnoides*).

Habitat present for the above species within the study area particularly consists of remnant overstory trees providing foraging resources (e.g., flowering Bimble Box for Swift Parrot and Turquoise Parrot and open grassland for threatened raptors), and potential future (long-term) breeding resources (e.g., mature trees providing hollows and potential for large stick nests).

There is also a medium to high likelihood that the following small birds may utilise the study area:

- White-fronted Chat (*Epthianura albifrons*), and
- Diamond Firetail (*Stagonopleura guttata*).

Habitat present within the study area for these species includes remnant Bimble Box trees and open grassland for foraging and dispersal.

White-throated Needletail (*Hirundapus caudacutus*) also has potential to be present, however will likely only fly above the study area and not land within it. For this species, the study area may provide habitat for their key food source (i.e., termites, ants, beetles and flies).

Threatened fish

Desktop research found that no threatened fish species are known or may occur within 10 km of the study area. During field inspections, no evidence of threatened fish species was observed in the study area and the present habitat is not considered suitable habitat to support any threatened fish species known or likely to occur within the broader region.

Threatened frogs

Desktop research found that one threatened frog species, Sloane's Froglet (*Crinia sloanei*) is known or may occur within 10 km of the study area. During field inspections, no evidence of threatened frog species was observed in the study area and habitat was assessed as unlikely to support this species. Therefore, no threatened frog species are known or considered likely to be present in the study area.

Threatened mammals

Desktop research found that the following two threatened mammal species are known or may occur within 10 km of the study area:

- Brush-tailed Rock-wallaby (*Petrogale penicillata*), and
- Koala (*Phascolarctos cinereus*).

Neither of the two threatened mammal species are considered likely to be present in the study area or immediate surrounds. This is due to the extent of habitat modified within and directly surrounding the study area. Bimble Box is present as the dominant overstory species within the study area and is listed as a feed tree. Koala are highly mobile may use the study area in transit between areas of higher quality however the extent of fragmentation, regular disturbance and historical modification indicates a low likelihood Koala would utilise the site.

Threatened invertebrates

Desktop research found that no threatened invertebrate species are known or may occur within 10 km of the study area. During field inspections, no evidence of threatened invertebrate species was observed in the study area.

Threatened bats

Desktop research found that one threatened bat species, namely the Corben's Long-eared Bat (*Nyctophilus corbeni*) is known or may occur within 10 km of the study area. During field inspections, no evidence of threatened bat species was observed in the study area and based on habitat requirements this species is considered unlikely to occur.

Threatened reptiles

Desktop research found two reptile species listed as threatened under the EPBC Act that are known to or may occur within 10 km of the study area. This includes the following reptiles:

- Grey Snake (*Hemiaspis damelii*), and
- Five-clawed Worm-skink (*Anomalopus mackayi*).

During field inspections, no evidence of either threatened reptile species was observed in the study area and based on their habitat requirements they are considered unlikely to occur.

2.2.6 Threatened populations

No threatened populations as listed under the BC act are known or considered likely to be present in the study area.

2.2.7 Listed migratory birds

The desktop assessment found that nine listed migratory bird species are known or may occur within 10 km of the study area. During field inspections, no evidence of any migratory bird species was observed in the study area and based on their habitat requirements they are considered unlikely to occur.

2.2.8 Pest animal species

Several pest animal species are associated with KTPs or otherwise listed under Commonwealth and/or State laws. Many of these species are highly mobile and as such, it is rarely possible to categorically rule out their presence in a certain area. Several pest species are likely to be present in the study area and/or immediate surrounds. They include the following birds:

- Common Myna (*Acridotheres tristis*),
- Rock Dove (*Columbia livia*),
- House Sparrow (*Passer domesticus*),
- Common Starling (*Sturnus vulgaris*), and
- Common Blackbird (*Turdus merula*).

As well as the following mammals:

- Cat (*Felis catus*),
- House mouse (*Mus musculus*),
- Rabbit (*Oryctolagus cuniculus*),
- Black Rat (*Rattus rattus*),
- Wild Boar (*Sus scrofa*), and
- Fox (*Vulpes vulpes*).

Among the above species, Common Myna and Common Starling were observed on site during the field survey. Despite this, many others are considered likely to occur given the study areas geography and

surrounding landscape. For a complete list of all the feral animal species considered, their legislative status, and distribution or abundance in the local area, refer to **Appendix B6**.

The proposed development is considered unlikely to increase the impact of KTPs in relation to pest animal species (**Appendix C5**).

2.2.9 Weed species

The majority of the study area and proposed work area contains a ground layer composed of exotic species of grass and forb, some of which have been cropped (e.g. *Sorghum bicolor* and *Avena barbata*). It is common in areas that have experienced heavy grazing and clearing to display a primarily exotic composition of species.

African Boxthorn (*Lycium ferocissimum*) was the only species that occurs within the study area and is listed by the North Western Strategic Weed Management Plan (State of New South Wales through Local Land Services, 2022) as a priority weed. This species is also listed in the plan as a state priority weed. No other regional or state priority weed species were recorded within or closely surrounding the study area.

Disturbances caused through agricultural practices allow for increased establishment of exotic species, whether their introduction be intentional or accidental (e.g. seed contamination). Several weeds were identified within the study area, these included the following Weeds of National Significance (WONS), High Threat Exotics (HTEs) and other invasive weeds:

- Bathurst Burr (*Xanthium spinosum*)^{HTE},
- Buffel Grass (*Cenchrus ciliaris*)^{HTE},
- Saffron Thistle (*Carthamus lanatus*)^{HTE},
- Khaki Weed (*Alternanthera pungens*)^{HTE},
- African Boxthorn (*Lycium ferocissimum*)^{WONS},
- Crownbeard (*Verbesina encelioides* subsp. *encelioides*),
- Potato Weed (*Heliotropium europaeum*),
- Wild Melon (*Citrullus lanatus* var. *lanatus*),
- Paddy Melon (*Cucumis myriocarpus* subsp. *leptodermis*),
- Common Thornapple (*Datura stramonium*), and
- Viper's Bugloss (*Echium vulgare*).

The management of these species is important in limiting their opportunity to spread within the study area and beyond. Weed management should particularly focus on the treatment and management of African Boxthorn, Bathurst Burr and Buffel Grass, which were recorded throughout sections of the proposed work area, particularly surrounding trees and fence lines (**Figure 16**).

For a complete list of all the weed species considered, their legislative status and discussion of their habitat requirements, refer to **Appendix A** and **Appendix B7**.

FIGURE 16: BATHURST BURR PATCH WITHIN STUDY AREA



3 Potential impacts on biodiversity

The content in this section identifies potential impacts of the proposed development on ecological value of the study area. The next section (**Section 4**) presents assessments of impacts on biodiversity value against legislation in detail, followed by recommended measures to avoid, minimise, mitigate and offset impacts from the development (**Section 5**).

3.1 Direct impacts

The proposed development requires an estimated footprint of 85.8 ha for construction and operation (e.g. continued disturbance activities during irrigation) (**Table 3** and **Figure 17** to **Figure 19**).

3.1.1 Vegetation clearing for construction

In order to complete works outlined in **Section 1.3** (vegetation clearing and earthworks), the proposal will require the direct removal of:

- 0.05 ha of Zone 1 (PCT 244): scattered trees and associated key habitat features for native fauna,
- 36.1 ha of Zone 2 (Category 1 – exempt land): exotic grassland, and
- 0.16 ha of Zone 3 (PCT 244): derived grassland.

The direct removal of vegetation across the zones equates to 36.20 ha of clearing, of which 0.21 is considered native vegetation. This also includes the removal of at least two trees and their associated key habitat features (four hollows and two nests) (**Table 3** and **Figure 17**).

3.1.2 Vegetation modification (irrigation)

Alternating landscape conditions such as water availability through irrigation may impact the health of native remnant vegetation. This is considered as likely to occur if irrigation is used as a method for the application of nutrients. Soil nutrient enrichment and grazing intensity are known to negatively impact on the health of eucalyptus species within an agricultural landscape (Close *et al.*, 2008).

Due to this, irrigation activities may lead to the decline in tree health within the study area, such that these trees within and closely surrounding irrigation areas have an increased rate of die off (i.e., trees in Zone 1). It should be further noted that trees throughout the study area displayed signs of decline associated with intense agricultural practices, and further stressors are likely to increase the rate of tree health decline. Therefore, for the purposes of impact assessment, it must be assumed that any trees (Zone 1) within proposed irrigation areas are directly impacted (cleared).

Table 3 presents the assumed extent of direct impacts for each proposed irrigation option. The proponent is yet to decide on one of the three irrigation areas (**Figure 3**), however Irrigation area 2 (option 2) is recommended over options 1 and 3 as it has a generally lower assumed impact. Should options 1 or 3 be considered, there must be clear justification as to why, to adhere to the avoidance hierarchy of the BC Act.

3.1.3 Summary of direct impacts

Most of the study area has undergone extensive historical clearing and modification. Nevertheless native vegetation and associated habitats for native fauna remains scattered throughout the study area (**Section 2.2**). Consequently, it has been strongly recommended that irrigation area 2 be utilised to avoid and minimise overall impacts to the ecological value of the site (**Table 3**). The information below summarises

the impacts of the proposed development, should option 2 be pursued as recommended. In this case, the proposal would require the removal/disturbance of up to:

- 0.53 ha of Zone 1: scattered trees and its associated habitats for native fauna,
- 85.08 ha of Zone 2: exotic grassland listed as Category 1 – exempt land, and
- 0.16 ha of Zone 3: derived grassland.

Native vegetation as assessed by the BAM (**Section 4.3**) is to be presented by impacts to Zone 1 and Zone 3. These zones contain vegetation most consistent with the PCT 244: Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt). Therefore option 2 would see the removal, or otherwise modification to 0.69 ha of PCT 244.

Impacts to Zone 1 includes the removal or otherwise modification to up to 16 trees (42% of the total trees). Many of these trees were observed to contain habitat features (18 hollows and 6 nests), some of which were being utilised at the time of inspection by native and exotic fauna. Mitigation measures outlined in **Section 5** are strongly recommended to reduce this impact.

While Zone 2 (Category 1 – exempt land) is not assessed as ‘native vegetation’ under the BAM (**Section 4.3**) and may not possess the ecological richness of native vegetation, it does carry some biodiversity value by providing habitat and foraging opportunities for a range of species, supporting activities such as shelter, nesting, and sustenance. Additionally, the area plays a role in soil stabilization and erosion control. Due to such a large impact area, rehabilitation planting and long-term retention of native trees (unimpacted) is strongly recommended to augment the ecological value within the study area (see **Section 5.3**).

TABLE 3: IMPACT SUMMARY

Development Item	Area Impacted (ha)			Trees Impacted	Habitat Features Impacted	
	Zone 1	Zone 2	Zone 3		Hollows	Nests
Vegetation clearing for construction						
Proposed Pens	0.04	24.80	–	1	2	1
Proposed Silage Bunks	0.01	1.11	–	1	4	1
Proposed Sedimentation Basin	–	1.09	–	–	–	–
Proposed Holding Pond	–	5.87	–	–	–	–
Proposed Electricity Easement	–	3.23	–	–	–	–
Proposed Road Upgrade	–	0	0.1556	–	–	–
Above Combined	0.05	36.1	0.1556	2	6	2
Vegetation modification (irrigation)						
Irrigation 1	0.50	48.98	–	17	17	6
Irrigation 2	0.49	48.98	–	14	12	4
Irrigation 3	0.57	48.93	–	15	13	5
Options for development (combined)						
Option 1 (Irrigation Area 1) Combined Impact Area (Figure 17)	0.54	85.08	0.1556	19	23	8
Option 2 (Irrigation Area 2) Combined Impact Area (Figure 18)	0.53	85.08	0.1556	16	18	6
Option 3 (Irrigation Area 3) Combined Impact Area (Figure 19)	0.61	85.03	0.1556	17	19	7

FIGURE 17: IMPACTS MAP – OPTION 1

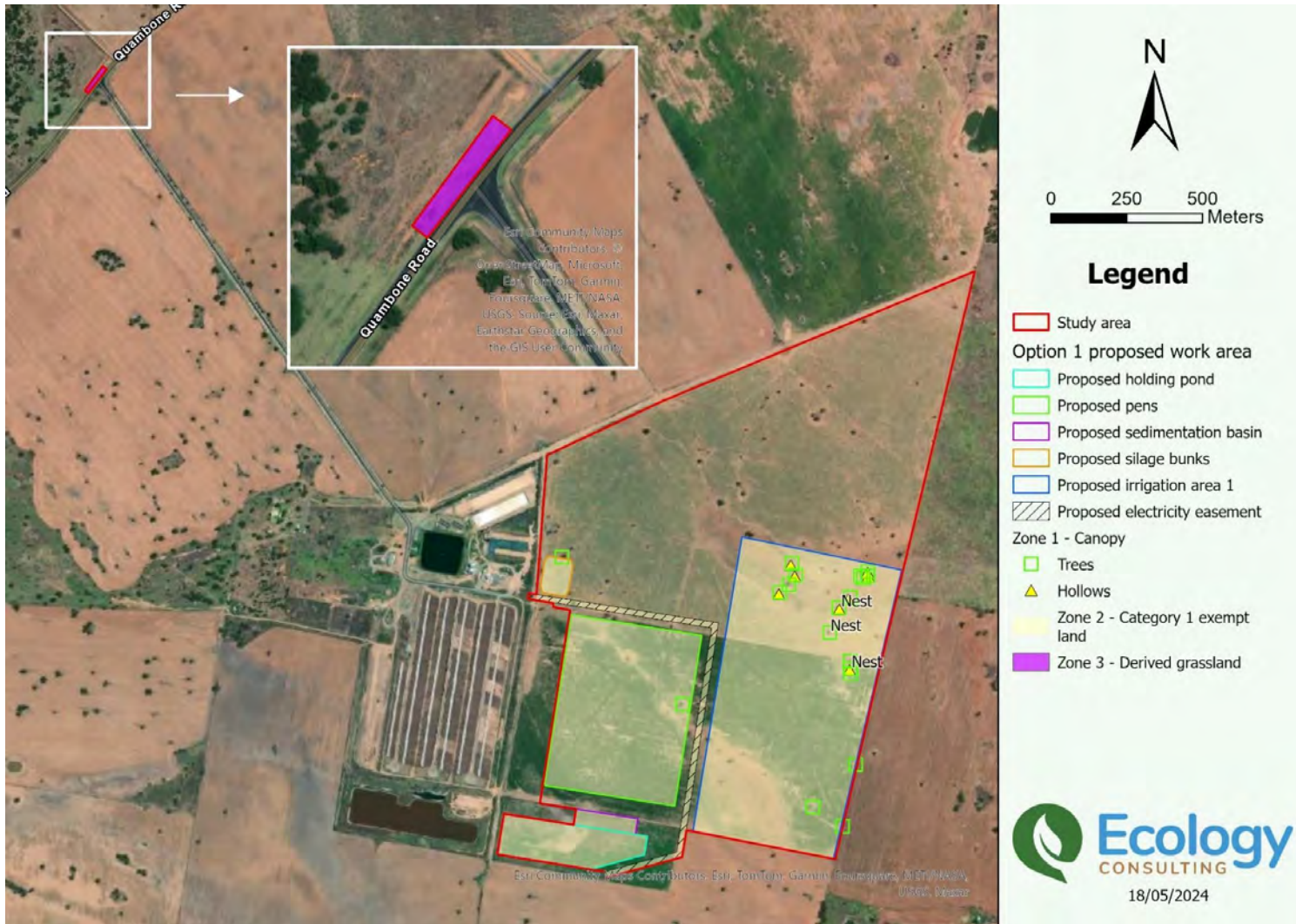
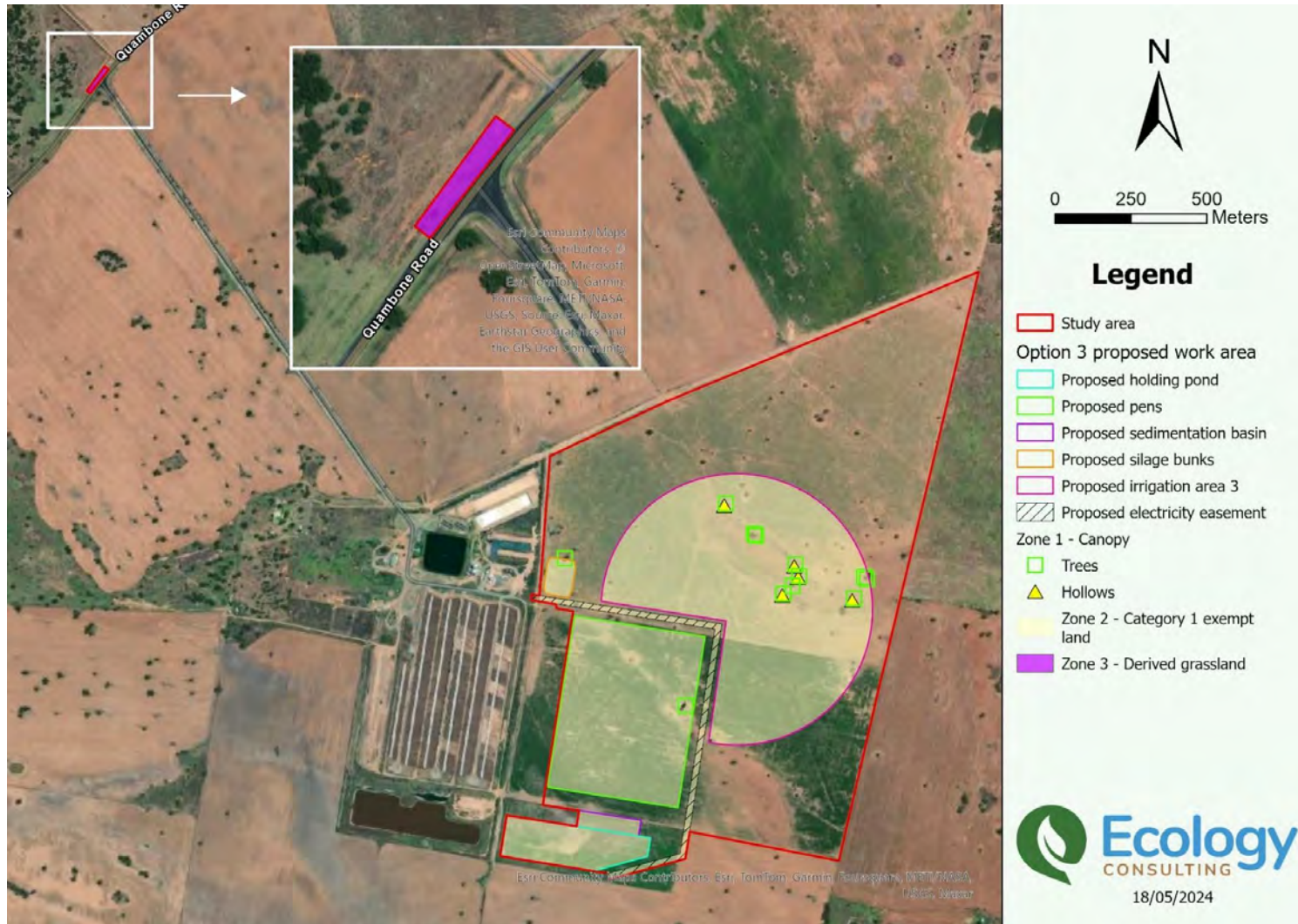


FIGURE 19: IMPACTS MAP – OPTION 3



3.2 Indirect impacts

Indirect impacts are development related activities not associated with clearing for the development footprint and often occur beyond the development footprint or even the development site. They have a lower or variable intensity of impact compared to direct impacts and may be harder to predict spatially and temporally.

Indirect impacts are likely to occur across the entire study area and adjacent land where areas of native vegetation and habitats remain following development. Indirect impacts that have the potential to occur for the proposed development include but are not limited to:

- transport of weeds and pathogens from the site into the surrounding landscape and retained native vegetation,
- reduced viability of adjacent habitat due to edge effects,
- reduction of habitat due to the removal of groundlayer habitat features such as fallen timber,
- increase in pest animal populations,
- cumulative impacts from clearing native vegetation and areas of remnant TEC, and as a result of ongoing agricultural and urban development, and
- reduced viability of adjacent habitat due to noise, dust, or light spill.

3.3 Impacts to threatened entities

The proposal involves impacts as described above which may adversely affect the following threatened entities through the removal of utilisable habitat:

- Spotted Harrier (*Circus assimilis*),
- White-fronted Chat (*Epthianura albifrons*),
- Black Falcon (*Falco subniger*),
- Little Eagle (*Hieraaetus morphnoides*),
- White-throated Needletail (*Hirundapus caudacutus*),
- Swift Parrot (*Lathamus discolor*),
- Turquoise Parrot (*Neophema pulchella*),
- Barking Owl (*Ninox connivens*), and
- Diamond Firetail (*Stagonopleura guttata*).

Impacts to threatened entities were assessed through the relevant NSW BC Act and FM act, and Commonwealth EPBC Act significant impact assessment guidelines. Results of the NSW Test of Significance indicates that the proposal development is unlikely to result in a viable local population of any NSW-listed threatened species or community to be placed at risk of extinction (detail in **Appendix C**). Assessments of impacts on biodiversity value against Commonwealth legislation indicates that the proposed development is unlikely have a significant impact on a Commonwealth-listed threatened species or community (detail in **Table 4**).

Mitigation and rehabilitation measures described in **Section 5** will assist in reducing the overall impact on threatened entities and reduce the extent of cumulative impacts in the long-term, which when combined at a broader landscape scale may be considered a significant impact.

4 Assessment against biodiversity legislation

This section identifies key legislation and policy documents relevant to biodiversity and assesses the extent to which proposed works may require consent under Commonwealth or NSW law.

Commonwealth biodiversity laws and policies relevant to the proposed development include:

- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).*

NSW laws and policies relevant to recent and proposed works include:

- *Environment Planning & Assessment Act 1979 (EP&A Act)* and instruments made under that Act, including State Environment Planning Policies (SEPPs),
- *Biodiversity Conservation Act 2016 (BC Act)* and regulations made under that Act,
- *Fisheries Management Act 1994 (FM Act),*
- *Biosecurity Act 2015,* and
- a range of other planning controls.

4.1 Environment Protection Biodiversity Conservation Act 1999

The Commonwealth’s EPBC Act is the key framework legislation for managing nationally and internationally important plants, animals, ecological communities, and related matters. The Act identifies nine matters of national environmental significance (MNES) and requires that proposed developments likely to impact on MNES be referred to the Commonwealth Minister for the Environment for consent.

The potential impacts of proposed works were assessed against MNES, and, for most MNES, no impact was considered likely (**Table 4**).

TABLE 4: MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE (MNES)

MNES	Impacts	More information
World Heritage Properties	None	The study area does not contain and is not within 5 km of a World Heritage Property.
National Heritage Places	None	The study area does not contain and is not within 5 km of a National Heritage Place.
Wetlands of international importance (RAMSAR wetlands)	None	The study area does not contain and is not within 5 km of a wetland of international importance.
Nationally threatened ecological communities and species	Potential, not likely significant	<p>An EPBC Protected Matters search report flags that four TECs and 26 threatened species listed by the Commonwealth are known or may occur within 10 km of the study area. A likelihood of occurrence assessment was undertaken with the following results for commonwealth listed species (Appendix B):</p> <p>Threatened Ecological Communities</p> <p>No Commonwealth listed TEC was observed to occur within the study area due to its current vegetation condition.</p> <p>Threatened Flora</p> <p>No Commonwealth listed threatened flora species were observed, or are considered likely to occur within the within the study area.</p> <p>Threatened Fauna</p>

		<p>The following two Commonwealth listed threatened fauna species are known or likely to occur, and have potential to utilise habitats within the study area:</p> <ul style="list-style-type: none"> • White-throated Needletail (<i>Hirundapus caudacutus</i>), • Swift Parrot (<i>Lathamus discolor</i>), and • Diamond Firetail (<i>Stagonopleura guttata</i>). <p>Neither of these species were observed within the study area at the time of the field inspection.</p> <p>However, the study area contains habitats that may be utilised by these species, mostly on a transient basis for movement and foraging habitat such as cropped paddocks and overstorey flowering resources. For the White-throated Needletail the study area may provide habitat for their key food source (i.e., termites, ants, beetles and flies).</p> <p>The proposal will require the removal of up to 0.77 ha of native vegetation and associated habitats including up to 19 Bimble Box trees containing hollows and nests.</p> <p>Measures outlined in Section 5 will reduce these impacts and are strongly recommended to be implemented to avoid, minimise and mitigation impacts. These include:</p> <ul style="list-style-type: none"> • pre-clearing checks by a qualified ecologist of all habitats features before removal, • utilising irrigation area 2, and • offset planting (with a plan prepared prior to any development works taking place). <p>Overall the proposed development is unlikely to have a significant impact on the above species as it is likely only used on a transient basis and does not appear to provide habitat critical to their survival. As these species are also listed under NSW law, detailed information on the species habitat and likely impacts can be found in Appendix C.</p>
Migratory species	Potential, not likely significant	<p>Nine migratory species listed in the Commonwealth EPBC Protected Matters. Of these, the following were considered to have a medium to high likelihood of utilising habitat present within and surrounding the study area:</p> <ul style="list-style-type: none"> • Fork-tailed Swift (<i>Apus pacificus</i>) • White-throated Needletail (<i>Hirundapus caudacutus</i>) <p>The proposed development is not likely to have a significant impact on any listed migratory species as it is not likely to:</p> <ul style="list-style-type: none"> • substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat, • result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or • seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.
Commonwealth marine areas	None	The study area does not contain or adjoin any such area.
Great Barrier Reef Marine Park	None	None, the study area does not contain or adjoin any such area.
Nuclear actions including uranium mining	None	None, the study area does not contain or adjoin any such area.
A water resource, in relation to coal seam gas development/ large coal mining development	None	None, the proposed development does not involve uranium mining or other nuclear actions.

4.2 NSW Environmental Planning & Assessment Act 1979

The NSW EP&A Act is the key framework legislation for planning in NSW. It aims to encourage the proper consideration and management of the impacts of proposed development and land-use changes on the natural and built environment, and on the community.

Several planning instruments have been made under the EP&A Act regarding specific aspects of planning at the State or regional level. State Environmental Planning Policies (SEPPs) are environmental planning instruments made under the EP&A Act that outline policy objectives relevant to planning at the State or regional level.

4.2.1 State Environmental Planning Policy (Biodiversity and Conservation) 2021

The *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (Biodiversity and Conservation SEPP) consolidated, transferred and repealed provisions of 11 SEPPs (or deemed SEPPs).

Several chapters within the Biodiversity and Conservation SEPP do not apply to land within and/or adjoining the site. Those chapters with obvious relevance to the development are detailed below.

Chapter 3 and 4 Koala Habitat Protection

The Koala SEPP has undergone significant changes in recent years, and different versions of the SEPP currently apply in different areas². These were formerly known as SEPP 44 and are now located within a much larger SEPP on Biodiversity and Conservation as follows:

- Chapter 3 – Koala Habitat Protection 2020
- Chapter 4 – Koala Habitat Protection 2021

As at time of writing, Chapter 4 applies:

- in local government areas in the Sydney Metropolitan Area and Central Coast—in all zones
- in all other identified LGAs—in all zones except RU1, RU2 and RU3 zoned land (where Chapter 3 continues to apply pending development of new land management codes)

The study area is in the Coonamble Shire Council LGA and is zoned RU1, so Chapter 3 applies. **Table 5** presents the assessment pathway relative to Chapter 3. That assessment determined that core Koala habitat is not likely present within the site and a Koala plan of management is not likely required to support the DA.

The likelihood of Koala occurrence on site and potential impact of proposed works is also discussed further in **Appendix B**.

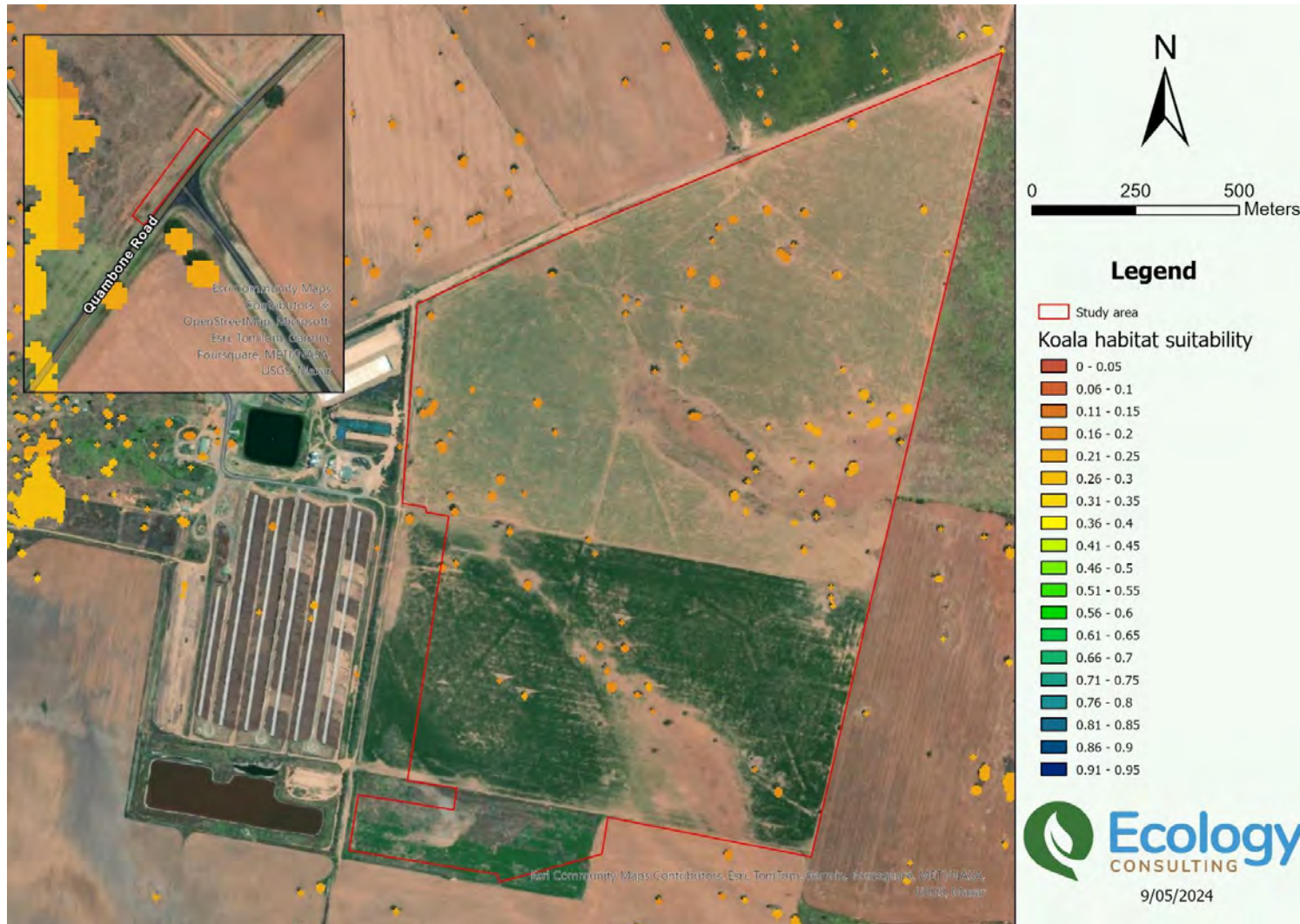
² <https://www.planning.nsw.gov.au/Policy-and-Legislation/Environment-and-Heritage/Koala-Habitat-Protection-SEPP>

TABLE 5: CHAPTER 3 KOALA HABITAT PROTECTION

Part/section	Provision	Relevance
Part 3.1 Preliminary		
Section 3.3 Land to which Chapter applies	Land zoned RU1, RU2 and RU3, or an equivalent land use zone, in a LGA specified in Schedule 2.	Coonamble Shire LGA is specified in Schedule 2 and the study area is zoned RU1.
Section 3.4 Exempt land	This Chapter does not apply to land forming part of an asset protection zone cleared for a dwelling house if: <ul style="list-style-type: none"> the dwelling house is replacing a lawfully erected dwelling house damaged or destroyed by a bush fire, and the development application for the replacement dwelling house is made to the consent authority no later than 5 years after the day the bush fire caused the damage or destruction, and the asset protection zone is cleared in accordance with Planning for Bush Fire Protection. 	The site is not Exempt land.
Part 3.2 Development control of Koala habitats		
Section 3.5 Land to which this Part applies	This Part applies to land: <ul style="list-style-type: none"> that is land to which this Chapter applies, and that is land in relation to which a development application has been made, and that, whether or not the development application applies to the whole, or only part, of the land: <ul style="list-style-type: none"> has an area of more than 1 ha, or has, together with adjoining land in the same ownership, an area of more than 1 ha. 	The study area is: <ul style="list-style-type: none"> land to which this Chapter applies, land in relation to which a development application has been made, and has an area of more than 1 ha.
Section 3.6 Step 1-Is the land potential koala habitat ?	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. 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. If the council is satisfied: <ul style="list-style-type: none"> that the land is not a potential koala habitat, it is not prevented, because of this Chapter, from granting consent to the development application, or that the land is a potential koala habitat, it must comply with section 3.7. 	Potential koala habitat means areas of native vegetation where trees of the types listed in Schedule 1 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component. The dominant tree species is Bimble Box (<i>Eucalyptus populnea</i> subsp. <i>bimbil</i>), which mostly occurs as isolated paddock trees or in small stands. Bimble Box is listed in Schedule 1, and despite how sparsely scattered trees are, Bimble Box constitutes at least 15% of the total number of trees in the upper or lower strata of the tree component give its dominance.
Section 3.7 Step 2-Is the land core koala habitat ?	Before a council may grant consent to a development application for consent to carry out development on land to which this Part applies that it is satisfied is a potential koala habitat, it must satisfy itself as to whether or not the land is a core koala habitat. The council may be satisfied as to whether or not land is a core koala habitat only on information obtained by it, or by the applicant, from a person with appropriate	Core koala habitat means an area of land with a resident population of koalas, evidenced by attributes such as breeding females, being females with young, and recent sightings of and historical records of a population.

	<p>qualifications and experience in biological science and fauna survey and management.</p> <p>If the council is satisfied–</p> <ul style="list-style-type: none"> • that the land is not a core koala habitat, it is not prevented, because of this Chapter, from granting consent to the development application, or • that the land is a core koala habitat, it must comply with section 3.8. 	<p>No historical records of Koala are present within or directly surrounding the study area that suggest it may contain or may have contained a resident population of Koala.</p> <p>The closest known Koala record was recorded in 2020 and occurs between the study area and the western side of the Castlereagh River. Two other past records from Coonamble are present, one being from 1975 and the other 1988. Records greatly increase as you continue east of Coonamble, with large numbers being recorded in Pilliga West State Forest and adjacent State Forests and National Parks where known populations exist. Should a population be present within and directly surrounding the Coonamble Township, it would be very likely restricted to the Castlereagh River riparian vegetation strip, and greater sightings would have likely been recorded.</p> <p>The study area contains features such as scattered feed trees that may provide food resources and transitory habitat within the landscape (Figure 20). However, given the sparsity of canopy presence, the study area is considered unlikely to support a resident population of Koala.</p> <p>The vegetation within the study area and surrounds, as well as lack of local records within and surrounding the Coonamble Township suggest that the study area is unlikely to be considered core koala habitat.</p>
<p>Section 3.8 Step 3–Can development consent be granted in relation to core koala habitat?</p>	<p>Before granting consent to a development application for consent to carry out development on land to which this Part applies that it is satisfied is a core koala habitat, there must be a plan of management prepared in accordance with Part 3 that applies to the land.</p> <p>The council’s determination of the development application must not be inconsistent with the plan of management.</p>	<p>A plan of management has not been prepared and not likely to be required, as the site is not considered to be core koala habitat.</p>
<p>Part 3.3 Plans of management</p>		
<p>Section 3.10 Preparation of plan of management</p>	<p>A plan of management may be prepared for–</p> <ul style="list-style-type: none"> • all land to which this Chapter applies in a local government area, • a part of that land, including an area of land that is the subject of a development application. <p>Anyone, including a council, may prepare a plan of management.</p> <p>A plan of management is to be prepared in accordance with the guidelines.</p>	<p>Coonamble Shire Council has not prepared a Koala plan of management.</p> <p>There are no current Koala plans of management for the study area, which is land that is the subject of a development application.</p>

FIGURE 20: DPIE MAPPING OF POTENTIAL KOALA HABITAT IN AND NEAR THE STUDY AREA



4.3 NSW Biodiversity Conservation Act 2016

The BC Act aims to maintain a healthy, productive, and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. Among other things, it identifies all the terrestrial species and ecological communities that are listed as threatened or otherwise protected under NSW law.

An assessment was undertaken of the likelihood of threatened species and communities occurring within the study area, and the potential impacts of the proposed development on these species and communities. As detailed in **Appendix B**, the study area contains habitat that has potential to be utilised by the following entities listed under the BC Act:

- Spotted Harrier (*Circus assimilis*),
- White-fronted Chat (*Epthianura albifrons*),
- Black Falcon (*Falco subniger*),
- Little Eagle (*Hieraaetus morphnoides*),
- White-throated Needletail (*Hirundapus caudacutus*),
- Swift Parrot (*Lathamus discolor*),
- Turquoise Parrot (*Neophema pulchella*),
- Barking Owl (*Ninox connivens*), and
- Diamond Firetail (*Stagonopleura guttata*).

To determine if the development is likely to significantly affect threatened species or ecological communities, an assessment was carried out against the Test of Significance mandated by the BC Act. That assessment concluded that the development is unlikely to significantly affect threatened species or ecological communities listed under the NSW BC Act. For more information on the Test of Significance and related matters, see **Appendix C**.

4.3.1 NSW Biodiversity Offsets Scheme Entry Thresholds

The NSW Biodiversity Offsets Scheme (BOS) was established in 2017 under the BC Act and Regulations to ensure that developments that have a significant impact on biodiversity are assessed to a consistently high standard and are offset by other conservation measures. If the scheme is triggered:

- an accredited assessor must be engaged to assess the impacts of a development proposal using the Biodiversity Assessment Method (BAM),
- the findings must be documented and submitted to the relevant consent authority in the form of a detailed Biodiversity Development Assessment Report (BDAR), and
- if the development is approved, the developer must comply with any offset requirements including payment of offset credits to the Biodiversity Conservation Trust.

The Biodiversity Offsets Scheme applies to a development if any one of three 'trigger' criteria is met (**Table 6**).

TABLE 6: BIODIVERSITY OFFSET SCHEME ENTRY THRESHOLD (BOSET) TRIGGERS

BOSET triggers	Triggered	Key findings
Development involves native vegetation clearing more than the relevant area clearing threshold	No	<p>Native vegetation definition:</p> <p>Clause 1.6 of the BC Act states that the definition of native vegetation has the same meanings as in Part 5A of the <i>Local Land Services Act 2013</i> (LLS Act). Part 5A of the LLS Act defines native vegetation as follows.</p> <p>For the purposes of this Part, <i>native vegetation</i> means any of the following types of plants native to New South Wales–</p> <ul style="list-style-type: none"> (a) trees (including any sapling or shrub or any scrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland. <p>Native vegetation extends to any planted vegetation that meets the definition of native vegetation.</p> <p>Area clearing threshold:</p> <p>The area clearing threshold varies depending on the minimum lot size shown in the LEP and applies to all proposed native vegetation clearing associated with a development.</p> <p>The minimum lot size associated with the development site is 1000 ha, meaning the area clearing threshold is set at 2 ha or more.</p> <p>Assessment:</p> <p>The development site is estimated at 182.9 ha. The majority of the development site consists of category 1-exempt land, which is excluded from the area clearing threshold.</p> <p>The area of native vegetation within the study area has been calculated as the combined canopy of native remnant trees (1 ha) along with the roadside vegetation that is mapped as category 2 – regulated land (0.156 ha).</p> <p>Therefore, assuming the entire development site was cleared, the area of native vegetation included in the threshold assessment is approximately 1.156 ha. The proposal would therefore not exceed the 2 ha clearing threshold.</p>
Development impacts on an area mapped on the NSW Biodiversity Values Map (BVM)	No	The study area does not contain any area on the BVM.
Development is likely to have a significant adverse impact on a threatened species or ecological community listed under the BC Act, regardless of biodiversity mapping (assessed through the Test of Significance)	No	The development is not likely to have a significant adverse impact on a threatened species or ecological community listed under the BC Act as discussed in Appendix C .

4.4 NSW Fisheries Management Act 1994

The FM Act aims to conserve, develop, and share the fisheries resources of the State. It identifies the aquatic species and ecological communities that are listed as threatened or otherwise protected in NSW, and related Key Threatening Processes including:

- degradation of native riparian vegetation, and
- installation and operation of instream structures and other mechanisms that alter natural flow regimes of rivers and streams.

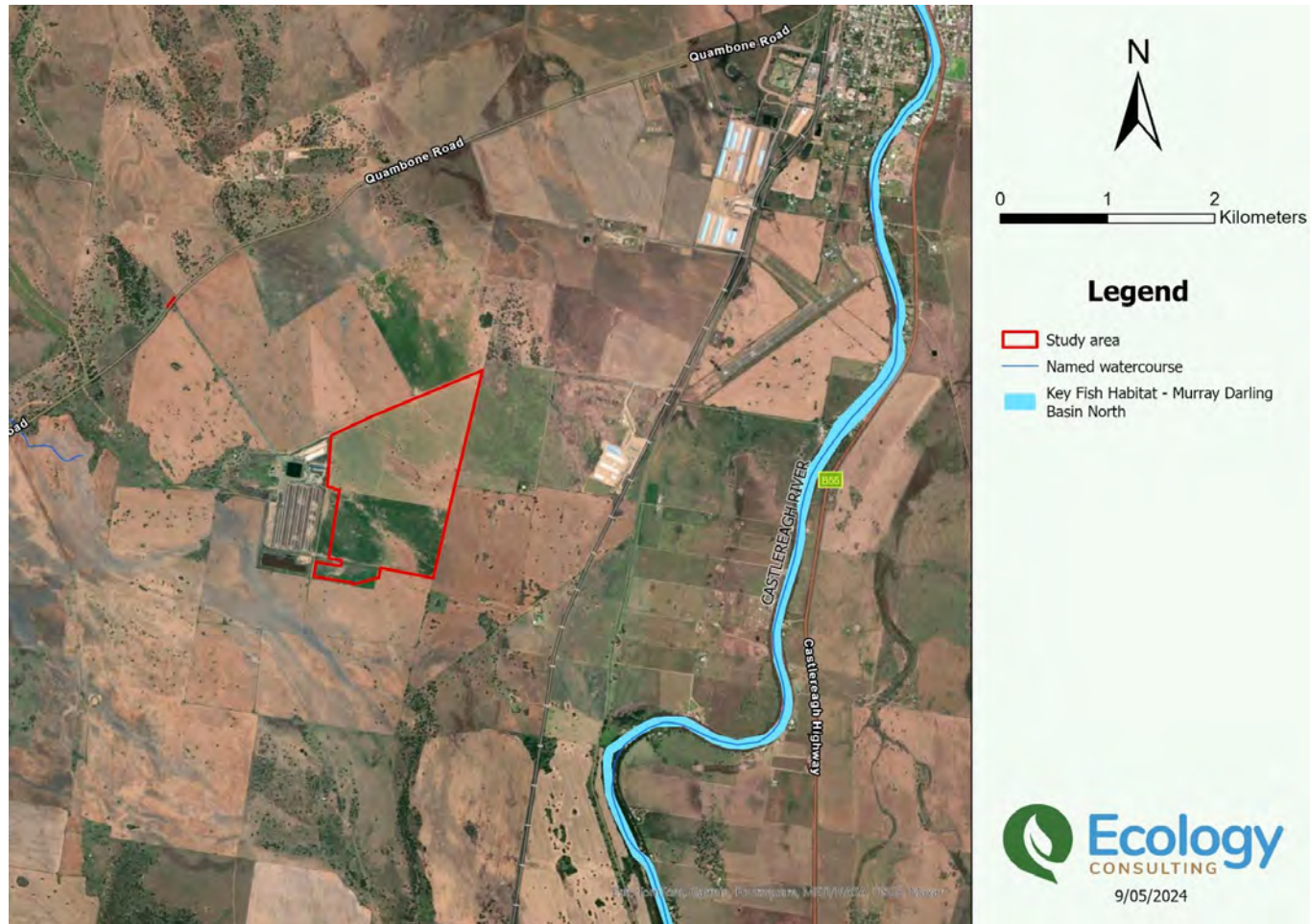
The proposed development does not involve contribution to any Key Threatening Processes listed under the FM Act. Furthermore, no threatened species listed under the FM occur or are likely to occur within the study area.

One of the objectives of the *Fisheries Management Act 1994* is to 'conserve key fish habitats'. There are no Key Fish Habitats relevant to the study area. The closest mapped KFH is Castlereagh River located ~ 4.8 km east of the study area as seen in **Figure 21**.

4.5 NSW Biosecurity Act 2015

The *Biosecurity Act 2015* requires landholders to manage weed and pest species. Whilst pests and weeds on site do not appear to present an immediate threat to biodiversity on site, safeguards and sustained action is required to prevent weed spread to areas of high biodiversity value within the study area and immediate surrounds.

FIGURE 21: KEY FISH HABITAT MAP



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5 Recommended mitigation measures

At a minimum, the measures described below have been identified as best practice measures to manage impacts of the proposal on biodiversity. This report has taken these mitigation measures into account when assessing both the long- and short-term impacts of the proposal to biodiversity.

It is expected that mitigation measures will form part of the conditions of consent for the proposal and all measures will be approved or endorsed by Council as part of the DA process.

5.1 Protection of ecologically significant features

5.1.1 Avoid and minimise (design)

Irrigation options

It is recommended that irrigation area 2 is utilised as it presents the lowest ecological impact of the three options, as it requires the removal of less trees and associated habitat features than the other two irrigation options (**Table 3**). Should irrigation area 1 or 3 be pursued, there should be sufficient reasoning as to why the area is chosen over irrigation area 2.

Silage bunks

The proposed silage bunks have been assessed as requiring the removal of one tree for their construction. It is strongly recommended that this tree be retained, and options for slight redesign considered, along with measures implemented to avoid impacts to this tree through the construction and operational phases of development (i.e., establishing tree protection zone). This may involve temporary fencing and 'no-go' or exclusion areas as protection. Consideration should also be given to potential trimming of limbs that impact construction, rather than the direct removal of the entire tree.

Offset area

It is also recommended that a planting site be established and documented in the design, to offset any removal of any native vegetation. Avoiding development activities along the northern border will allow for a suitable offset planting site that enhances connectivity in a fragmented landscape. This is further discussed in **Section 5.3**.

5.1.2 Mitigate (clearing procedures)

Vegetation management plan

It is recommended that a Vegetation Management Plan (VMP) be prepared prior to any clearing and/or construction activities taking place. At a minimum, the VMP would detail measures to ensure that future long-term management is effective and areas of native vegetation, including the recommended offset planting site, are not adversely modified beyond that which is necessary to continue agricultural activities. This would include but not be limited to:

- identification and marking of trees and vegetated areas to be protected long-term,
- provision of pre-clearing inspection, ecological supervision of clearing, and post-clearing inspection/s,
- establishment of an offset planting site and its management,

- post development reporting requirements to detail the condition of vegetation post clearing, and
- ongoing inspections (e.g., compliance checks) to confirm management is reflective of the VMP in the long-term.

Clearing and disturbance of vegetation beyond the designated clearing footprint should not be undertaken unless part of environmental conservation activities and/or otherwise approved by Council.

Preclearing inspections and clearing supervision

A range of fauna species (including threatened species) were identified to potentially utilise, reside, and breed within the study and work area during field surveys for this report. Removal of vegetation and habitat introduces the risk of harm to native (protected) and threatened fauna.

Ecological supervision works are recommended to reduce the risk of harm to native and threatened fauna that may utilise habitat features identified for removal (e.g. trees containing stick nests, hollows, cavities, and other features likely to contain residing fauna). This would include but may not be limited to:

- timing of clearing works (Ecologist to advise timing of any tree removal to avoid breeding season),
- pre-clearing surveys, and
- clearing supervision.

If any fauna are detected during hollow and nest inspections, a relocation plan should be prepared identifying suitable areas to relocate any displaced fauna as a result of clearing works. In the event that a threatened species, or active breeding habitat of a threatened species is unexpectedly discovered during construction, implementation of the following unexpected finds procedure is to be followed:

- cessation of work,
- notification made to person with environmental oversight of the project, potentially the Site Contractor or Environmental Officer,
- consultation with appropriate members of NSW DCCEEW and Commonwealth DCCEEW as required,
- determination of appropriate mitigation measures, relevant relocation measures,
- consideration of potential for reassessment of the proposal and review location or design,
- recommencement of works only once advice and necessary approvals are obtained, and
- inclusion of threatened species in future inductions and management plans.

Furthermore, any trees removed for development should be salvaged and placed within the offset planting area (**Section 5.3**) to augment valuable course woody debris habitat.

5.1.3 Erosion, sedimentation, and pollution control

The proposal may result in erosion and transport of sediments into drainage lines, onsite dam/aquatic habitat and further offsite as a result of soil disturbance and spills during construction. To reduce sedimentation and pollution during construction, erosion and chemical contaminant control measures should be implemented in accordance with "[The Blue Book](#)" (Landcom 2004). This includes the following:

- minimising the amount of exposed soils,
- installation of sediment control fences,

- covering soil stockpiles,
- ensure stockpiles are located well away (at least 40 m) from the ephemeral drainage line or other drainage lines,
- avoiding soil disturbance prior to heavy rainfall,
- precautions for fast and effective containment of pollution, such as:
 - pollution traps,
 - spill kits, and
 - removal of pollution to an off-site location.

5.2 Reduction of environmental threats

5.2.1 Management of significant weeds

One species listed by the North West Regional Strategic Weed Management Plan as a regional priority weed and state priority weed that was recorded in the study area, namely African Boxthorn (*Lycium ferocissimum*). This species is further discussed below. No other species listed by this plan as either state priority weeds or regional priority weeds were recorded within or directly surrounding the study area.

Several Weeds of National Significance and High Threat Exotics were observed to be present. It is strongly recommended that these species are continued to be managed within the study area. Any of these listed species that occur within the proposed work areas should be appropriately treated prior to the commencement of any works to limit the potential spread of these species in the area.

There are five main species within the study area that require targeted weed management:

- Bathurst Burr (*Xanthium spinosum*)^{HTE},
- Buffel Grass (*Cenchrus ciliaris*)^{HTE},
- Saffron Thistle (*Carthamus lanatus*)^{HTE},
- Khaki Weed (*Alternanthera pungens*)^{HTE}, and
- African Boxthorn (*Lycium ferocissimum*)^{WONS}.

Bathurst Burr. This species occurs throughout the majority of the study area, particularly in areas surrounding paddocks trees and fence lines. This species is highly competitive and readily spreads through seeds, typically establishing in areas of disturbance with the ability to form dense infestations. The extent of this species was observed through the west, south and east of the study area, mostly occurring in areas of limited understory competition and/or cover. The management of this species should be undertaken through either physical removal or the careful application of a suitable herbicide.

Saffron Thistle. This species has a sparse distribution throughout the study area, primarily occurring along boundary fence lines. This species was not widely recorded and as such, does not have a high management requirement. Despite this, due to its lower recorded cover there is the potential to eradicate this species from the study area. Early management of species such as this will greatly reduce species maintenance in the future and reduce the potential for this species to spread beyond the study area. The management of this species should be undertaken through either physical removal or the careful application of a suitable herbicide.

Buffel Grass. This species was the one species of grass listed in the NSW Scientific Committee's final determination for this KTP observed within the study area. This species was observed to be present in small patches within and surrounding the study area. Within the study area this species was recorded

along fence lines and surrounding trees in some areas. This species is most dominant outside of the study area within the Moonya Feedlot and surrounding landscape to the east and north. Within the feedlot, this species composes the main component of understory vegetation within tree planting lines that are present to the west of the study area. Impacts through spreading of this species are to be mitigated by appropriate weed control measures prior to any planned construction in the future, and ongoing rehabilitation efforts. The management of this species should be undertaken through either physical removal or the careful application of a suitable herbicide.

Khaki Weed. This species has a sparse distribution in the study area, primarily occurring along boundary fence lines in the north. This species was not widely recorded and as such, does not have a high management requirement. Despite this, due to its lower recorded cover there is the potential to eradicate this species from the study area. Early management of species such as this will greatly reduce species maintenance in the future and reduce the potential for this species to spread beyond the study area. The management of this species should be undertaken through either physical remove or the careful application of a suitable herbicide.

African Boxthorn. This species is present throughout areas of the study area, mostly occurring surrounding paddock trees and areas unable to be cropped. These areas were observed to contain low to moderate rates of seedling recruitment and small to moderate infestations of the species. Within the study area this was the only recorded species listed as a regional priority weed, state priority weed and as a WoNS. As such, management of this species is important in limiting its spread both within the study area and wider landscape. The management of this species should be undertaken through either physical remove or the careful application of a suitable herbicide.

National strategic management plans for species recognised as WoNS can be access at [Weeds Australia](#) (Centre for Invasive Species Solutions, 2021).

5.3 Improving biodiversity values

5.3.1 Supplementary plantings (offset area)

It is strongly recommended that the proponent establish an offset area and undertake rehabilitation plantings and native grass reseeding. A planting strip (20 m wide) along the northern border of the study area is most suitable to offset the removal and or long-term modification of trees. Revegetation in this area will allow for connectivity to be established between the already present tree line and adjacent property to the east enhancing connectivity in a fragmented landscape. Revegetation would also support re-establishing the originally present PCT 244: Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).

At a minimum, offsetting should involve planting five trees and two shrubs for each tree removed or considered impacted (present in the proposed irrigation area). Targeted planting of endemic species (**Table 7**) will assist in providing potential future habitat for native fauna species and further regeneration through seedling recruitment.

Offset and rehabilitation planting is key in reducing the overall long-term and cumulative impacts on native and threatened entities, which when combined at a broader landscape scale may be considered a significant impact. Therefore it is imperative that a rehabilitation plan be prepared prior to any clearing or construction works taking place. The rehabilitation plan will be prepared by a suitably qualified ecologist or horticulturalist and include but may not be limited to:

- site details (current conditions),

- aims and objectives,
- schedule of works,
- planting list and quantities,
- methods for monitoring and maintenance, and
- bi-annual reporting until plants are established.

TABLE 7: RECOMMENDED PLANTING LIST

Scientific Name	Common Name	Ecological benefits
Overstory (trees)		
<i>Allocasuarina leuhmannii</i>	Bulloke	Habitat/shelter and foraging resource
<i>Eucalyptus populnea</i> subsp. <i>bimbil</i>	Bimble Box	Habitat/shelter and foraging resource
<i>Eucalyptus largiflorens</i>	Black Box	Habitat/shelter and foraging resource
<i>Eucalyptus coolabah</i>	Coolabah	Habitat/shelter and foraging resource
<i>Eucalyptus microcarpa</i>	Grey Box	Habitat/shelter and foraging resource
<i>Callitris glaucophylla</i>	White Cypress Pine	Habitat/shelter and foraging resource
<i>Casuarina cristata</i>	Belah	Habitat/shelter and foraging resource
Midstory (smaller trees/shrubs)		
<i>Acacia aneura</i>	Mulga	Habitat/shelter and foraging resource
<i>Acacia salicina</i>	Willow Wattle	Habitat/shelter and foraging resource
<i>Alectryon oleifolius</i>	Western Rosewood	Habitat/shelter and foraging resource
<i>Apophyllum anomalum</i>	Warrior Bush	Habitat/shelter and foraging resource
<i>Atalaya hemiglauca</i>	Whitewood	Habitat/shelter and foraging resource
<i>Capparis mitchellii</i>	Native Orange	Habitat/shelter and foraging resource
<i>Eremophila mitchellii</i>	Budda	Habitat/shelter and foraging resource
<i>Geijera parviflora</i>	Wilga	Habitat/shelter and foraging resource
Groundlayer (grasses, forbs and low shrubs)		
<i>Aristida ramosa</i>	Purple Wiregrass	Groundcover and foraging/grazing resource
<i>Austrostipa scabra</i>	Spear Grass	Groundcover and foraging/grazing resource
<i>Austrostipa verticillata</i>	Tall Spear Grass	Groundcover and foraging/grazing resource
<i>Calotis cuneifolia</i>	Purple Burr-daisy	Groundcover and flowering/grazing resource
<i>Capparis lasiantha</i>	Bush Caper	Groundcover and flowering/grazing resource
<i>Chloris truncata</i>	Windmill Grass	Groundcover and foraging/grazing resource
<i>Einadia nutans</i> subsp. <i>nutans</i>	Climbing Saltbush	Groundcover and foraging/grazing resource
<i>Enchylaena tomentosa</i>	Ruby Saltbush	Groundcover and foraging/grazing resource
<i>Enteropogon acicularis</i>	Curly Windmill Grass	Groundcover and foraging/grazing resource
<i>Elymus scaber</i>	Native Wheatgrass	Groundcover and foraging/grazing resource
<i>Glycine canescens</i>	Silky Glycine	Groundcover and flowering/grazing resource
<i>Glycine tabacina</i>	Glycine Pea	Groundcover and flowering/grazing resource
<i>Pandorea pandorana</i>	Inland Wonga Vine	Groundcover and flowering/grazing resource
<i>Rhagodia spinescens</i>	Thorny Saltbush	Groundcover and foraging/grazing resource
<i>Rytidosperma setacea</i>	Small-flower Wallaby Grass	Groundcover and foraging/grazing resource
<i>Sclerolaena muricata</i>	Black Rolypoly	Groundcover and flowering/grazing resource

FIGURE 22: RECOMMENDED OFFSET PLANTING STRIP



6 Conclusion

This report presents findings of a biodiversity assessment of 'Moonya Feedlot' at 701 Quambone Road, Coonamble 2829 NSW (Lots 1/-/DP1124929, 121/-/DP754199, 113/-/DP754199, 124/-/DP754199) conducted on behalf of Premise (the client) in support of a DA for the construction and operation of 26 new feed pens and associated infrastructure including a silage bunk, holding pond, irrigation area (options 1 – 3), relocation of electricity line, sedimentation basin areas and associated road upgrade.

The vegetation within the majority of the study area was seen to be highly disturbed and modified, as well as being largely exotic in composition due to its agricultural use and regular cropping. Vegetation integrity data supports the determination that the study area mostly contains low conservation value vegetation (Zone 2) that is consistent with Category 1 – exempt land as described under the LLS Act and excluded from the BOS clearing threshold. It is worth noting that this area still presents some foraging potential for native and threatened entities and the Test of significance took into account such impacts.

The study area also contains remnant sparsely scattered mature overstorey composed of mostly Bimble Box (Zone 1) and most closely in alignment with PCT 244. The majority of these trees contained characteristic arboreal habitat features such as hollows, nests and foraging resources. These trees provide substantial habitat within the study area and impacts to them should be reduced and/or mitigated through the implementation of measures outlined in **Section 5**. Finally, a small area of derived native grassland (Zone 3) occurs along the roadside where impacts involved in road upgrades are likely to occur.

PCT 244 is associated with several TECs, however due to the extent of vegetation disturbance and modification in the study area, no mapped zones meet the minimum condition thresholds for listing as a TEC. A range of threatened species (particularly birds) have been identified as likely to occur due to their habitat requirements and the condition of the study area. A Threatened Species Test of Significance (TOS) for impacts of the proposed development on threatened species known or likely to occur within the study area or immediate surrounds has determined that the proposal is unlikely to have a significant impact (**Table 4** and **Appendix C**). This is heavily reliant on reducing long-term and cumulative impacts through implementation of avoid, minimise, mitigate and offset measures identified in **Section 5**.

Overall, the proposed development does not trigger entry into the Biodiversity Offset Scheme (refer to **Table 6**) or further assessment under key biodiversity legislation (**Section 4**). Standard construction environmental control measures and rehabilitation efforts including offset planting and the preparation of a Vegetation Management Plan (VMP) are required to minimise the chance of direct, indirect or long-term cumulative impacts to biodiversity (**Section 5**). These include but are not limited to:

- minimise clearing of native vegetation to only the extent necessary to achieve the development through utilisation of irrigation area 2 and consideration of slight redesign at proposed silage bunks,
- construction environmental controls (e.g., erosion and sediment controls, clear demarcation of development footprint, management of significant weeds, pre-clearing surveys, clearing supervision and salvage of habitat features), and
- supplementary plantings (offset area) with a clear rehabilitation plan to be prepared prior to any clearing or construction works taking place.

It is expected that mitigation measures will form part of the conditions of consent for the proposal and all measures will be approved or endorsed by Council as part of the DA process.

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Appendix A: Biodiversity assessment data

A1 Flora species observed within the study area

This list focuses on native and wild species observed in the study area. It may not include species obviously planted as part of gardens.

The following codes denote the status of a species:

H	High Threat Exotic (NSW)
K	Species that is associated with a Key Threatening Process
N	Native species
P	Protected species (not listed as a threatened species but subject to special protections)
T	Threatened species (may be Vulnerable, Endangered or Critically Endangered)
W	Weed of National Significance
X	Other exotic species

Plant species information is presented in order of growth form then scientific name. It does not take into account the relative abundance or significance of particular species.

TABLE 8: FLORA SPECIES OBSERVED WITHIN THE STUDY AREA DURING FIELD INSPECTION

Scientific Name	Common Name	Family	Status
Trees			
<i>Acacia salicina</i>	Willow Wattle	Fabaceae (Mimosoideae)	N
<i>Alectryon oleifolius</i>	Western Rosewood	Sapindaceae	N
<i>Brachychiton populneus</i>	Kurrajong	Malvaceae	N
<i>Callitris glaucophylla</i>	White Cypress Pine	Cupressaceae	N
<i>Eucalyptus populnea</i> subsp. <i>bimbil</i>	Bimble Box	Myrtaceae	N
Shrubs			
<i>Enchylaena tomentosa</i>	Ruby Saltbush	Chenopodiaceae	N
<i>Geijera parviflora</i>	Wilga	Rutaceae	N
<i>Lycium ferocissimum</i>	African Boxthorn	Solanaceae	W
<i>Rhagodia spinescens</i>	Thorny Saltbush	Chenopodiaceae	N
<i>Sclerolaena birchii</i>	Galvanized Burr	Chenopodiaceae	N
<i>Sclerolaena muricata</i>	Black Rolypoly	Chenopodiaceae	N
Grasses and Grasslike			
<i>Aristida</i> sp.	A Wiregrass	Poaceae	N
<i>Austrostipa verticillata</i>	Slender Bamboo Grass	Poaceae	N
<i>Avena barbata</i>	Bearded Oats	Poaceae	X
<i>Bothriochloa macra</i>	Red Grass	Poaceae	N
<i>Carex inversa</i>	Knob Sedge	Cyperaceae	N
<i>Cenchrus ciliaris</i>	Buffel Grass	Poaceae	H K
<i>Chloris truncata</i>	Windmill Grass	Poaceae	N
<i>Chloris virgata</i>	Feathertop Rhodes Grass	Poaceae	X

Scientific Name	Common Name	Family	Status
<i>Cynodon dactylon</i>	Common Couch	Poaceae	N
<i>Dactyloctenium radulans</i>	Button Grass	Poaceae	N
<i>Dichelachne</i> sp.	A Plume Grass	Poaceae	N
<i>Enteropogon acicularis</i>	Curly Windmill Grass	Poaceae	N
<i>Eragrostis cilianensis</i>	Stinkgrass	Poaceae	X
<i>Eragrostis trichophora</i>	Curly-leaved Lovegrass	Poaceae	X
<i>Fimbristylis</i> sp.	-	Cyperaceae	N
<i>Hordeum leporinum</i>	Barley Grass	Poaceae	X
<i>Juncus</i> sp.	A Rush	Juncaceae	N
<i>Lachnagrostis filiformis</i>	Blown Grass	Poaceae	N
<i>Sorghum bicolor</i>	Sorghum	Poaceae	X
<i>Typha orientalis</i>	Boradleaf Cumbungi	Typhaceae	N
<i>Urochloa</i> sp.	-	Poaceae	X
Forbs			
<i>Alternanthera denticulata</i>	Lesser Joyweed	Amaranthaceae	N
<i>Alternanthera pungens</i>	Khaki Weed	Amaranthaceae	H
<i>Amaranthus</i> sp.	Amaranth	Amaranthaceae	X
<i>Bidens subalternans</i>	Greater Beggar's Ticks	Asteraceae	X
<i>Boerhavia dominii</i>	Tarvine	Nyctaginaceae	N
<i>Carthamus lanatus</i>	Saffron Thistle	Asteraceae	H
<i>Chamaesyce drummondii</i>	Caustic Weed	Euphorbiaceae	N
<i>Chenopodium album</i>	Fat Hen	Chenopodiaceae	X
<i>Citrullus lanatus</i> var. <i>lanatus</i>	Wild Melon	Cucurbitaceae	X
<i>Convolvulus</i> sp.	A Bindweed	Convolvulaceae	N
<i>Cucumis myriocarpus</i> subsp. <i>leptodermis</i>	Paddy Melon	Cucurbitaceae	X
<i>Datura stramonium</i>	Common Thornapple	Solanaceae	X
<i>Dichondra repens</i>	Kidney Weed	Convolvulaceae	N
<i>Dysphania pumilio</i>	Small Crumbleweed	Chenopodiaceae	N
<i>Echium vulgare</i>	Viper's Bugloss	Boraginaceae	X
<i>Einadia hastata</i>	Berry Saltbush	Chenopodiaceae	N
<i>Einadia nutans</i>	Climbing Saltbush	Chenopodiaceae	N
<i>Gossypium</i> sp.	A Cotton	Malvaceae	X
<i>Heliotropium europaeum</i>	Potato Weed	Boraginaceae	X
<i>Lepidium</i> sp.	A Peppercross	Brassicaceae	X
<i>Malva parviflora</i>	Small-flowered Mallow	Malvaceae	X
<i>Oxalis perennans</i>	Yellow Wood-sorrel	Oxalidaceae	N
<i>Oxalis</i> sp.	A Sorrel	Oxalidaceae	X
<i>Pelargonium australe</i>	Native Storksbill	Geraniaceae	N
<i>Polygonum aviculare</i>	Wireweed	Polygonaceae	X
<i>Portulaca oleracea</i>	Pigweed	Portulacaceae	N

Scientific Name	Common Name	Family	Status
<i>Rapistrum rugosum</i>	Turnip Weed	Brassicaceae	X
<i>Rumex crispus</i>	Curled Dock	Polygonaceae	X
<i>Sisymbrium</i> sp.	-	Brassicaceae	X
<i>Solanum</i> sp.	A Native Tomato	Solanaceae	N
<i>Sonchus</i> sp.	Sowthistle	Asteraceae	X
<i>Tetragonia tetragonioides</i>	New Zealand Spinach	Aizoaceae	N
<i>Trianthema portulacastrum</i>	Giant Pigweed	Aizoaceae	X
<i>Tribulus terrestris</i>	Cat-head	Zygophyllaceae	X
<i>Trifolium arvense</i>	Haresfoot Clover	Fabaceae (Faboideae)	X
<i>Trifolium</i> sp.	A Clover	Fabaceae (Faboideae)	X
<i>Verbesina encelioides</i> subsp. <i>encelioides</i>	Crownbeard	Asteraceae	X
<i>Wahlenbergia</i> sp.	Bluebell	Campanulaceae	N
<i>Xanthium spinosum</i>	Bathurst Burr	Asteraceae	H
<i>Zaleya galericulata</i>	Hogweed	Aizoaceae	N
Others			
<i>Glycine tabacina</i>	Variable Glycine	Fabaceae (Faboideae)	N

A2 Systematic flora survey data

This appendix section summarises the results of systematic flora survey work across the study area.

A2.1 BAM plots

	BAM_1	BAM_2	BAM_3	BAM_4	BAM_5	BAM_6	BAM_7
Date of survey	18/4/2024	18/4/2024	18/4/2024	18/4/2024	18/4/2024	18/4/2024	18/4/2024
Vegetation Zone	2	2	2	2	2	1	3
Location							
Easting (UTM 55H)	627619	627971	627156	627140	628090	627889	625598
Northing (UTM 55H)	6569581	6569357	6569387	6570502	6570722	6570111	6571731
BAM ATTRIBUTE - 20x20m plot							
Species richness (count)							
Native tree	0	0	0	0	0	1	2
Native shrub	0	0	0	0	0	0	4
Native forb	3	2	1	1	2	0	3
Native grass and grasslike species	0	1	1	0	1	1	2
Native fern	0	0	0	0	0	0	0
Other native vascular plant	0	1	0	0	0	0	0
Total native vascular plants	3	4	2	1	3	2	11
Cover abundance %							
Native tree	0	0	0	0	0	20	35.1
Native shrub	0	0	0	0	0	0	0.7
Native forb	0.3	0.3	0.1	0.2	0.2	0	0.6
Native grass and grass-like species	0	0.1	0.3	0	0.2	5	5.5
Native fern	0	0	0	0	0	0	0
Other native vascular plant	0	0.1	0	0	0	0	0
Total native vascular plants	0.3	0.5	0.4	0.2	0.4	25	41.9

High Threat Exotics	0	0.4	0.2	0	0	0.1	85.4
BAM ATTRIBUTES - 1x1m quadrats							
Litter cover %							
5m	0	0	1	15	85	2	0
15m	1	3	3	40	20	5	30
25m	2	5	5	8	45	5	15
35m	0	4	10	7	40	2	5
45m	0	2	3	8	35	4	65
Average	0.6	2.8	4.4	15.6	45	3.6	23
Bare ground cover (%)							
5m	80	80	85	75	15	85	0
15m	83	80	78	50	70	80	1
25m	80	80	82	80	40	85	5
35m	85	78	75	75	45	90	0
45m	85	82	85	77	50	78	40
Average	82.6	81	81	71.4	44	83.6	9.2
Cryptogam cover %							
5m	0	0	0	0	0	0	0
15m	0	0	0	0	0	0	0
25m	0	0	0	0	0	0	0
35m	0	0	0	0	0	0	0
45m	0	0	0	0	0	0	0
Average	0	0	0	0	0	0	0
Rock cover %							
5m	0	1	0	0	0	0	0
15m	0	1	0	0	0	0	0

25m	0	0	0	0	0	0	0
35m	0	0	0	0	0	0	0
45m	0	0	0	0	0	0	0
Average	0	0.4	0	0	0	0	0

FIGURE A 1: BAM1 PHOTOS

BAM_1 50m transect line start



BAM_1 50m transect line end



BAM-1 Quadrat (05m)



BAM-1 Quadrat (15m)



BAM-1 Quadrat (25m)



BAM-1 Quadrat (35m)



BAM-1 Quadrat (45m)



FIGURE A 2: BAM2 PHOTOS

BAM_2 50m transect line start



BAM_2 50m transect line end



BAM-2 Quadrat (05m)



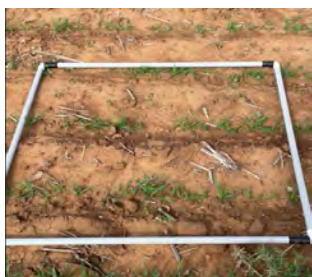
BAM-2 Quadrat (15m)



BAM-2 Quadrat (25m)



BAM-2 Quadrat (35m)



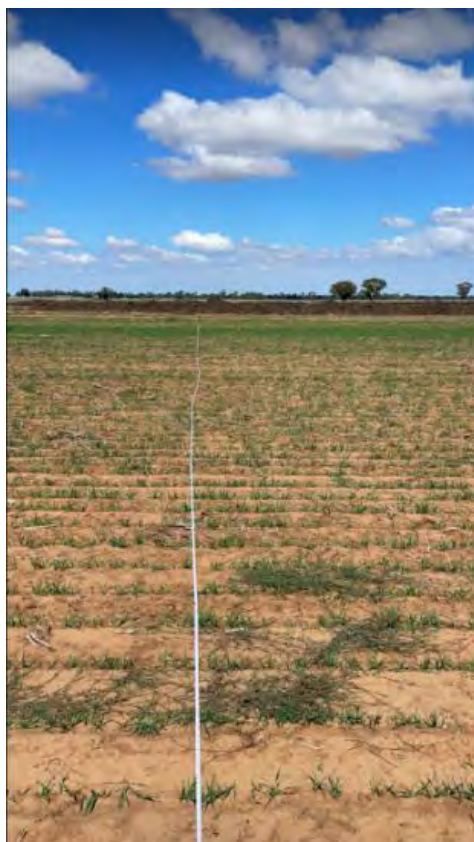
BAM-2 Quadrat (45m)



FIGURE A3: BAM3 PHOTOS

BAM_3 50m transect line start
N/a

BAM_3 50m transect line end



BAM-3 Quadrat (05m)



BAM-3 Quadrat (15m)



BAM-3 Quadrat (25m)



BAM-3 Quadrat (35m)



BAM-3 Quadrat (45m)



FIGURE A4: BAM4 PHOTOS

BAM_4 50m transect line start



BAM_4 50m transect line end



BAM-4 Quadrat (05m)



BAM-4 Quadrat (15m)



BAM-4 Quadrat (25m)



BAM-4 Quadrat (35m)



BAM-4 Quadrat (45m)



FIGURE A5: BAM5 PHOTOS

BAM_5 50m transect line start



BAM_5 50m transect line end



BAM_5 Quadrat (05m)



BAM_5 Quadrat (15m)



BAM_5 Quadrat (25m)



BAM_5 Quadrat (35m)



BAM_5 Quadrat (45m)



FIGURE A6: BAM6 PHOTOS

BAM_6 50m transect line start



BAM_6 50m transect line end



BAM_6 Quadrat (05m)



BAM_6 Quadrat (15m)



BAM_6 Quadrat (25m)



BAM_6 Quadrat (35m)



BAM_6 Quadrat (45m)



FIGURE A7: BAM7 PHOTOS

BAM_7 50m transect line start



BAM_7 50m transect line end



BAM_7 Quadrat (05m)



BAM_7 Quadrat (15m)



BAM_7 Quadrat (25m)



BAM_7 Quadrat (35m)



BAM_7 Quadrat (45m)



A3 PCT determination

TABLE 9: PCT 244 DESCRIPTION AND JUSTIFICATION

Vegetation formation	Grassy Woodlands	
Vegetation class	Floodplain Transitory Woodlands	
Vegetation type	PCT ID	244
	Common community name	Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt)
Percentage cleared (in NSW)	73	
Extent to be removed for the development	0.769 ha (maximum proposed)	
PCT Description	<p>The PCT typically occurs as a moderate to tall woodland or open woodland, dominated by Poplar Box (<i>Eucalyptus populnea</i> subsp. <i>bimbil</i>). Small trees such as Belah (<i>Casuarina cristata</i>) or Western Rosewood (<i>Alectryon oleifolius</i> subsp. <i>canescens</i>) may be present but not co-dominant. Midstory shrub layer is usually absent or sparse, with some dense patches occurring in places. Associated shrub species include Wilga (<i>Geijera parviflora</i>), Warrior Bush (<i>Apophyllum anomalum</i>) and Budda (<i>Eremophila mitchellii</i>). Low shrubs include a range of chenopods (saltbushes) such as <i>Maireana microphylla</i> spp. and Thorny Saltbush (<i>Rhagodia spinescens</i>). Ground cover can vary greatly across sites, occurring as mid-dense to sparse and contains low shrubs such as Galvanised Burr (<i>Sclerolaena birchii</i>) and Black Rolypoly (<i>Sclerolaena muricata</i>) and a range of grass species including Wallaby Grass (<i>Rytidosperma</i> spp.), Curly Windmill Grass (<i>Enteropogon acicularis</i>), Spear Grass (<i>Austrostipa scabra</i> subsp. <i>scabra</i>) Native Wheatgrass (<i>Elymus scaber</i> var. <i>scaber</i>) and Windmill Grass (<i>Chloris truncata</i>). Sedges such as Flat Spike-rush (<i>Eleocharis plana</i>) and Knob Sedge (<i>Carex inversa</i>), rushes (<i>Juncus</i> spp.) and Nardoo (<i>Marsilea drummondii</i>) grow in slight depressions. This PCT occurs on clay-loam soils on flats, alluvial plains and stagnant alluvial plain landscapes in the wheatbelt of north-central NSW. It is mainly confined to the Darling Riverine Plain. It is widespread community with significant variation and grades into a range of other Poplar Box communities in adjoining regions and on different soils. This PCT has been mostly cleared for crops and grazing with only a few patches remaining in good condition.</p>	
Species used for PCT justification	Species name	Estimated percentage cover (%)
	Bimble Box (<i>Eucalyptus populnea</i> subsp. <i>bimbil</i>)	< 2
	White Cypress Pine (<i>Callitris glaucophylla</i>)	< 1
	Wilga (<i>Geijera parvifolia</i>)	< 1
	Western Rosewood (<i>Alectryon oleifolius</i>)	< 1
	Thorny Saltbush (<i>Rhagodia spinescens</i>)	< 1
	Curly Windmill Grass (<i>Enteropogon acicularis</i>)	< 1
	Galvanised Burr (<i>Sclerolaena birchii</i>)	< 1
	Black Rolypoly (<i>Sclerolaena muricata</i>)	< 1
Further justification	<p>PCT filter tool</p> <p>This community occurs across the study area and occurs as a patchy and scattered remnant woodland dominated by Bimble Box with White Cypress Pine. Modification and disturbance associated with agricultural practices have heavily impacted the vegetation composition of the study area. Despite this, remnant vegetation and some disturbance tolerant species still persist, particularly grasses and some forbs. The study area's associated bioregion and the remnant understory and overstory species that are listed above were entered into the BioNet vegetation classification database and the top five results are listed below:</p> <ul style="list-style-type: none"> • PCT 56 – Poplar Box – Belah woodland on clay-loam soils on alluvial plains of north-central NSW • PCT 70 – White Cypress Pine woodland on sandy loam in central NSW wheatbelt • PCT 244 – Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt) • PCT 628 – Carbeen +/- Coolabah grassy woodland on floodplain clay loam soil on north-western NSW floodplains, mainly Darling Riverine Plain Bioregion • PCT 71 – Carbeen – White Cypress Pine – River Red Gum – bloodwood tall woodland on sandy loam alluvial and eolian soils in the norther Brigalow Belt South Bioregion and Darling Riverine Plains Bioregion 	

	<p>From these, PCT 244 was determined to be the most closely aligned due to its floristic composition, particularly within the overstorey, and landscape position. PCT 56 also shared floristic similarities to the vegetation within the study area, however, this PCT generally has a more diverse overstorey assemblage and a denser cover. The remainder of these PCTs mostly do not list the characteristic dominant overstorey species of the study in their composition, or do not list these species at a similar dominance in cover. Furthermore, some of these PCTs occur more commonly on hilly landscapes or within a different bioregion.</p> <p>SVTM</p> <p>SVTM does not identify any PCTs as occurring within the study area, however, several are mapped as occurring within 1km of the study area. These are listed below:</p> <ul style="list-style-type: none"> • PCT 98 – Poplar Box – White Cypress Pine – Wilga – Ironwood shrubby woodland on red sandy-loam soils in the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion • PCT 56 – Poplar Box – Belah woodland on clay-loam soils on alluvial plains of north-central NSW • PCT 244 – Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt) • PCT 53 – Shallow freshwater wetland sedgeland in depressions on floodplains on inland alluvial plains and floodplains <p>Despite SVTM not identifying any PCT to be applicable to the study area, scattered remnant native vegetation suggests the study area most closely aligns with PCT 76 - Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt).</p>
Condition (zones)	Zone 1 and 3
TEC status (BC Act)	<p>PCT 244 is associated with the following BC Act TECs:</p> <ul style="list-style-type: none"> • Listed BC Act: Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions, and • Listed BC Act: Artesian Springs Ecological Community in the Great Artesian Basin (BC Act). <p>Of the three, vegetation within the study area most closely aligns with the TEC: Poplar Box Grassy Woodland on Alluvial Plains. However, vegetation within the study area has been extensively modified through agricultural practices and as such, does not meet the minimum condition thresholds for listing as this community. This is further discussed in Appendix B1.</p>
TEC status (EPBC Act)	<p>PCT 244 is associated with the following EPBC Act TECs:</p> <ul style="list-style-type: none"> • Listed EPBC Act: Poplar Box Grassy Woodland on Alluvial Plains
Examples	See Figure 11

A4 Fauna species observed in the subject land

This list includes species recorded incidentally and during targeted threatened species surveys within the subject land and provides an indication on the types of species to utilize the project area. Additional fauna species may utilise the site over time subject to variations in factors such as behaviour, season, and weather conditions.

K	Species that is associated with a Key Threatening Process
P	Protected species (not listed as a threatened species but subject to special protections)
T	Threatened species (may be Vulnerable, Endangered or Critically Endangered)
X	Other exotic species

TABLE 10: FAUNA SPECIES OBSERVED WITHIN THE STUDY AREA

Scientific Name	Common name	Family	Status	Observation Type
Birds				
<i>Acanthiza reguloides</i>	Buff-rumped Thornbill	Acanthizidae	P	Visual
<i>Northiella haematogaster</i>	Blue Bonnet Parrot	Psittaculidae	P	Visual
<i>Barnardius zonarius</i>	Australian Ringneck Parrot	Psittaculidae	P	Visual
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Alcedinidae	P	Aural
<i>Chenonetta jubata</i>	Australian Wood Duck	Anatidae	P	Visual
<i>Eolophus roseicapilla</i>	Galah	Cacatuidae	P	Visual
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	Campephagidae	P	Visual
<i>Spilopelia chinensis</i>	Crested Pigeon	Columbidae	P	Visual
<i>Gymnorhina tibicen</i>	Australian Magpie	Artamidae	P	Visual
<i>Hirundo neoxena</i>	Welcome Swallow	Hirundinidae	P	Visual
<i>Petrochelidon nigricans</i>	Tree Martin	Hirundinidae	P	Visual
<i>Anthochaera carunculata</i>	Red Wattlebird	Meliphagidae	P	Visual
<i>Psephotus haematonotus</i>	Red Rumped Parrot	Psittaculidae	P	Visual
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	Acanthizidae	P	Visual
<i>Corvus coronoides</i>	Australian Raven	Corvidae	P	Visual
<i>Corvus mellori</i>	Little Raven	Corvidae	P	Aural
<i>Acrocephalus australis</i>	Australian Reed Warbler	Acrocephalidae	P	Aural
<i>Fulica atra</i>	Eurasian Coot	Rallidae	P	Visual
<i>Manorina flavigula</i>	Yellow-throated Miner	Meliphagidae	P	Visual
<i>Taeniopygia guttata</i>	Zebra Finch	Estrildidae	P	Visual
<i>Sturnus vulgaris</i>	Common Starling	Sturnidae	K	Visual
<i>Threskiornis molucca</i>	White Ibis	Threskiornithidae	P	Visual
<i>Grallina cyanoleuca</i>	Magpie-lark	Monarchidae	P	Aural
<i>Struthidea cinerea</i>	Apostlebird	Corcoracidae	P	Visual
<i>Corcorax melanorhamphos</i>	White-winged Chough	Corcoracidae	P	Visual

Scientific Name	Common name	Family	Status	Observation Type
<i>Nymphicus hollandicus</i>	Cockatiel	Cacatuidae	P	Visual
<i>Petrochelidon nigricans</i>	Tree Martin	Hirundinidae	P	Visual
<i>Falco cenchroides</i>	Nankeen Kestrel	Falconidae	P	Visual
<i>Aquila audax</i>	Wedge-tailed Eagle	Accipitridae	P	Visual
<i>Rhipidura leucophrys</i>	Willie Wagtail	Rhipiduridae	P	Aural
<i>Manorina melanocephala</i>	Noisy Miner	Meliphagidae	P	Visual
<i>Milvus migrans</i>	Black Kite	Accipitridae	P	Visual
<i>Cracticus nigrogularis</i>	Pied Butcherbird	Artamidae	P	Aural
<i>Cracticus torquatus</i>	Grey Butcherbird	Artamidae	P	Aural
<i>Tachybaptus ruficollis</i>	Little Grebe	Podicepsidae	P	Visual
<i>Poliiocephalus poliocephalus</i>	Hoary-headed Grebe	Podicepsidae	P	Visual
<i>Rhipidura albiscapa</i>	Grey Fantail	Rhipiduridae	P	Aural
<i>Pardalotus striatus</i>	Striated Pardalote	Pardalotidae	P	Aural
<i>Geopelia placida</i>	Peaceful Dove	Columbidae	P	Aural
<i>Acridotheres tristis</i>	Common Myna	Sturnidae	K	Visual
<i>Merops ornatus</i>	Rainbow Bee-eater	Meropidae	P	Aural
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Cacatuidae	P	Visual
<i>Dromaius novaehollandiae</i>	Emu	Casuariidae	P	Visual
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant	Phalacrocoracidae	P	Visual
<i>Platycercus eximius</i>	Eastern Rosella	Psittaculidae	P	Visual
Mammals				
<i>Macropus giganteus</i>	Eastern Grey Kangaroo	Macropodidae	P	Visual
<i>Macropus robustus</i>	Common Wallaroo	Macropodidae	P	Visual
Reptiles				
<i>Lampropholis guichinoti</i>	Pale-flecked Garden Skink	Scincidae	P	Visual
<i>Pogona barbata</i>	Eastern-bearded Dragon	Agamidae	P	Visual
<i>Liopholis whitii</i>	Whites' Skink	Scincidae	P	Visual

Appendix B: Likelihood of occurrence assessment

The study area contains mostly disturbed and modified exotic vegetation that has been heavily impacted by agricultural practices such as clearing, cropping and grazing. Despite this, native vegetation is still present in the study area, mainly in the form of scattered trees across its extent. The development's impacts will vary from species to species as different species utilise different habitats, and are vulnerable to different things.

Consequently, the following analysis works through each one of the species listed as under the Commonwealth EPBC Act and/or the NSW BC Act or FM Act. For ease of reference, the following acronyms are used to indicate the status of a community or species according to each jurisdiction:

CE	Critically Endangered
E	Endangered
V	Vulnerable
P	Species where only certain geographically defined populations are protected
M	Migratory species that is protected but not listed as threatened under the EPBC Act
-	Not listed

The following analysis also incorporates data from a variety of sources including:

- threatened community/species profiles published by the NSW Department of Primary Industries and Environment www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species,
- Atlas of Living Australia (ALA) for the area within a 10 km radius of the study area,
- Atlas of NSW Wildlife (BioNet) for the area within a 10 km radius of the study area, and
- the international birding site eBird for the [Coonamble](#), [Coonamble Sewage Treatment Plant](#) and [Quambone Road](#) hotspots.

B1 Threatened Ecological Communities

Scientific Name	Common name	Cwlth EPBC Act	NSW Law	Likely presence	Where discussed
Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	—	E	Not present	B1.1
Brigalow-Gidgee woodland/shrubland in the Mulga Lands and Darling Riverine Plains Bioregions	Brigalow-Gidgee woodland/shrubland	—	E	Not present	B1.2
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	E	—	Not present	B1.3
Coolibah-Black Box Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregions	Coolibah-Black Box Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregions	—	E	Not present	B1.4
Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions	Fuzzy Box Woodland on alluvial soils	—	E	Not present	B1.5
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands	E	—	Not present	B1.6
Marsh Club-rush sedgeland in the Darling Riverine Plains Bioregion	Marsh Club-rush Sedgeland	—	CE	Not present	B1.7
Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions	Myall Woodland	—	E	Not present	B1.8
Poplar Box Grassy Woodland on Alluvial Plains	Poplar Box Grassy Woodland	E	—	Not present	B1.9
Weeping Myall Woodlands	Weeping Myall Woodlands	E	—	Not present	B1.10
EEC count		4	6	10 TECs across all jurisdictions	

B1.1 Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions

This NSW-listed TEC is characterised as a forest or low growing woodland dominated by Brigalow (*Acacia harpophylla*), often with pockets of one or more of the following species:

- Belah (*Casuarina cristata*),
- Poplar Box (*Eucalyptus populnea* subsp. *bimbil*), and
- Pilliga Box (*E. pilligaensis*).

The overstorey tends to be moderately dense and as such, understory and ground cover vegetation is only sparse. This community occurs as scattered remnants on clay-loam or heavy clay soils, mainly on the north-west slopes and plains in the Brigalow Belt South Bioregion. Outliers also occur in the Darling Riverine Plains and Nandewar bioregions. It has been extensively cleared for agriculture, with remaining remnant mostly occurring along roadsides and paddock edges.

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about this TEC, see:

<https://threatenedspecies.bionet.nsw.gov.au/profile?id=10109>

B1.2 Brigalow-Gidgee woodland/shrubland in the Mulga Lands and Darling Riverine Plains Bioregions

This NSW-listed TEC occurs to the north of Bourke between the Culgoa and Warrego Rivers on soft red soils and heavy grey clays on level to slightly undulating plains. The structure of this community generally ranges from woodland to shrubland and scrub depending on local factors and conditions. The canopy is dominated by either Brigalow (*Acacia harpophylla*) or Gidgee (*Acacia cambagei*), with other species being co-dominant or part of the shrub layer, and include the following species:

- Ironwood (*Acacia excelsa*),
- River Cobar (*Acacia stenophylla*),
- Western Rosewood (*Alectryon oleifolius*),
- Whitewood (*Atalaya hemiglauca*),
- Budda (*Eremophila mitchellii*),
- Coolibah (*Eucalyptus coolabah*), and
- Black box (*Eucalyptus largiflorens*).

Site disturbance affects the presence of these associated species in the canopy or understory layer. Ground layer vegetation is usually sparse and includes grasses such as Windmill Grass (*Chloris truncata*), *Lachnagrostis filiformis*, Bristly Lovegrass (*Eragrostis setifolia*), and Warrego Grass (*Paspalidium jubiflorum*). Forb species may include Desert Sneezeweed (*Centipeda thespidioides*) and Burr-daisies (*Calotis* spp.). Small chenopod shrubs such as Ruby Saltbush (*Enchylaena tomentosa*), Climbing Saltbush (*Einadia nutans*) and *Sclerolaena* spp. also form part of the ground layer.

This community has been extensively modified across its extent and at least 79% of the estimated original 190,000 ha cleared or thinned. The TEC is known to occur in Culgoa National Park and in Ledknapper Nature Reserve.

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about this TEC, see:

<https://threatenedspecies.bionet.nsw.gov.au/profile?id=10966>

B1.3 Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions

This Commonwealth-listed woodland TEC is very similar to the below mentioned TEC – Coolibah-Black Box Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregions. However, this community has a minimum condition threshold that vegetation must meet to be classified as this TEC. The dominant canopy trees include:

- Coolibah (*Eucalyptus coolabah*), and in some areas
- Black Box (*Eucalyptus largiflorens*).

Other tree species may also be present, and include:

- River Cobar (*Acacia stenophylla*),
- Cooba (*Acacia salicina*),
- Belah (*Casuarina cristata*), and
- Eurah (*Eremophila bignoniiflora*).

Community structure may vary from tall riparian woodlands to very open 'savanna like' grassy woodlands with a sparse midstory, generally composed of shrubs and saplings. Typically, these woodlands form mosaics with grasslands and wetlands. Groundcover vegetation may drastically vary depending on the frequency of flooding, depth and duration. In dry periods, groundlayer vegetation can be dominated by Black Roly-poly (*Sclerolaena muricata*) and other chenopods. In contrast, in inundated situations semi-aquatic species of sedges such as *Eleocharis* spp. can dominate along with forbs such as Buttercups (*Ranunculus* spp.) and Poison Pratia (*Lobelia concolor*).

This community occurs on grey, self-mulching clays of periodically waterlogged floodplains, swamp margins, ephemeral wetlands, and stream levees. It occurs on a landscape of flat to low relief where variations in slope and height can influence the species composition. The community occurs in a climatic zone that has summer dominant rainfall with an average annual rainfall ranging from approximately 250 to 700 mm per year.

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about this TEC, see:

<https://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=66>

B1.4 Coolibah-Black Box Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregions

This NSW-listed woodland TEC is very similar to the above-mentioned TEC – Coolibah-Black Box Woodland of the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregions. The dominant canopy trees include

- Coolibah (*Eucalyptus coolabah*), and in some areas
- Black Box (*Eucalyptus largiflorens*).

Other tree species may also be present, and include:

- River Cobar (*Acacia stenophylla*),
- Cooba (*Acacia salicina*),

- Belah (*Casuarina cristata*), and
- Eurah (*Eremophila bignoniiflora*).

Community structure may vary from tall riparian woodlands to very open 'savanna like' grassy woodlands with a sparse midstory, generally composed of shrubs and saplings. Typically, these woodlands form mosaics with grasslands and wetlands. Groundcover vegetation may drastically vary depending on the frequency of flooding, depth and duration. In dry periods, ground layer vegetation can be dominated by Black Roly-poly (*Sclerolaena muricata*) and other chenopods. In contrast, in inundated situations semi-aquatic species of sedges such as *Eleocharis* spp. can dominate along with forbs such as Buttercups (*Ranunculus* spp.) and Poison Pratia (*Lobelia concolor*).

This community occurs on grey, self-mulching clays of periodically waterlogged floodplains, swamp margins, ephemeral wetlands, and stream levees. It occurs on a landscape of flat to low relief where variations in slope and height can influence the species composition. The community occurs in a climatic zone that has summer dominant rainfall with an average annual rainfall ranging from approximately 250 to 700 mm per year.

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about this TEC, see:

<https://threatenedspecies.bionet.nsw.gov.au/profile?id=10175#>

B1.5 Fuzzy Box Woodland

This NSW-listed TEC is characterised by tall woodland or open forest often dominated by the following canopy species:

- Fuzzy Box (*Eucalyptus conica*)
- Grey Box (*E. microcarpa*),
- Yellow Box (*E. melliodora*),
- Kurrajong (*Brachychiton populneus*), and
- Buloke (*Allocasuarina luehmannii*).

This TEC generally displays a sparse shrub layer with species including Wilga (*Geijera parviflora*), Deane's Wattle (*Acacia deanei*), Hopbush (*Dodonaea* spp.), Cassia (*Cassia* spp.), Waterbush (*Myoporum* spp.), and Sifton Bush (*Cassinia* spp.). Understory vegetation is variable and highly dependent on seasonal climatic conditions as the main limiting factor to abundance. This community occurs on alluvial soils of the South West Slopes, Brigalow Belt South and Darling Riverine Plains Bioregion, most commonly in the Dubbo-Narromine-Parkes-Forbes area. Soils are brown loam or clay, alluvial or colluvial on past stream and abandoned water channels or slight depressions on undulating plains or flats of the western plains. Less than 5% of the TEC's original extent is estimated to remain.

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about this TEC, see:

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10335>

B1.6 Grey Box Grassy Woodland

This Commonwealth listed TEC is characterised by temperate eucalypt woodlands consisting of a composition of the following species:

- Buloke (*Allocasuarina luehmannii*),
- Kurrajong (*Brachychiton populneus*),
- White Box (*Eucalyptus albens*),
- Fuzzy Box (*E. conica*),
- Black Box (*E. largiflorens*),
- Yellow Gum (*E. leucoxylon*),
- Yellow Box (*E. melliodora*),
- Poplar (*E. populnea*).

Shrubs composition is variable and largely depended upon current and historical management strategies. It ranges from absent in areas of high grazing or removal, to moderately dense in cover. Species composition is also variable with widespread shrubs including Wattles (*Acacia* spp.), Native Blackthorn (*Bursaria spinosa*), Dolly Bushes (*Cassinia* spp.), Hopbushes (*Dodonaea* spp.), Emu Bushes (*Eremophila* spp.), and Blue-bushes (*Maireana* spp.). The groundlayer also varies in composition, with mostly grasses or a combination of grasses and grass-like plants, herbaceous flowering plants and the smaller chenopods. Commonly associated grasses include Wallaby Grasses (*Rytidosperma* spp.), Spear Grasses (*Austrostipa* spp.), Wheatgrass (*Anthosachne scabra*), Windmill Grasses (*Enteropogon* spp.), Flax-lilies (*Dianella* spp.), and Mat-rush (*Lomandra* spp.).

This TEC occurs on the drier edge of temperate grassy eucalypt woodland belt and ranges from Central NSW through northern and central Victoria and into South Australia. Patches that are disconnected from the main belt of the TEC occur to the south of the Great Dividing Range in Victoria. Where this TEC occurs in South Eastern Australia it is relatively less well studied and understood than other grassy woodland systems in SE Australia. In NSW the TEC can be transitional between the temperate lower slopes and tablelands occupied by, e.g., Box-Gum Woodland (Commonwealth listing). Typical condition for this TEC is based on patch size and vegetation structure thresholds or species composition metrics.

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about this TEC, see:

[https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20395#:~:text=The%20Grey%20Box%20\(Eucalyptus%20microcarpa,central%20Victoria%20into%20South%20Australia.](https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20395#:~:text=The%20Grey%20Box%20(Eucalyptus%20microcarpa,central%20Victoria%20into%20South%20Australia.)

B1.7 Marsh Club-rush sedgeland in the Darling Riverine Plains Bioregion

This NSW-listed TEC is a sedgeland characterised by a dominance of Marsh Club-rush (*Bolboschoenus fluviatilis*) which forms dense stands up to 2 m in height. The community is further characterised by an understory containing the species:

- Tussock Sedge (*Carex appressa*),
- Ribbed Spike Rush (*Eleocharis plana*),
- Blown Grass (*Lachnagrostis filiformis*),
- Water Couch (*Paspalum distichum*),
- Swamp Buttercup (*Ranunculus undosus*)

Other species that may be present include:

- Channel Nut Grass (*Cyperus victoriensis*)

- Cumbungi (*Typha domingensis*)
- Floating Primrose (*Ludwigia peploides* subsp. *montevidensis*), and
- Pale Spikerush (*Eleocharis pallens*).

The ecological community can be distinguished from other surrounding communities through its lack of trees and its dominance of Marsh Club-rush (*B. fluviatilis*) which generally composes greater than 40% of the vegetation cover. Structure of this community may vary depending on its disturbance history. This community often is transitions into surrounding woodlands of Coolibah (*Eucalyptus coolabah*) and Black Box (*E. largiflorens*), and shrublands of River Coobah (*Acacia stenophylla*) and Lignum (*Muehlenbeckia florulenta*) or treeless communities dominated by Water Couch, Spike Rush, Tussock Rush (*Juncus aridicola*) or Common Reed (*Phragmites australis*). Marsh Club-rush (*B. fluviatilis*) is widespread across NSW and may occur as a component of surrounding communities and in a range of other wetland locations. This community is associated with grey clay soils usually with an accumulated surface layer of organic matter several centimetres thick.

This community is mainly restricted to the Gwydir wetlands but may occur elsewhere in the Darling Riverine Plains Bioregion. It has a very highly restricted and fragmented geographic distribution, and as such, has suffered an extensive decline over past decades. The cumulative area remaining of this community is estimated to be much less than 800 ha (most estimates suggest < 400 ha).

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about the new TEC, see:

<https://threatenedspecies.bionet.nsw.gov.au/profile?id=20150>

B1.8 Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Penplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions

This NSW-listed TEC occurs with a scattered distribution across the eastern alluvial plains of the Murray-Darling River system. The community typically occurs on red-brown earths and heavy textured grey and brown alluvial soils with a climatic belt that receives 375-500 mm of annual rainfall. The community structure varies from low woodland and open woodland to low sparse woodland or open shrubland, depending on the site quality and disturbance history. The canopy layer can reach a height of 10 m and includes Weeping Myall (*Acacia pendula*) as one of the main dominant associated species.

The understory vegetation includes an open layer or chenopod shrubs and other woody plant species and an open too dense groundcover of grasses and forbs. The structure and composition of this community varies, particularly with latitude, as chenopod shrubs become less prominent, while other woody shrubs and summer grasses are more common further north. The shrub and canopy stratum in some areas has been reduced or eliminated by clearing or heavy grazing, resulting in derived grasslands that may still constitute this community.

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about the new TEC, see:

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10973>

B1.9 Poplar Box Grassy Woodland on Alluvial Plains

This Commonwealth listed TEC is typically a grassy woodland or occasionally open grassy forest, with a canopy dominated by Poplar Box (*Eucalyptus populnea*) and an understorey mostly of grasses and other forbs. Other sub-dominant tree species may include

- Cypress Pine (*Callitris glaucophylla*),
- Belah (*Casuarina cristata*),
- Coolabah (*Eucalyptus coolabah*),
- Black Box (*E. largiflorens*), and
- Silver-leaved Ironbark (*E. melanophloia*).

Occasionally with emergent taller trees such as *E. microcarpa* and *E. pilligaensis* (also known as *E. woollsiana*). Although not typical, there may also be a low density of medium shrubs and small trees including *Acacia aneura*, *Alectryon oleifolius* subsp. *canescens*, *Apophyllum anomalum*, *Atalaya hemiglauca*, *Capparis mitchellii*, *Eremophila mitchellii* and *Geijera parviflora*.

Shrubby forms of Poplar Box woodland exist on lower nutrient sandy soils and are not part of the ecological community.

This community occurs in a broad band west of the Great Dividing Range in gently undulating to flat landscapes and occasionally on gentle slopes, at altitudes typically less than 300 metres above sea level. In NSW it extends widely across the western slopes and plains from Leeton in the south, west to Bourke, Goondiwindi in the north and Tamworth in the east.

Despite the present PCT 244: Poplar Box grassy woodland on alluvial clay-loam soils mainly in the temperate (hot summer) climate zone of central NSW (wheatbelt), being associated with this TEC. The study area does not meet the minimum condition requires for listing as this TEC. As outlined in the community conservation advice for listing under Class C Moderate Quality:

“The crown cover of canopy trees in the patch is $\geq 10\%$ AND If $< 50\%$ of perennial vegetation cover in ground layer is native, then the patch must have: ≥ 20 native plant spp. per patch in the ground layer AND ≥ 10 mature trees+ per ha with $\geq 30\text{cm dbh}$ (and/or hollows) AND smaller trees+, saplings or seedlings suggestive of periodic recruitment” (2019, DCCEEW.)

The study area does not meet the understory condition requirements outlined above. Furthermore, the study area did not display evidence of Bimble Box regeneration. Only a limited range of tree age classes recorded which does not suggest periodic recruitment.

It should be further noted that the *Eucalyptus populnea* subsp. *bimbil* is commonly refer to as Bimble Box, while *Eucalyptus populnea* is commonly known as either Poplar Box or Bimble Box. Both are included in the determination of this community, with the Poplar Box generally adopted as it applies to both taxa.

For more information about this TEC, see:

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20373>

B1.10 Weeping Myall Woodlands

This Commonwealth listed TEC occurs in a range from open woodlands to woodlands, generally 4-12 m high, in which Weeping Myall (*Acacia pendula*) trees are the sole or dominant overstorey species. Other common names for Weeping Myall include Myall, Boree, Balaar, Nilyah, Bastard Gidgee, and Silver Leaf Boree.

Weeping Myall trees often occur in monotypic stands, however other vegetation may also occur in the ecological community, though not as dominant species. These include:

- Western Rosewood (*Alectryon oleifolius* subsp. *elongatus*),
- Poplar Box (*Eucalyptus populnea*), or
- Black Box (*Eucalyptus largiflorens*).

Grey Mistletoe (*Amyema quandang*) commonly occurs on the branches of Weeping Myall trees throughout the ecological community's range. Typically, condition is assessed by reference to patch size and vegetation structure thresholds or species composition metrics.

The study area does not contain this TEC: the study area is highly modified and does not contain floristic features associated with the presence of this TEC.

For more information about this TEC, see:

<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20415>

B2 Threatened plant species

Scientific Name	Common Name	Cwlth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	Comment about species preferences and habitat in the study area	Likely presence
<i>Lepidium aschersonii</i>	Spiny Pepperpress	V	V	No	No	Erect perennial herb to 30 cm high. Not widespread, occurring in the marginal central-western slopes and north-western plains regions of NSW (and potentially the south western plains). Found on ridges of gilgai clays dominated by Brigalow, Belah, Buloke and Grey Box. In the south has been recorded growing in Bull Mallee. Often the understorey is dominated by introduced plants. Vegetation structure varies from open to dense, with sparse grassy understorey and occasional heavy litter. No records within 10 km and vegetation within the study area has been highly modified through agricultural practices such as grazing and cropping.	Low
<i>Lepidium monoplocoides</i>	Winged Pepperpress	E	E	No	No	Annual or perennial forb that is widespread in the semi-arid western plain's regions of NSW. The species occurs on seasonally moist or waterlogged sites and on heavy fertile soils that receive an average annual rainfall of around 300-500 mm. Primarily associated with woodlands dominated by Bullock (<i>Allocasuarina luehmannii</i>) and or with other eucalyptus species. No records within 10 km and vegetation within the study area has been highly modified through agricultural practices such as grazing and cropping.	Low
<i>Swainsona murrayana</i>	Slender Darling-pea	V	V	No	No	Sparsely downy forb that produces greyish, thin tapered, stiffly leathery pods. The species is found throughout NSW, being recorded in the Jerilderie and Deniliquin areas of the southern riverine plain, and the Hay plain as far north as Willandra National Park. Grows in a variety of vegetation types including saltbush, black box and grassland communities on level plains, floodplains and depressions and is most commonly found with the genera <i>Maireana</i> . No records within 10 km and vegetation within the study area has been highly modified through agricultural practices such as grazing and cropping.	Low
Species count		3	3	3 species across all jurisdictions			

B3 Threatened animal species

Scientific Name	Common Name	Cwlth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
Birds								
<i>Aphelocephala leucopsis</i>	Southern Whiteface	V	V	No	Yes	No	Small, stocky and thornbill like in appearance adults grow to 11.5 cm in length. Inhabits a wide range of woodlands and open forests dominated by acacias or eucalypts occurring on ranges, lowlands, foothills, and plains. Almost exclusively forages on the ground feeding on insects, spiders, and seeds, largely sourced from the bare ground or leaf litter. While there are known records within 10 km, regular cropping and disturbance suggest a low likelihood of the species utilising the site. The closest record is situated in more favourable habitat.	Low
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E	No	No	No	Wetland specialist that favours permanent freshwater wetlands with tall, dense vegetation especially bullrushes. While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.	Low
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	V (M)	—	No	No	No	Spends the non-breeding season in Australia. Prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh, or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, salt pans and hypersaline salt lakes inland. While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.	Low
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	E	No	No	No	Migratory shorebird most often found in littoral and estuarine habitats. Sometimes found in inland swamps and lakes during annual migration to and from Siberia. While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.	Low

Scientific Name	Common Name	CwIth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Calyptorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	V	V	No	No	No	Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of Sheoak occur. Black Sheoak (<i>Allocasuarina littoralis</i>) and Forest Sheoak (<i>A. torulosa</i>) are important foods. Dependent on large hollow-bearing eucalypts for nest sites. There are no known records within 10 km, no suitable foraging habitat, and marginal potential breeding habitat within the study area.	Low
<i>Circus assimilis</i>	Spotted Harrier	—	V	Yes	Yes	Yes	Medium-sized bird of prey occurring in grassy open woodland. Found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands. Builds a stick nest in a tree. Preys on terrestrial mammals (e.g. bandicoots, bettongs, and rodents), birds and reptiles, occasionally insects and rarely carrion. Known records within 10 km and while not optimal, there is potential foraging, and future nesting habitat within and immediately surrounding the study area.	Moderate
<i>Daphoenositta chrysoptera</i>	Varied Sittella	—	V	Yes	No	Yes	Acrobatic woodland specialist that lives in eucalypt forests and woodland, mallee, and Acacia woodland. Feeds on slaters and other arthropods extracted from crevices in bark and dead wood. Found across most of mainland Australia including vast majority of NSW. The sedentary nature of this species makes cleared agricultural land a potential barrier to movement. Records within 10 km and potential foraging habitat is present, however the study area is relatively disconnected consisting of and surrounded by cleared agricultural land.	Low
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	—	E	Yes	Yes	No	Australia's only stork. Floodplain wetlands (swamps, billabongs, watercourses, and dams) of the major coastal rivers are the key habitat in NSW. Secondary habitat includes minor floodplains, coastal sandplain wetlands and estuaries. Some known records within 10 km of the site, though no viable habitat for this species is present within the study area.	Low

Scientific Name	Common Name	Cwth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Epthianura albifrons</i>	White-fronted Chat	—	V	Yes	No	Yes	<p>Endemic Australian passerine bird usually found foraging on bare or grassy ground in wetland as well as edges of dryer woodland areas, and sometimes observed moving along fence lines, solitary or in pairs. They are insectivorous, feeding mainly on flies and beetles caught from or close to the ground. 'Open cup' nests built in low vegetation.</p> <p>Some records were found within 10 km, and there is some potential habitat present for this species to move in and around the study area.</p>	Moderate
<i>Falco hypoleucos</i>	Grey Falcon	V	V	No	No	No	<p>Medium-sized raptor usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions. Sometimes found in open woodlands near the coast and near wetlands where surface water attracts prey.</p> <p>No records within 10 km and while sub-optimal foraging habitat is present within the study area.</p>	Low
<i>Falco subniger</i>	Black Falcon	—	V	Yes	Yes	Yes	<p>Habitat is usually in the arid and semi-arid zones. It is usually found near watercourses or agricultural land with scattered remnant trees. It hunts over open wooded grasslands, saltbush plains, bluebush plains and other low vegetation.</p> <p>Several records found of this species within 10 km and some viable habitat present in the study area.</p>	Moderate
<i>Gallinago hardwickii</i>	Latham's Snipe	V (M)	—	No	No	No	<p>Non-breeding visitor to south-eastern Australia and is a passage migrant through northern Australia.</p> <p>Occurs in permanent and ephemeral wetlands up to 2000 m above sea-level, usually inhabiting open, freshwater wetlands with low, dense vegetation. However, they can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity.</p> <p>While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.</p>	Low
<i>Grantiella picta</i>	Painted Honeyeater	V	V	Yes	No	No	<p>Distinctive nomadic species that is a specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias especially <i>Amyema</i> species.</p> <p>Records within 10 km however habitat within the study area is sub optimal habitat with low connectivity and limited to no mistletoe observed during field inspection.</p>	Low

Scientific Name	Common Name	CwIth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Grus rubicunda</i>	Brolga	—	V	Yes	No	No	Often feeds in dry grassland or ploughed paddocks or even desert claypans, they are dependent on wetlands too, especially shallow swamps, where they will forage with their head entirely submerged. It is very sparse across the southern part of its range. There are known records within 10 km however limited to no viable habitat is present within the study area for this species	Low
<i>Hieraaetus morphnoides</i>	Little Eagle	—	V	Yes	Yes	Yes	Occupies open eucalypt forest, woodland, or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter. There are known records within 10 km, and while no evidence of nesting (large stick nests) was observed during field survey, potential foraging habitat is present within and around the study area.	Moderate
<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V	Yes	Yes	No	Species is almost exclusively aerial and forages for insects up to 1 km above ground, usually in large flocks. Only occurs in Australia between late spring and early autumn; breeds in north Asia. Known records within 10 km and species may forage above the study area, however, terrestrial habitat is sub-optimal.	Moderate
<i>Lathamus discolor</i>	Swift Parrot	CE	E	No	No	No	Distinctive parrot that breeds in Tasmania as well as some nearby islands, during spring and summer and migrates to the mainland for autumn and winter, where they are found in areas with eucalypts that flower profusely in winter or that have abundant lerp (sap-sucking bugs) infestations. Some favourite flowering trees include but not limited to Swamp Mahogany (<i>Eucalyptus robusta</i>), and Spotted Gum (<i>Corymbia maculata</i>), Red Bloodwood (<i>C. gummifera</i>). No known records within 10 km, however the species was observed near the study area within the locality. Some suitable habitat is present within the study area.	Moderate
<i>Leipoa ocellata</i>	Mallee Fowl	V	E	No	No	No	Distinctive large ground dwelling bird. Species primary distribution range extends from the south-western Mallee Cliffs NP, extending east near Balranald, with scattered populations as far north as Mundo NP. Preference of habitats that are distinguished by mallee and a spinifex understory. No known records within 10 km and the habitat in the study area is unsuitable for this species.	Low

Scientific Name	Common Name	Cwth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Lophochroa leadbeateri</i>	Pink Cockatoo	E	V	No	No	No	Medium-sized cockatoo that is distinctive in its salmon-pink and white colouring. Inhabits arid and semi-arid inland areas, utilising a wide range of treed and treeless habitats, always within the proximity of a water source. In NSW it occurs as far east as about Bourke and Griffith, with records continuing sporadically further east than that. Mostly a ground feeder consuming primarily seeds of native and exotic melon species, saltbushes, cypress pines and wattles. No known records within 10km and limited suitable habitat present within study area.	Low
<i>Melanodryas cucullata</i>	Hooded Robin (south-eastern form)	E	V	No	Yes	No	Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs, and a ground layer of moderately tall native grasses. Some records within 10 km and a small amount of habitat present nearby the study area, however limited suitable habitat is present in the study area itself.	Low
<i>Neophema chrysostoma</i>	Blue-winged Parrot	V	V	No	No	No	Small slender parrot weighing less than 50 grams and reaching a length of 24 cm. Inhabits a variety of habitats from coastal and sub-coastal areas through inland and arid areas. Favours grassy and grassy woodland but may occur altered environments such as parklands where they primarily feed on seeds of exotic and native grasses and forbs. Breeds south of the Great Dividing Range, through southern Victoria and South Australia, and in parts of Tasmania. Partially migratory as variable numbers of individuals migrate across the Bass Strait during winter. No records within 10 km. A small amount of suitable habitat is present within the study area, although is unlikely to be used by this species due to regular disturbance through agricultural practices.	Low
<i>Neophema pulchella</i>	Turquoise Parrot	—	V	Yes	Yes	No	Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges, and creeks in farmland. Nests in tree hollows, logs, or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust. There are some records within 10 km and suitable habitat is present in the study area.	Moderate

Scientific Name	Common Name	CwIth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Ninox connivens</i>	Barking Owl	—	V	Yes	No	No	Inhabits woodland and open forest, including fragmented remnants and partly cleared farmland. Preferentially hunts small arboreal mammals. Requires very large permanent territories in most habitats due to sparse prey densities. There are known records of this species within 10 km, and the species may utilise the study area occasionally for hunting.	Moderate
<i>Oxyura australis</i>	Blue-billed Duck	—	V	Yes	No	Yes	Prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation. The species is completely aquatic, swimming low in the water along the edge of dense cover. While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.	Low
<i>Pedionomus torquatus</i>	Plains-wanderer	CE	E	No	No	No	Small quail-like bird found in semi-arid, lowland native grasslands that typically occur on hard red-brown soils and that have a very open structure (50% bare ground cover, 10% fallen litter). The overwhelming majority (>99%) of records of Plains-wanderers in NSW over the past 30 years to come from the western Riverina. No known records within 10 km and limited suitable habitat in the study area.	Low
<i>Polytelis swainsonii</i>	Superb Parrot	V	V	Yes	No	No	Inhabit Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. They nest in the hollows of large trees (dead or alive). May forage up to 10 km from nesting sites, primarily in grassy box woodland. There are known records within 10 km of the study area, however habitat present on site is suboptimal and unlikely to be used by this species.	Low
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	—	V	No	Yes	No	Largest of the Australian babblers growing to 30 cm in length. The southern subspecies ranges from Cape York south through Queensland, NSW and Victoria. Inhabits open Box-Gum Woodland on slopes, Box-Cypress-pine and open Box Woodlands on alluvial plains, and woodlands that occur on fertile soils in coastal regions. Flight is laborious so birds prefer to hop to the top of a tree and glide down to the next one. Birds are generally unable to cross large open areas. There are known records of this species within 10km, however the study area is relatively disconnected consisting of and surrounded by cleared agricultural land.	Low

Scientific Name	Common Name	Cwth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Rostratula australis</i>	Australian Painted Snipe	E	E	No	No	No	A small freshwater wader. Prefers fringes of swamps, dams, and nearby marshy areas where there is a cover of grasses, lignum, low scrub, or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks, or reeds. While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.	Low
<i>Stagonopleura guttata</i>	Diamond Firetail	V	V	Yes	Yes	No	Distinctive ground-feeding bird found in grasslands and grassy eucalyptus woodlands, riparian areas, and sometimes lightly wooded farmland. Has been recorded in some towns and near farmhouses. There are known records within 10 km and potential habitat is present within the study area.	Moderate
<i>Stictonetta naevosa</i>	Freckled Duck	—	V	Yes	No	Yes	Prefers permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree. During drier times they move to lakes, reservoirs, farm dams and sewage ponds. Generally, rest in dense cover during the day, usually in deep water. Nests are usually located in dense vegetation at or near water level. While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.	Low
<i>Tringa nebularia</i>	Common Greenshank	E (M)	—	No	No	Yes	Found both on the coast and inland, in estuaries and mudflats, mangrove swamps and lagoons, and in billabongs, swamps, sewage farms and flooded crops. While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.	Low
Frogs								
<i>Crinia sloanei</i>	Sloane's Froglet	E	E	No	No	n/a	A small terrestrial frog that superficially resembles other members of the genus <i>Crinia</i> . This species has been recorded at widely scattered sites on the floodplains of the Murray-Darling Basin. The majority of records come from the Darling Riverine Plains and NSW South Western Slopes bioregion. It is typically associated with periodically inundated areas in grassland and woodland but is also known to inhabit disturbed habitats. No records within 10 km and very limited suitable habitat within the study area.	Low

Scientific Name	Common Name	CwIth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
Mammals – Bats								
<i>Nyctophilus corbeni</i>	Corben’s Long-eared Bat	V	V	No	No	n/a	Formerly recognised as a subspecies of the Greater Long-eared Bat. The distribution of this species in NSW aligns with the Murray Darling Basin and Pilliga Scrub region. Known to inhabit a variety of vegetation types, including mallee, Box-Gum dominated woodlands, Bulloke (<i>Allocasuarina leuhmannii</i>), and box/ironbark/cypress-pine vegetation. No records within 10 km and very limited suitable habitat within the study area.	Low
Mammal – Other								
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	V	E	Yes	No	n/a	Occupy rocky escarpments, outcrops, and cliffs with a preference for complex structures with fissures, caves, and ledges, often facing north. Known records within 10 km however study area does not contain the associated habitat features.	Low
<i>Phascolarctos cinereus</i>	Koala	E	E	Yes	Yes	n/a	Iconic tree-dweller that inhabits eucalypt woodlands and forests, feeding on the foliage of 70+ Eucalyptus species and 30+ other species. Details vary, see DPIE’s Review of koala tree use across New South Wales (2018) and note that koala habitat protection is the focus of State Environmental Planning Policy (SEPP 44) . There are known records within 10 km and suitable feed tree species present in the study area. The study area is relatively degraded and disconnected from known populations. Koala are highly mobile may use the study area in transit between areas of higher quality, however the likelihood remains low.	Low
Reptiles								
<i>Hemiaspis damelii</i>	Grey Snake	E	E	Yes	Yes	n/a	This species favours woodlands, most often those that consist of Brigalow (<i>Acacia harpophylla</i>) and Belah (<i>Casuarina cristata</i>). It generally occurs in heavier, cracking clay soils providing applicable habitat for the species, particularly in association with water bodies or areas with low lying gullies and hydro-lines. There are known records within 10 km however, the limited and sub-optimal habitat within the study area.	Low

Scientific Name	Common Name	Cwth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Anomalopus mackayi</i>	Five-clawed Worm-skink	V	E	No	No	n/a	This species is found in open woodland areas with low grass cover and scattered eucalypts. Associated woodlands most commonly occur on red, black, and black clay-loam soils. This species is also known to occur in open grassland with scattered eucalypts and moist black soil. No known records within 10 km and limited suitable habitat present within the study area.	Low
Species count		25	32	37 species across all jurisdictions				

*Local bird sighting data from [eBird](#) hotspots: [Coonamble](#), [Coonamble Sewage Treatment Plant](#) and [Quambone Road](#).

B4 Threatened populations

Threatened populations are geographically defined groups of native plants and animals likely to become extinct in NSW within the near future. A population is a group of organisms of the same species occupying a particular area. A search of the BioNet Atlas of NSW Wildlife found that no threatened populations exist or may exist within 10 km of the study area.

B5 Listed migratory species

Scientific Name	Common Name	Cwlth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
Marine birds								
<i>Apus pacificus</i>	Fork-tailed Swift	M	—	No	Yes	No	<p>Non-breeding visitor to all states and territories of Australia. In NSW, Fork-tailed Swift is recorded in all regions. Many records occur east of the Great Divide; however, a few populations have been found to the west of the Great Divide.</p> <p>Species is almost exclusively aerial and feeds on insects in mid-air, only landing occasionally where it nests on mountain cliffs and cliff faces.</p> <p>Known records within 10 km and species may forage above the study area, however is unlikely to land within it.</p>	Moderate
Terrestrial birds								
<i>Hirundapus caudacutus</i>	White-throated Needletail	M (V)	—	Yes	Yes	No	<p>Species is almost exclusively aerial and forages for insects up to 1 km above ground, usually in large flocks. Only occurs in Australia between late spring and early autumn; breeds in north Asia.</p> <p>Known records within 10 km and species may forage above the study area, however, terrestrial habitat is sub-optimal.</p>	Moderate
<i>Motacilla flava</i>	Yellow Wagtail	M	—	No	No	No	<p>Breeds in much of temperate Europe and Asia. Migrates from northern Asia, occurs in coastal Australia from around Exmouth, WA to about Newcastle, NSW, vagrant to the south of these limits.</p> <p>Found in open country near water, such as wet meadows where it feeds on insects and nests in tussocks.</p> <p>No known records within 10 km and habitat within the study area is degraded and suboptimal.</p>	Low
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	M	—	No	No	No	<p>Found along the east coast of Australia from far northern Queensland to Tasmania, including south-eastern South Australia. Breeding known to occur within area.</p> <p>Species inhabits heavily vegetated gullies in eucalypt forests near water and may forage through a diverse range of ecosystems nearby.</p> <p>No known records within 10 km and habitat within the study area is degraded and suboptimal.</p>	Low
Wetlands birds								

Scientific Name	Common Name	CwIth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Actitis hypoleucos</i>	Common Sandpiper	M	—	No	No	No	<p>Found along all coastlines of Australia and in many areas inland, the Common Sandpiper is widespread in small numbers. Mainly breeds in parts of Europe and Asia, and occasionally Africa.</p> <p>Wetland specialist. Utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats.</p> <p>While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.</p>	Low
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	M (V)	—	No	No	No	<p>Spends the non-breeding season in Australia with small numbers occurring regularly in New Zealand. Most of the population migrates to Australia, mostly to the south-east and are widespread in both inland and coastal locations and in both freshwater and saline habitats.</p> <p>Prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh, or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, salt pans and hypersaline salt lakes inland.</p> <p>While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.</p>	Low
<i>Calidris ferruginea</i>	Curlew Sandpiper	M (CE)	E	No	No	No	<p>Distributed around most of the Australian coastline (including Tasmania). Inland records are probably mainly of birds pausing for a few days during migration.</p> <p>Generally, occupies littoral and estuarine habitats, and in NSW is mainly found in intertidal mudflats of sheltered coasts.</p> <p>While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.</p>	Low

Scientific Name	Common Name	CwIth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Calidris melanotos</i>	Pectoral Sandpiper	M	—	No	No	No	<p>Widespread, but scattered. Records exist east of the Great Divide, from Casino and Ballina, south to Ulladulla. West of the Great Divide, the species is widespread in the Riverina and Lower Western regions.</p> <p>Prefers shallow fresh to saline wetlands. Found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.</p> <p>While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.</p>	Low
<i>Gallinago hardwickii</i>	Latham's Snipe	M (V)	—	No	No	No	<p>Non-breeding visitor to south-eastern Australia and is a passage migrant through northern Australia. The range extends inland over the eastern Tablelands in south-eastern QLD, and to west of the Great Dividing Range in NSW.</p> <p>Occurs in permanent and ephemeral wetlands up to 2000 m above sea-level. They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g., swamps, flooded grasslands or heathlands, around bogs and other water bodies).</p> <p>While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.</p>	Low
<i>Tringa nebularia</i>	Common Greenshank	E (M)	—	No	No	Yes	<p>Found both on the coast and inland, in estuaries and mudflats, mangrove swamps and lagoons, and in billabongs, swamps, sewage farms and flooded crops.</p> <p>While the dam adjacent to the study area may provide marginal habitat, there are no known records within 10 km and limited suitable habitat within the study area itself.</p>	Low
Species count		10	1					

* Local bird sighting data from eBird hotspots: [Coonamble](#), [Coonamble Sewage Treatment Plant](#) and [Quambone Road](#).

B6 Pest species associated with Key Threatening Processes (KTPs)

Scientific Name	Common Name	Cwlth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
Birds								
<i>Acridotheres tristis</i>	Common Myna	Yes	—	Yes	Yes	Yes	Typically found in open woodland, cultivation, and around human habitation. Observed within the study area.	Present
<i>Alauda arvensis</i>	Skylark	Yes	—	No	No	No	Found in cultivated grasslands and crops, wastelands, and coastal dunes.	Low
<i>Anas platyrhynchos</i>	Mallard	Yes	—	No	No	No	Prefers still, shallow water with abundant plant life and is most often found on artificial lakes, ponds, and wetlands in urban and farm areas.	Low
<i>Carduelis carduelis</i>	European Goldfinch	Yes	—	No	No	No	Fairly common to common in open woodland, parks, gardens, and farmland and open country with hedges and weedy patches; often feeds on seeding thistles.	Low
<i>Columba livia</i>	Rock Dove	Yes	—	Yes	Yes	Yes	Common in most built-up areas.	Moderate
<i>Passer domesticus</i>	House Sparrow	Yes	—	Yes	Yes	Yes	Occurs in and around human habitation, as well as cultivated areas and some wooded country.	Moderate
<i>Passer montanus</i>	Eurasian Tree Sparrow	Yes	—	No	No	No	Relative to the House Sparrow, although typically found in small flocks, often in more natural areas than House Sparrow.	Low
<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	Yes	—	No	No	No	Occurs mainly in built-up areas, inhabiting parks, gardens, and streetscapes, though they are occasionally recorded in orchards. They especially favour areas infested with weeds, especially lantana, privet, and blackberry.	Low
<i>Streptopelia chinensis</i>	Spotted Turtledove	Yes	—	No	No	No	Common around human habitation and can easily be seen in parks, gardens, and agricultural areas.	Low
<i>Sturnus vulgaris</i>	Common Starling	Yes	—	No	Yes	Yes	Short-grassed habitats are favoured foraging habitats, and they may feed in association with livestock. Observed within the study area.	Present
<i>Turdus merula</i>	Common Blackbird	Yes	—	Yes	Yes	Yes	Most often found in urban areas and surrounding localities but has successfully moved into bushland habitats.	Moderate
Mammals								

Scientific Name	Common Name	Cwlth EPBC Act	NSW Law	ALA records within 10 km	BioNet records within 10km	E bird Coonamble*	Comment about species preferences and habitat in the study area	Likely presence
<i>Canis lupus</i>	Wild dog	—	Yes	No	No	n/a	Found across NSW but most common in the eastern ranges, the coastal hinterland, and tablelands. Prefers areas where human disturbance is limited and where shelter, food and water are abundant.	Low
<i>Capra hircus</i>	Goat	Yes	Yes	No	No	n/a	Found in many areas of NSW. They have benefited from sheep grazing practices and the provision of artificial water points throughout the dryer regions of NSW.	Low
<i>Felis catus</i>	Cat	Yes	Yes	Yes	Yes	n/a	Found all over Australia in all habitats, including forests, woodlands, grasslands, wetlands, and arid areas.	High
<i>Lepus capensis</i>	Hare	Yes	—	No	No	n/a	Preferred habitat is open country with the presence of tussock or rocks to hide amongst.	Low
<i>Mus musculus</i>	House mouse	Yes	—	Yes	No	n/a	Associated with human habituation, nest behind rafters, in woodpiles, storage areas, or any hidden spot near a source of food.	High
<i>Oryctolagus cuniculus</i>	Rabbit	Yes	Yes	Yes	Yes	n/a	Densities are greatest around non-arable rough country. This includes creeks, riverbanks, erosion gullies and rocky outcrops.	Moderate
<i>Rattus rattus</i>	Black Rat	Yes	—	No	No	n/a	Very closely associated with humans and common in urban areas.	Moderate
<i>Sus scrofa</i>	Feral Pig	Yes	Yes	Yes	Yes	n/a	Need moist areas providing adequate food and water and enough shelter to protect against extremes of temperature.	Moderate
<i>Vulpes vulpes</i>	Fox	Yes	Yes	Yes	Yes	n/a	Common in fragmented landscapes and areas with shelter, food, and den sites. Highest densities include temperate grazing lands and peri-urban/urban areas where food is abundant.	Moderate
various species	Deer	Yes	Yes	No	Yes	n/a	Live predominantly in grassy forests. They occupy rainforests, eucalypt forests and farmlands. Preferred food is grass, but they also eat the leaves of shrubs, trees and herbs, bark, and some fruit.	Low
Species count		21+	7+				21+ species total	

* Local bird sighting data from [eBird](#) hotspots: [Coonamble](#), [Coonamble Sewage Treatment Plant](#) and [Quambone Road](#).

B7 Weed species

The following information relates to Weeds of National Significance identified as having the potential to occur within the study area or surrounding landscape. The complete list and profiles of WoNS within Australia can be found at [Weeds Australia](#) (Centre for Invasive Species Solutions, 2021).

Scientific Name	Common Name	Cwlth EPBC Act	ALA records within 10 km	BioNet records within 10km	Comment about species preferences and habitat in the study area	Likely presence
<i>Hymenachne amplexicaulis</i>	Olive Hymenachne	WONS	No	No	Large perennial semi-aquatic grass that forms dense stands that reduce plant diversity and habitat availability. Previously promoted as a horticultural pond grass, it now occurs in tropical wetlands and waterways. Has primarily been recorded in the tropical wetlands of northern Australia, with small populations being recorded in northern NSW. Not observed in study area during site inspection and limited potential habitat is present.	Low
<i>Lycium ferocissimum</i>	African Boxthorn	WONS	Yes	Yes	Drought tolerant species growing in temperate, subtropical, and semi-arid regions. It can grow on all soil types, though it grows best on well-drained, sandier soils along dry creek beds. Not observed in study area during site inspection. Scattered patches recorded throughout the study area, primarily surrounding paddock trees and fence lines.	Present
<i>Nassella neesiana</i>	Chilean Needle Grass	WONS	No	No	Resembles native spear grasses (<i>Austrostipa</i> spp.) but has a distinctive corona of 'little teeth' where the awn joins the seed. Has a major impact on grassland productivity and animal health. Not observed in the study area during site inspection. Not observed in study area during site inspection.	Low
<i>Nassella trichotoma</i>	Serrated Tussock	WONS	No	No	Drought tolerant grass with exceptionally low feed value that can completely take over a new area within 4 years. Prefers cool temperate conditions and does not grow well in wet areas, heavy shade, or heavily vegetated areas. Not observed in study area during site inspection.	Low
<i>Opuntia</i> spp.	Prickly Pears	WONS	Yes	Yes	Present in all regions of NSW from the coast to the far west. See DPI Weeds for details of individual <i>Opuntia</i> species. Records within 10 km and potential habitat is present, however, not observed in study area during site inspection.	Moderate
<i>Parkinsonia aculeata</i>	Parkinsonia	WONS	No	No	Small tree that forms dense prickly thickets along watercourses and make land inaccessible. Particularly invasive of rangelands wetlands and flood prone plains. Most infestations occur in coastal, central and western Queensland, across into the Northern Territory and Western Australia. Isolated population have been recorded in western NSW. Not observed in study area during site inspection.	Low
<i>Parthenium hysterophorus</i>	Parthenium Weed	WONS	No	No	Fast growing annual forb that favours cracking clay soil for establishment. It is toxic to people and stock. It typically invades grazing land and summer cropping areas as well as disturbed native vegetation. Outbreaks within NSW are occasional but have been recorded as far south as Deniliquin. Not observed in study area during site inspection.	Low
<i>Prosopis</i> spp.	Mesquite	WONS	No	No	Includes four species of Mesquite and several hybrids. Highly adapted for growing in arid conditions with the largest infestations occurring across northern and central Australia. Not observed in study area during site inspection.	Low

Scientific Name	Common Name	Cwth EPBC Act	ALA records within 10 km	BioNet records within 10km	Comment about species preferences and habitat in the study area	Likely presence
<i>Rubus fruticosus aggregata</i>	Blackberry	WONS	No	No	Prickly scrambler with edible purplish berries. Grows 7 m long canes that touch the ground and take root, forming dense thickets. Prefers cool temperate climate with >700 mm annual rainfall but will grow in drier areas if has access to water e.g., along riverbank. Not observed in study area during site inspection.	Low
<i>Salix</i> spp. except <i>S. babylonica</i> , <i>S. x calodendron</i> & <i>S. x reichardtii</i>	Willows except Weeping Willow, Pussy Willow, and Sterile Pussy Willow	WONS	No	No	Deciduous trees or shrubs that form large, dense root mats on the surface of the soil or in shallow. Historically planted for erosion control, but had had a major impact on the amount, speed and quality of water flows especially when they drop leaves in autumn. Not observed in study area during site inspection.	Low
<i>Senecio madagascariensis</i>	Fireweed	WONS	No	No	A widely naturalised forb of pastures, open woodlands, grasslands, suburban bushland, roadsides, disturbed sites, waste areas, parks, and coastal environments in sub-tropical and warmer temperate regions. Not observed in study area during site inspection.	Low
<i>Solanum elaeagnifolium</i>	Silver-leaf Nightshade	WONS	No	No	Perennial forb that grows in semi-arid to temperate areas and is considered particularly a weed of cereal crops. Most records within NSW are from the south west, with scattered records extending north into Queensland. Not observed in study area during site inspection.	Low
<i>Tamarix aphylla</i>	Athel Pine	WONS	No	No	A fast-growing tree which has readily established along waterways in arid and semi-arid Australia. The species readily establishes on saline and alkaline soils and can spread by both seed and vegetative material often transported in flood water. Has been recorded in western and north western NSW. Not observed in study area during site inspection.	Low
<i>Vachellia nilotica</i>	Prickly Acacia	WONS	No	No	Is a thorny small tree to shrub that impacts a range of vegetation types such as grasslands, woodlands and watercourses. The majority of recorded are from Queensland and the Northern Territory. Occasionally recorded in northern NSW. Not observed in study area during site inspection.	Low
Species count		14+	14+ species total			

Appendix C: NSW Test of Significance

The NSW *Biodiversity Conservation Act 2016* sets out a five-part Test of Significance “for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats” (s7.3). The five-part test also applies to aquatic species and ecological communities listed as threatened or otherwise protected in NSW under the *Fisheries Management Act 1994*.

The following assessment considers the potential impacts of the proposed development on species and communities that are listed as threatened under the NSW law and that are known or considered to have a medium to high likelihood of occurring in the study area (**Appendix B**). Depending on what is proposed, these impacts may include:

- direct impacts, such as loss of hollow-bearing trees,
- indirect impacts, such as loss of native seed bank due to soil erosion / deposition,
- cumulative impacts, such as fragmentation of wildlife corridors, and
- key threatening processes, such as removal of dead wood and dead trees.

Please note, the NSW five-part Test of Significance focuses on matters listed under NSW law. Impacts on species that are only listed under the Commonwealth EPBC Act not NSW law are assessed in the MNES table found in **Table 4**.

C1 Threatened species

In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

C1.1 Threatened plants

No threatened plant species listed as threatened under NSW law are considered likely to be present in the study area for reasons discussed in **Appendix B**.

C1.2 Threatened birds

Small grassland/woodland birds:

- White-fronted Chat (*Epthianura albifrons*), and
- Diamond Firetail (*Stagonopleura guttata*).

White-fronted Chat is an endemic Australian passerine bird usually found foraging on bare or grassy ground in wetland as well as edges of dryer woodland areas, and sometimes observed moving along fence lines, solitary or in pairs. They are insectivorous, feeding mainly on flies and beetles caught from or close to the ground. 'Open cup' nests built in low vegetation. There are known records of this species within 10 km of the study area.

Diamond Firetail is a large finch that is found in grassy eucalypt woodlands, open forest, mallee, Natural Temperate Grassland and in secondary grassland derived from other communities. It feeds exclusively on the ground, on ripe and partly ripe grass and herb seeds, green leaves, and insects. There are known records of this species within 10 km of the study area.

Assessment. Habitat for these species was observed in and around the study area, mostly in the form of remnant patches of native woodland, mature paddock trees and planted tree lines that have potential to be utilized for foraging and breeding. These species were not observed during field surveys. Targeted surveys may be required to make a more robust determination of likely use of the study area; however, some species have low probability of detection using targeted surveys and therefore, occurrences of these species cannot be entirely discounted.

The proposal and associated clearing may have an adverse effect on the above-mentioned species, if they are present locally, through the removal of up to 0.77 ha of native vegetation including the removal of up to 19 trees that contain up to 6 nests and 23 hollows. The sparsity of trees and extent of historical and ongoing modification for agricultural practices suggests these species are unlikely to rely on the study area for the long-term survival of a local population. Therefore, it is unlikely that the proposal will have an adverse effect on the life cycle of these species such that a viable local population of the species is likely to be placed at risk of extinction.

Increasing land clearing and habitat fragmentation, particularly for agriculture are key impacts to these species, and given the ongoing removal of native vegetation and habitats within the locality, cumulative impacts may be considered significant over a longer period of time. Mitigation measures outlined in **Section 5** (particularly establishing an offset planting area) will reduce the chance of significant impacts in the long-term.

Parrots:

- Swift Parrot (*Lathamus discolor*), and
- Turquoise Parrot (*Neophema pulchella*).

Swift Parrot is a distinctive parrot that breeds in Tasmania during spring and summer and migrates to the mainland for autumn and winter, where they are found in areas with eucalypts that flower profusely in winter or that have abundant lerp (sap-sucking bugs) infestations. Some favourite flowering trees include but not limited to Swamp Mahogany (*Eucalyptus robusta*), and Spotted Gum (*Corymbia maculata*), Red Bloodwood (*C. gummifera*). It has not been recorded within 10 km of the study area, however, was observed outside the study area (in the locality) during the week of field inspection.

Turquoise Parrot is a highly distinctive bird (male) which range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. The species lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Prefers to feed in the shade of a tree and spends most of the day on the ground searching for the seeds or grasses and herbaceous plants or browsing on vegetable matter. The species nests in tree hollows, logs or posts, from August to December. Potential foraging and nesting habitat occurs within the study area and records exist within 10 km.

Assessment. While these species have potential to utilise the study area, habitat is limited to minor foraging resources (Bimble Box trees and cropped grassland), and they may only use the site on a transient basis. The sparsity of trees and extent of historical and ongoing modification for agricultural practices suggests these species are unlikely to rely on the study area for the long-term survival of a local population. Therefore, it is unlikely that the proposal will have an adverse effect on the life cycle of these species such that a viable local population of the species is likely to be placed at risk of extinction.

Increasing land clearing and habitat fragmentation, particularly for agriculture are key impacts to these species, and given the ongoing removal of native vegetation and habitats within the locality, cumulative impacts may be considered significant over a longer period of time. Mitigation measures outlined in

Section 5 (particularly establishing an offset planting area) will reduce the chance of significant impacts in the long-term.

Raptors:

- Spotted Harrier (*Circus assimilis*),
- Black Falcon (*Falco subniger*),
- Barking Owl (*Ninox connivens*), and
- Little Eagle (*Hieraaetus morphnoides*).

Spotted Harrier is a medium-sized, slender bird of prey which occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. The species is found in grassy open woodland including Acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands. There are known records within 10 km.

Black Falcon habitat is usually in the arid and semi-arid zones. It is usually found near watercourses or utilizing patches of isolated trees. It hunts over open wooded grasslands, saltbush plains, bluebush plains and other low vegetation. It has been recorded within 10 km of the study area.

Barking Owl is a medium sized owl found throughout continental Australia except for the central arid regions. Core populations exist on the western slopes and plains and in some northeast coastal and escarpment forests. The species is flexible in its habitat use, and hunting can extend to closed forest and more open areas. Barking Owls roost in shaded portions of tree canopies, including tall midstory trees with dense foliage such as Acacia and Casuarina species. During nesting season, the male perches in a nearby tree overlooking the hollow entrance. Two or three eggs are laid in hollows of large, old trees. Living eucalypts are preferred though dead trees are also used. Nest sites are used repeatedly over years by a pair, but they may switch sites if disturbed by predators (e.g., goannas). Potential foraging and roosting habitat occurs within the study area and records exist within 10 km.

Little Eagle is known to occupy open eucalypt forest, woodland, or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter. It has been recorded within 10 km of the study area.

Assessment. Potential habitat for these species was observed in the study area, particularly for foraging as these raptors hunt over large open areas. No large stick nest was observed indicating current breeding for Spotted Harrier, Black Falcon, and Little Eagle, nor hollows displaying indicative suitability for Barking Owl. Nevertheless large hollows and stick nests may be present in future. Overall these species range over large areas and the extent of habitat removal/modification for the proposed development is not such that it is likely to have an adverse effect on the life cycle of these species such that a viable local population of the species is likely to be placed at risk of extinction.

Increasing land clearing and habitat fragmentation, particularly for agriculture are key impacts to these species, and given the ongoing removal of native vegetation and habitats within the locality, cumulative impacts may be considered significant over a longer period of time. Mitigation measures outlined in **Section 5** (particularly establishing an offset planting area) will reduce the chance of significant impacts in the long-term.

Migratory birds:

- White-throated Needletail (*Hirundapus caudacutus*)

White-throated Needletail is a non-breeding migratory visitor to Australia and usually seen in eastern Australia from October to April. The species is widespread in eastern and south-eastern Australia where it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. The species is almost exclusively aerial and forages for insects up to 1 km above ground, usually in large flocks.

Assessment. This species is unlikely to land within or utilise key habitat features within the study area, however, its key food source (insects) are likely to stem from the study area. Given its large range and migratory nature it likely that the species will still be able to forage above the study area post development in largely the same way it is likely to at present. Therefore, it is unlikely that the proposed development will have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

C1.3 Threatened fish

No threatened fish species listed as threatened under NSW law are considered likely to be present in the study area for reasons discussed in **Appendix C**.

C1.4 Threatened frogs

No threatened frog species listed as threatened under NSW law are considered likely to be present in the study area for reasons discussed in **Appendix C**.

C1.5 Threatened invertebrates

No threatened invertebrate species listed as threatened under NSW law are considered likely to be present in the study area for reasons discussed in **Appendix C**.

C1.6 Threatened mammals

No threatened mammal species listed as threatened under NSW law are considered likely to be present in the study area for reasons discussed in **Appendix C**.

C1.7 Threatened reptiles

No threatened reptile species listed as threatened under NSW law are considered likely to be present in the study area for reasons discussed in **Appendix C**.

C2 Threatened ecological communities

In the case of a critically endangered or endangered ecological community, whether the action proposed:

1. Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
2. Is likely to modify the composition substantially and adversely such that its local occurrence is likely to be placed at risk of extinction.

No threatened ecological communities are known or considered likely to be present in the study area given its extent of vegetation modification (mostly exotic composition) and other characteristics as discussed in **Appendix B**.

C3 Habitat for a threatened species, population, or ecological community

In relation to the habitat of a threatened species, population, or ecological community:

1. The extent to which habitat is likely to be removed or modified due to the action proposed, and
2. Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat because of the proposed action, and
3. The importance of the habitat to be removed, modified, fragmented, or isolated to the long-term currently interconnecting or proximate areas of habitat for a threatened species, population, or ecological community.

Identified habitat for threatened species, population and ecological communities within the study area include:

- Remnant paddock trees of Poplar Box (*Eucalyptus populnea* subsp. *bimbil*) containing habitat features such as hollows and shedding bark,
- Predominately cropped exotic groundcover vegetation, and
- Some fallen coarse woody debris and large logs.

The proposal requires the removal of 0.769 ha of native vegetation which meets the definition of the non-threatened ecological community PCT 244. This includes removal of corresponding habitats for threatened species as discussed in **Section 3**, and removal of/reduction of native woodland patches and paddock trees which provide foraging habitat for small birds and potentially mammals. Clearing associated with the proposal will impact on habitat availability for fauna, however, these impacts can be largely reduced through the implementation of the recommended mitigation measures and offsetting recommendation outlined in **Section 5** are followed.

It is considered unlikely that the proposed development will have a significant impact on habitat for the species listed above (**refer to C1**).

C4 Declared Areas of Outstanding Biodiversity Value

Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).

The proposed development is unlikely to impact on any declared Area of Outstanding Biodiversity Value (AOBV) in NSW due its very small scale and distance from any such area. There are currently four

declared AOBVs in all of NSW. The closest to the study area is the Wollemi Pine habitat approximately 350 km away in the Blue Mountains; the rest all involve marine habitats even further away. For more information about such areas, see the [NSW Government's Area of Outstanding Biodiversity Value register](#).

C5 Key Threatening Processes

Whether the proposed development or activity is or is part of a Key Threatening Process or is likely to increase the impact of a Key Threatening Process.

Key threatening processes (KTPs) are listed under both Commonwealth and State legislation. There are more than 20 Commonwealth-listed KTPs, almost 40 NSW-listed KTPs and 8 under the FM Act. The lists overlap and include broad threats such as climate change as well as specific threats relating to Lord Howe Island, shark control programs on beaches and longwall mining. The NSW-listed KTPs most relevant to the development are as follows.

C5.1 Feral animals

A number of KTPs are associated with feral animals, which may have impacts including predation, habitat degradation, competition, and disease transmission. Species with a medium to high likelihood of occurrence within the study area include:

- House Sparrow (*Passer domesticus*),
- Common Myna (*Acridotheres tristis*),
- Rock Dove (*Columbia livia*),
- Common Starling (*Sturnus vulgaris*),
- Common Blackbird (*Turdus merula*),
- Cat (*Felis catus*),
- House mouse (*Mus musculus*),
- Rabbit (*Oryctolagus cuniculus*),
- Black Rat (*Rattus rattus*),
- Feral Pig (*Sus scrofa*), and
- Fox (*Vulpes vulpes*).

Most of the pest animals listed above occupy vast areas of NSW and are extremely difficult to control without a concerted effort at the landscape level. The proposed development is considered unlikely to increase the impact of this KTP due.

For details of all the feral animal species considered as part of the field inspection and this test of significance, see **Appendix C6**.

C5.2 Weeds

Invasion and establishment of exotic vines and scramblers such as Periwinkle and Blackberry

No species of exotic vine or scrambler was recorded within the study area during field inspections or observed in the immediate surrounds.

Invasion of native plant communities by exotic perennial grasses such as Serrated Tussocks

Several perennial exotic grasses invade and may dominate native plant communities by competing with, and displacing, many native species. Many of the perennial exotic grasses establish following disturbances such as overgrazing, road works and management of roadside areas. Spread of these grasses is often exacerbated by slashing, weed control, forestry and mining operations, movement or addition of fertilisers and nutrients, changes to drainage and fire regimes.

Development activities have the potential to introduce and facilitate the establishment of perennial exotic grasses in the proposal site.

Buffel Grass (*Cenchrus ciliaris*) was the one species of grass listed in the NSW Scientific Committee's final determination for this KTP observed within the study area. This species was observed to be present in small patches within the study area surrounding the area. Within the study area this species was recorded along fence lines and surrounding trees in some areas. This species is most dominant outside of the study area within the Moonya Feedlot and surrounding landscape to the east and north. Within the feedlot, this species composes the main component of understory vegetation within tree planting lines that are present to the west of the study area. Impacts through spreading of this species are to be mitigated by appropriate weed control measures prior to any planned construction in the future, and ongoing rehabilitation efforts.

Given the extent of modification within the study area it is considered unlikely that this project will significantly contribute to this KTP given appropriate measures are implemented as recommended.

Invasion and establishment of Scotch Broom (*Cytisus scoparius*)

No evidence was observed of Scotch Broom within the study area or immediate surrounds.

Loss/degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants.

Given the agricultural landscape of the study area it is primarily comprised of exotic vegetation. Therefore, it is considered unlikely that the proposed development will increase the impact of this KTP. However, landholders should avoid the introduction of plant species outside the impact site, unless the species are local indigenous, and seeds/plants have been sourced from a reputable seller who has propagated or collected seed from plants within the area.

C5.3 Habitat modification

Clearing of native vegetation

Clearing is defined in section 3 of the BC Act as:

"the destruction of a sufficient proportion of one or more strata (layers) within a stand or stands of native vegetation so as to result in the loss, or long-term modification, of the structure, composition and ecological function of stand or stands".

The total maximum allowable clearing of native vegetation for the proposed development is 2 ha. The proposal requires a maximum clearing of 0.77 ha of native vegetation and associated habitats. Native vegetation removal is considered 'Clearing of native vegetation' under the definition of this KTP, and is likely to contribute to overall cumulative impacts of this KTP in the locality.

Increasing land clearing and habitat fragmentation, particularly for agriculture are key impacts to these species, and given the ongoing removal of native vegetation and habitats within the locality, cumulative

impacts may be considered significant over a longer period of time. Mitigation measures outlined in **Section 5** (particularly establishing an offset planting area) will reduce the chance of significant impacts in the long-term.

Loss or degradation of specific habitat structures (various KTPs)

The proposal involves the removal of some of the following habitat structures and may increase the impacts of relevant KTPs.

- hollow-bearing trees, and
- dead wood and dead trees.

The site was not found to contain bush rock and contained only very little naturally fallen timber.

The proposal involves the removal of up to 20 trees that include up to 7 nests and 24 hollows, which is likely to increase this KTP within the study area. Recommended measures outlined in **Section 5** are to be implemented to reduce the overall impacts to this KTP is considered to be reduced through unnecessary removal of specific habitat structures and provide long-term management practices to conserve habitats and vegetation within the study area.

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RURAL MARKETING AUSTRALIA PTY LTD

MOONYA FEEDLOT EXPANSION

TRAFFIC IMPACT ASSESSMENT

Report No: 222230/TIA

Rev: B

4 October 2024





RURAL MARKETING AUSTRALIA PTY LTD
 MOONYA FEEDLOT EXPANSION
 TRAFFIC IMPACT ASSESSMENT

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1. INTRODUCTION

1.1 Background

Rural Marketing Australia Pty Ltd (RMA) (ABN: 28 100 829 927) is an Australian, family owned and operated company.

RMA has operated the existing Moonya Feedlot at 701 Quambone Road, Coonamble (the 'site') since 1996 in accordance with Development Consent 14/97 and Environment Protection Licence 12467 (EPL 12467).

The existing Moonya Feedlot is a Level 1 feedlot accredited under the National Feedlot Accreditation Scheme (NFAS), a quality assurance scheme independently managed and audited by AUS-MEAT. Accreditation through the NFAS ensures ongoing compliance with best practice animal welfare and environmental standards.

The NSW Environment Protection Authority (NSW EPA) identifies EPL 12467 as a level 1 license. A level 1 license is only granted for an activity that poses a low risk to the environment because it generates minimal or no discharges due to its nature, and because there are good environmental controls and management procedures in place.

RMA seeks to expand the capacity of the existing Moonya Feedlot from 10,000 head to a capacity of 30,000 head. The key elements of the proposed expansion include additional pens and a cattle handling facility. Other ancillary components of the proposed expansion include stock lanes and feed alleys, drains, ponds and vehicle access.

The site is located in a rural setting on the southern side of Quambone Road approximately 7 km south-west of the town of Coonamble, known as Lot 113/DP754199. Primary access to the site is via an existing private access road to Quambone Road.

This Traffic Impact Assessment (TIA) assesses the potential impacts associated with the increased volume of vehicle movement generated by the proposed expansion.

1.2 Scope and Study Area

Figure 1 shows the impact assessment area consisting of the existing site and access road and the site access off Quambone Road utilising an existing access road.





Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
ESRI 2024
File: 222230_01_MASTER.aprx Prepared by: adam.davie Date: 25/09/2024

- Legend**
- Host Lot
 - Major Road
 - Railway
 - Runway
 - Major Water Body
 - Major Watercourse



Premise

MOONYA FEEDLOT
Impact Assessment Area

Figure 1

1.3 The Level of Assessment Required

The draft *Guide to Transport Impact Assessment*, recently published by TfNSW as an update to *Guide to Traffic Generating Developments*, stipulates the following criteria for determining an appropriate level of assessment:

Type of Report	Description
Transport Impact Statement (TIS)	<p>The TIS is to be used for developments which size or capacity and their site access(es) to adjoining road do not exceed the thresholds as defined in Columns 2 and 3 of Schedule 3 in the State Environmental Planning Policy (Transport and Infrastructure) 2021.</p> <p>The statement is intended to collect factual information about the proposed development such as site location and context, development scale, access arrangements, trip generation and distribution.</p>
Transport Impact Assessment (TIA)	<p>The TIA is to be used for developments which size or capacity and their site access(es) to adjoining road meet or exceed the thresholds as defined in Columns 2 and 3 of Schedule 3 in the State Environmental Planning Policy (Transport and Infrastructure) 2021.</p>

The proposal seeks to expand current operations of the with access to classified road or to road that connects to classified road generating less than 50 or more motor vehicles per hour therefore requiring a Transport Impact Statement (TIS).

1.4 Key Issues and Objectives of this Traffic Impact Assessment

Department of Planning, Housing and Infrastructure has provided a preliminary advice, requesting preparation of a Transport Impact Assessment (TIA) to address a range of factors:

- > Details of any augmentation to road transport routes and access to the site
- > Road traffic predictions for the development during construction and operation, including cumulative impacts
- > An assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the development.

1.5 Summary

General

- > Rural Marketing Australia Pty Ltd (RMA) engaged Premise to undertake a Traffic Impact Assessment (TIA) for the proposed expansion of the existing 'Moonya Feedlot' (the 'feedlot') located at 701 Quambone Road, Coonamble.
- > The site is located in a rural setting on the southern side of Quambone Road, approximately 7 km south-west of the town of Coonamble, known as Lot 113/DP754199. It enjoys vehicular access from



Quambone Road (regional unclassified road) and an internal access roads intended for the movement of people, machinery and cattle.

- > The proposed development involves an expansion of the existing feedlot to accommodate an overall capacity in the order of 30,000 heads. In addition to the development footprint of the feedlot facility, the proposed expansion would generate a requirement for an additional designated irrigation area to account for an increase in liquid wastes. The proposed expansion would also likely generate a requirement for a solid waste application area.

Traffic Impact

- > The development proposal will result in an increase in traffic of 35 daily vehicular trips on public roads and 21 peak hour vehicular trips.
- > Quambone Road operates well under capacity and are likely to remain so for the foreseeable future.

Technical findings

- > Although parking areas are not formalised, we can confirm there is sufficient space to receive deliveries and accommodate parking demand.
- > Given the location of the subject development, pedestrian and cycling movement is expected to be negligible. It is anticipated that employees and visitors will predominantly arrive at the subject site in passenger vehicles.
- > Sight distances at the access point road to Quambone Road are deemed to be appropriate.
- > The intersection of Quambone Road and Access Road, deemed primary access to the property, does not conform to the current standards of BAL/BAR intersection configuration and may have to be upgraded; although the safety record indicates that the current configuration can be considered safe enough.



2. EXISTING CONDITIONS

2.1 Description of the site and proposed activity

RMA seeks to expand the capacity of the existing Moonya Feedlot from 10,000 head to a capacity of 30,000 head.

The key elements of the proposed expansion include additional feedlot pens and a cattle handling facility.

Other ancillary components of the proposed expansion include stock lanes and feed alleys, drains and ponds and vehicle access.

The proposed expansion also includes a manure management system to effectively manage the collection, treatment and reuse of the liquids, organic matter and nutrients contained in the manure from the feedlot. Manure includes both the liquid and solids fractions of manure (moist) and urine.

2.2 Site location and access

The site is located at 701 Quambone Road approximately 7 km southwest of the town of Coonamble. The site is accessed via an existing internal access road of approximately 1.8 km in length. The access road connects to the intersection with Quambone Road. The access road and intersection are shown on **Figure 1**.

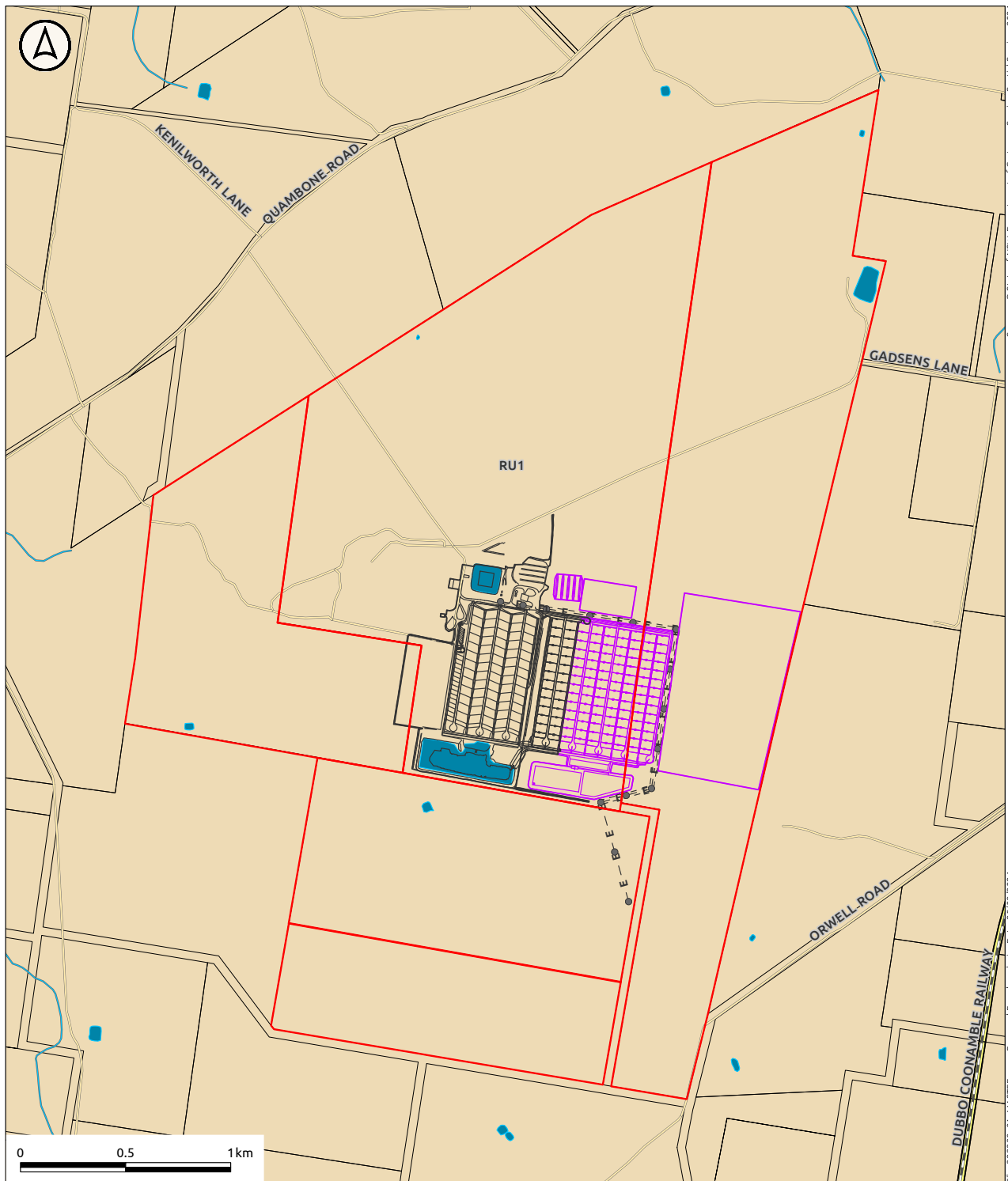
The intersection of Quambone Road and the existing access road forms a standard three-way priority-controlled intersection. The intersection is located approximately 100m to the west of the Quambone Road / Kenilworth Lane intersection.

2.3 Current land use zoning

The subject site is currently zoned Primary Production (RU1) and is located within the Coonamble Shire, a local government area in the Orana region of north-central New South Wales.

Land use surrounding the subject site is generally zoned as Primary Production (RU1), with Quambone Road zoned Classified Road (SP2), as shown in **Figure 2**.





Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
 EPR1 2024
 File: 222230_01_MASTER.aprx Prepared by: adam.dave Date: 23/09/2024

Legend

 Host Lot	 Land Zoning (LZN) RU1
 Existing Development	 Land Zoning (LZN) SP2
 Proposed Development	
 Lot	
 Road	
 Railway	
 Water Body	
 Watercourse	

Premise
MOONYA FEEDLOT
 Surrounding Land Use

Figure 2

2.4 Existing traffic conditions

2.4.1 ROAD NETWORK HIERACHY

The *Roads Act 1993* outlines following road classes: State Roads, Regional Roads and Local Roads.

The administration and management of State Roads is carried out and financed by TfNSW while Regional and Local Roads are administered, managed and financed by local councils.

Regional Roads perform an intermediate function between the main arterial network of State Roads and council-controlled Local Roads. Due to their network significance, TfNSW provides financial assistance to councils for the management of Regional Roads.

Furthermore, the Roads Act 1993 provides the basis for the core Legal Classification of classified and unclassified roads. The table below shows basic road classification.

Table 1 - Basic Road Classification

Legal Classification	Administrative Classification		
	State Roads	Regional Roads	Local Roads
Classified	Always	Sometimes	Never
Unclassified	Never	Often	Always

Classified roads can be further delineated in the following categories: Freeways, Controlled Access Roads, Tollways, State Highways, Main Roads, Secondary Roads, Tourist Roads, Transitways and State Works.

The table below outlines the basic classification of existing roads in the vicinity of the subject site.

Table 2 - Classification of Key Roads Abutting Subject Site

	Administrative Class	Legal Class	Note
Quambone Road	Regional	Unclassified	n/a

2.4.2 EXISTING ROADWAY CONDITIONS

The existing roadway configuration, conditions and intersection facilities of Quambone Road are outlined in the following sections of the report. There are currently no known current or proposed roadworks, traffic management works or bikeways proposed for the section of Quambone Road analysed within this assessment.

2.4.2.1 Quambone Road

Quambone Road is a Regional Road and connects Quambone to the west to Coonamble in the east. It is a two-way, two-lane road with a 4.0 m wide carriageway in each direction and speed limit of 100km/h.



2.4.2.2 Intersection of Quambone Road and the feedlot access road

The feedlot is accessed via a sealed internal access road which forms a standard three-way priority-controlled intersection with Quambone Road. The internal access road is a paved, two-way road of approximately 7m in width.

2.5 Traffic flow

2.5.1 KEY ROADS

For the purpose of this report, Quambone Road is considered to be the only key road of note as it is the only access way for all vehicles entering or exiting the feedlot. All traffic currently generated by the feedlot, as well as the traffic from the proposed expansion, is expected to travel either east or west along Quambone Road.

There are no publicly available traffic data Quambone Road. For the purposes of this report a 7-day traffic survey was undertaken from 22nd June to 28th June 2024 at both Quambone Road and site access road.

2.5.1.1 Average Annual Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) is defined as the total volume of traffic passing a roadside observation point over a period of a year divided by the number of days in the year.

As there are no traffic counter data available from Transport for NSW sources. Average daily traffic on Quambone Road at the location of the existing site access are provided in **Table 3** below, based on the conducted 7-day traffic survey.

Table 3 – Estimated Existing 2024 AADT

Location	Average Weekly Traffic (veh/day)	Heavy Vehicles (%)	Mean Speed (km/hr)	85% Speed (km/hr)
Quambone Road (Btwn Kenilworth Lane & Coonamble Feedlot Entrance)	231	19	86.7	110.1
Coonamble Feedlot Entrance (South Of Entrance Gate)	37	24	64.1	79.7

2.5.1.2 Peak Hour Traffic Volumes

Analysis of the traffic survey data identifies peak hour traffic flows at the following times as outlined as outlined in **Table 4**.



Table 4 – Existing 2024 Peak Hour Traffic

Location/Direction	Time	Peak Hour Traffic (Veh/hr)		
		Total	Light Vehicles	Heavy Vehicles
Quambone Road Westbound	Morning Peak - 8:00-9:00	9	7	2
	Evening Peak - 15:00-16:00	10	8	2
Quambone Road Eastbound	Morning Peak - 8:00-9:00	12	11	1
	Evening Peak - 15:00-16:00	12	10	2
Coonamble Feedlot Entrance Northbound	Morning Peak - 6:00-07:00	0	0	0
	Evening Peak - 15:00-16:00	4	3	1
Coonamble Feedlot Entrance Southbound	Morning Peak - 6:00-07:00	6	6	0
	Evening Peak - 15:00-16:00	1	1	0

2.5.2 EXISTING ROADWAY CAPACITY

The provision of roads within a rural area provides two main functions:

- > To cater for moving vehicles; and
- > To allow for development and to provide access to adjoining property.

In carrying out the above functions, a road must also be capable of handling the traffic demands placed on it. Roads have varying capacities dependent on the function they are performing. AUSTRROADS Guide to Traffic Management states:

“Capacity analysis provides the basis for determining the number of lanes, lane disciplines and lane types to be provided, having regard for the volume and composition of traffic and the prevailing roadway and traffic control conditions. For a given number of traffic lanes, capacity analysis provides a mean of determining the traffic carrying performance of a road under the prevailing road, traffic and control conditions.”

The physical characteristics of a roadway such as lane width, alignment and frequency of intersections make up the prevailing roadway conditions.

The road’s capacity and a driver’s expectations of the operational characteristics of a traffic stream defines a qualitative measure denoted as the Level of Service (LOS) of a road.

Level of service definitions combine such factors as speed, travel time, safety, convenience, and traffic interruptions and fall into six levels of service categories ranging from A down to F. The categories are graduated from Level of Service A down through six levels to Level of Service F that is a zone of forced flow.



Table 4.5 in TfNSW Guide to Traffic Generating Developments 2002 has been used to estimate the LOS capacity for Quambone Road. Based on an assessment of the existing road and the estimated traffic data, Quambone Road,

- > Is situated within rolling topography with 40% of the road not suitable for overtaking, and
- > Has >15% heavy vehicles.

The capacity and LOS of Quambone Road is therefore determined to have LOS A with a two-way hourly capacity of 310 vehicles per hour.

The TfNSW Guide to Traffic Generating Developments 2002 describes Level of Service A as:

“The top level is a condition of free flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.”

2.5.3 DESIGN SPEED

As mentioned in Section 2.4.2.1, the posted speed of Quambone Road is 100km/hr. For this report, a design speed of 110km/hr has been adopted, 10km/hr above the posted speed of the road. As this speed is likely to be lower at different sections due to roadway conditions, this is deemed to be conservative.

2.5.4 CURRENT TRAFFIC GENERATION OF SITE

Existing operations require 14 employees with 10 employees all travelling from Coonamble, and 4 living on site. The typically (largest) trucks used for the current site are truck and dog trailers with a payload of 37 tonnes. The standard maximum length of the truck and dog combination is 19 m.

Typical average traffic volumes accessing the site through the access have been covered by the traffic survey and presented in Table 4 and 5.

2.5.5 ADAPTATION OF APPROPRIATE COMPUTER MODELS

Intersection (and access) performance has been assessed using SIDRA Intersection Version 9 Network (SIDRA). SIDRA is an advanced micro-analytical traffic tool for evaluation of intersections. The SIDRA network model determines the backward spread of congestion as queues on downstream lanes block upstream lanes and applies capacity constraint to oversaturated upstream lanes, thus limiting the flows entering downstream lanes.

SIDRA reports intersection performance in terms of a range of parameters including:

- > **Demand Volumes (V):** The modelled number of vehicles arriving at the intersection during the assessment hour. Demand volumes are calculated by dividing the peak hour volume by the peak flow factor (PFF). SIDRA’s default PFF of 95% has been adopted for all movements,



- > **Degree of Saturation (DoS):** The ratio of the demand volume, V , to the theoretical capacity. An intersection is considered to be operating at its practical capacity when the DoS reaches 0.80 for priority control, 0.85 for a roundabout and 0.90 for traffic signals,
- > **Average Delay (D):** The mean control delay including both queuing delay and geometric delay for all vehicles arriving during the assessment period including the delay experienced after the end of the flow period until the departure of the last vehicle arriving during the flow period, and
- > **95th Percentile Back of Queue Length (Q):** The maximum backward extent of the queue relative to the stop line or give-way / yield line during a signal cycle or gap acceptance cycle below which 95% of all queue lengths fall. The 95th percentile back of queue length is generally accepted as the maximum queue length for design purposes.

2.5.6 ACCESS ROAD AND QUAMBONE ROAD INTERSECTION – PRE-DEVELOPMENT CONDITIONS

Pre-development intersection analysis has been undertaken at the intersection between Quambone Road and the Access Road based on the existing 2024 traffic volumes as outlined in Section 2.5. Appendix B shows SIDRA output results with key outputs from the SIDRA model and summarised below. It has been conservatively assumed for this analysis that the peak hour traffic flows for Quambone Road and the Access Road are aligned and peak traffic volumes from both roads have been used.

- > The overall degree of saturation (DoS) for the intersection is 0.007 for the AM and 0.009 for the PM Peak Hour.
- > The maximum average control delay for any movement is 4.8 seconds, which is for the Coonamble Feedlot Entrance approach during PM Peak.
- > No queuing is expected.
- > The level of service for each leg of the intersection is Level of Service A for both the AM and PM peak hour.



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TRAFFIC IMPACT ASSESSMENT

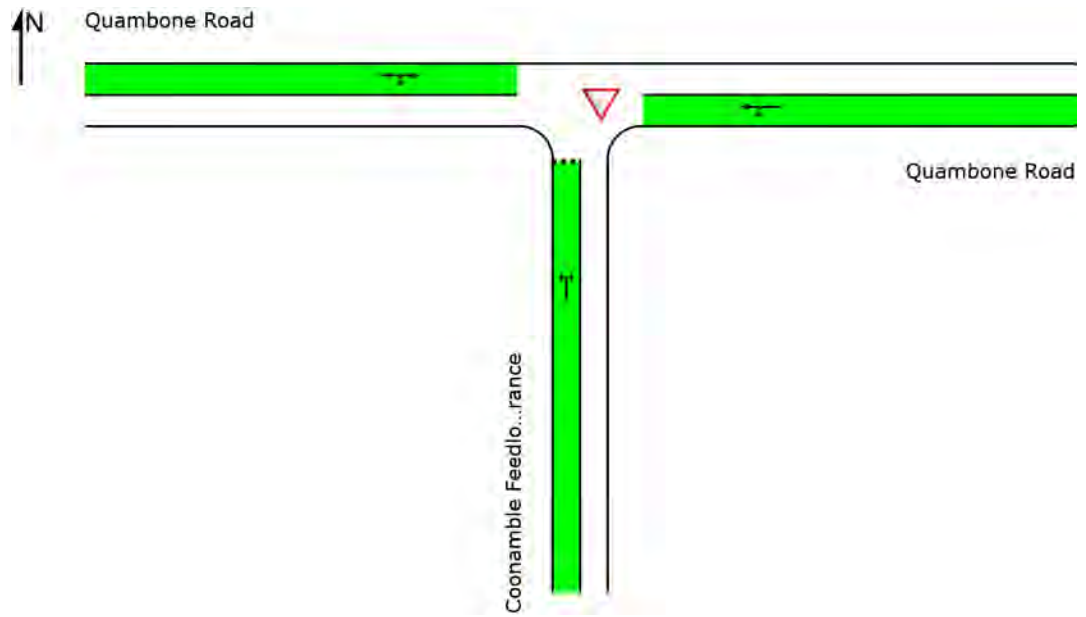


Figure 3 - Quambone Road & Coonamble Feedlot Entrance LOS 2024 AM/PM



2.6 Traffic Safety

A review of the TfNSW Centre for Road Safety Crash and Casualty Statistics database for all injury crashes along Quambone Road in the vicinity of the site has been carried out. The crash database provides the location and severity of all injury and fatal crashes for the five-year period from 2018 to 2023. The crash search recorded 1 casualty crash and 1 non-casualty crash on Quambone Road. Additionally, there is 1 non-casualty crash on Kenilworth Lane. The location of the crashes as shown in **Figure 4**.

The crash and injury type are summarised below:

- > One off road to the left resulting in no casualties.
- > One rear end, resulting in moderate injury.
- > One on road out of control, resulting in no casualties.

Of the above recorded incidents, there does not appear to be any pattern or cluster of recurring similar incidents that would indicate inherent safety at any of the road sections. The number and type of incidents recorded are consistent with other rural classified roads in the area.

Given the class of road and crash types, it is concluded that the road network is currently operating in a manner consistent with rural classified roads.





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- Legend**
- Host Lot
 - Road
 - Railway
 - Runway
 - Major Water Body
 - Major Watercourse

- Road Crash History 2019-2023**
- Non-casualty (towaway)
 - Moderate Injury
 - Serious Injury
 - Minor/Other Injury



Premise

MOONYA FEEDLOT
TfNSW Crash Search

Figure 4

2.7 Parking Supply and Demand

As the proposed development is on a rural property fronting a rural arterial road there is currently no on-street parking provisions and/or demand. The current site has off street parking provisions that meets the demand of the existing activities at the site.

2.8 Modal Split

2.8.1 PUBLIC TRANSPORT

A high-quality public transport catchment means an area serviced by public transport at an all-day service frequency of at least four (4) services per hour (headway of 15 minutes).

The subject site is located in a rural setting, setback approximately 1.8km from Quambone Road and 7km from the town of Coonamble.

There are currently no public transport services operating on Quambone Road that would be suitable to allow for site personnel to travel to and from the subject site. The closest rail and coach lines are located at Coonamble.

2.8.2 PEDESTRIAN NETWORK

As mentioned above, the proposed quarry is setback approximately 1.8km from Quambone Road. As such there are no existing pedestrian routes, pedestrian infrastructure and therefore no potential areas where pedestrian flows might conflict with vehicles.

2.9 Proposed Developments in the Vicinity

A recent search of Coonamble Shire Council's database of 'Development Applications on Exhibition' reveals there are currently no proposed developments in the vicinity of the site.



3. PROPOSED DEVELOPMENT

3.1 Overview of proposed development

The feedlot currently accommodates a maximum of 10,000 heads with a Stock Unit Density of 15 m²/head. The proposed development involves an expansion of the existing feedlot to accommodate an overall capacity in the order of 30,000 heads. The feedlot is operating 24 hours and day, seven days a week.

In addition to the development footprint of the feedlot facility, the proposed expansion would generate a requirement for an additional designated irrigation area to account for an increase in liquid wastes. The proposed expansion would also likely generate a requirement for a solid waste application area.

3.1.1 STAGING AND TIMING OF DEVELOPMENT

The construction period is scheduled to commence late 2024 with the expansion becoming operational by mid-2025.

3.1.2 SELECTION OF APPROPRIATE DESIGN VEHICLE

Vehicles expected to access the property would include light vehicles (staff and contractors), non-articulated heavy vehicles, 19 m semi-trailers and truck and dog combinations. For the sake of this report, a Truck and Dog with a 37t capacity has been assumed to be the primary vehicle, while the largest vehicles would be either a B-double or an AB Triple configuration.

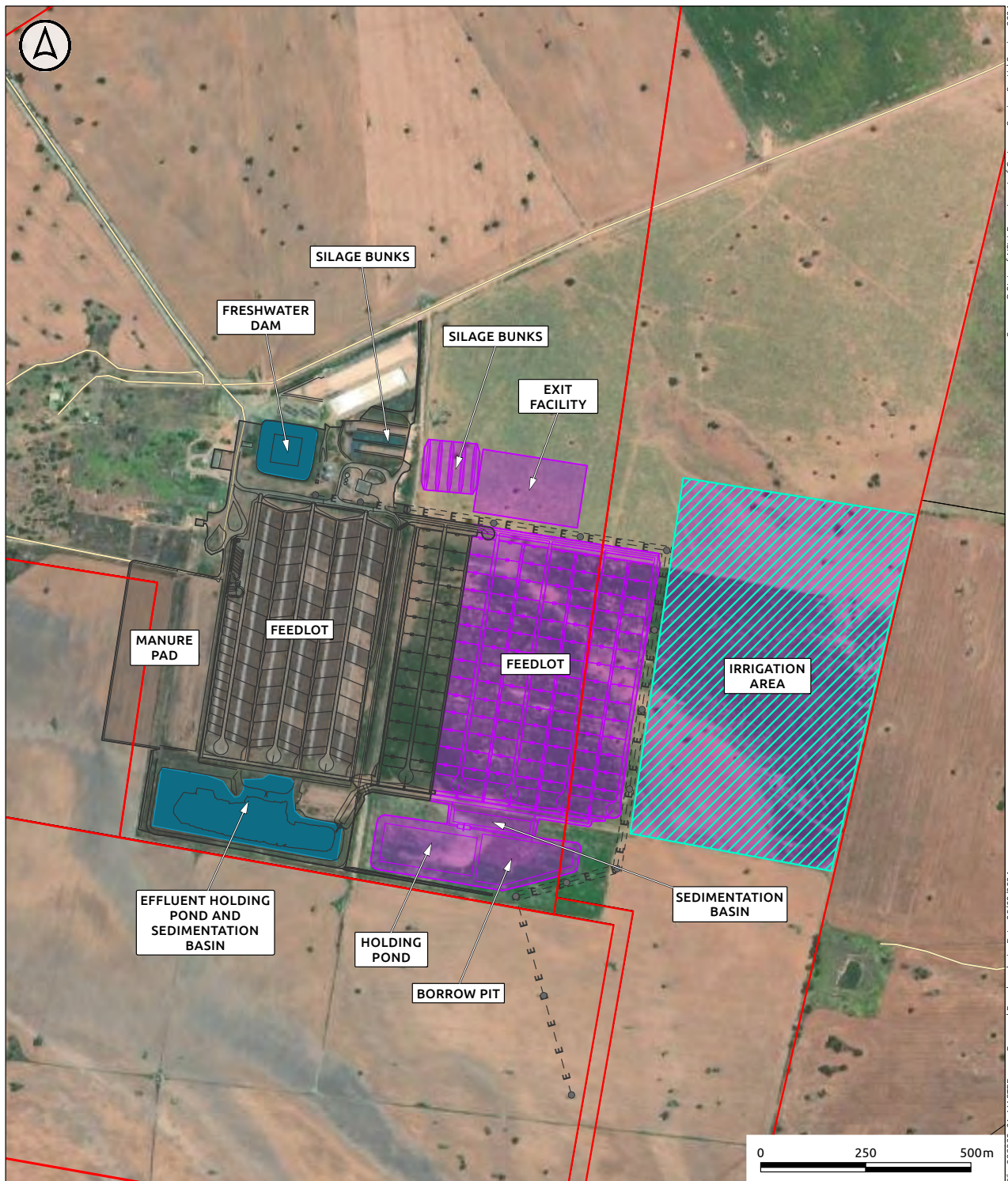
3.2 Access

3.2.1 ACCESS LOCATION

Access to the site is via an existing property access to Quambone Road. The site is accessed via an existing internal access road of approximately 1.8 km in length. The access road connects to the intersection with Quambone Road.

The intersection of Quambone Road and the existing access road forms a standard three-way priority-controlled intersection. The intersection is located approximately 100m to the west of the intersection between Quambone Road and Kenilworth Lane.





Sources: © State of NSW, Department of Customer Service, Spatial Services 2024 ESR1 2024
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- Legend**
- Host Lot
 - Existing Development Footprint
 - Proposed Development Footprint
 - Proposed Irrigation Area
 - Lot
 - Road
 - Water Body



MOONYA FEEDLOT
Expansion Layout

Figure 5

3.2.2 SIGHT AND STOPPING DISTANCE OF ACCESS LOCATION

3.2.2.1 Sight distance parameters

Premise has conducted a preliminary desktop analysis of the existing sight and stopping distances using aerial imagery. For purposes of this assessment, crossovers will be treated as intersection points.

Austrroads Guide to Road Design – Part 3 (AGtRD3) Geometric Design and Part 4A (AGtRD4A): Unsignalised and Signalised Intersections outline the requirements for sight distance for unsignalised intersections. The following three parameters are crucial:

- Safe Intersection Sight Distance (SISD) - SISD is the minimum sight distance that should be provided on the major road at an intersection. This sight distance enables vehicles approaching on the major road to spot a vehicle on a minor road at the holding line.

Figure 3.2: Safe intersection sight distance (SISD)

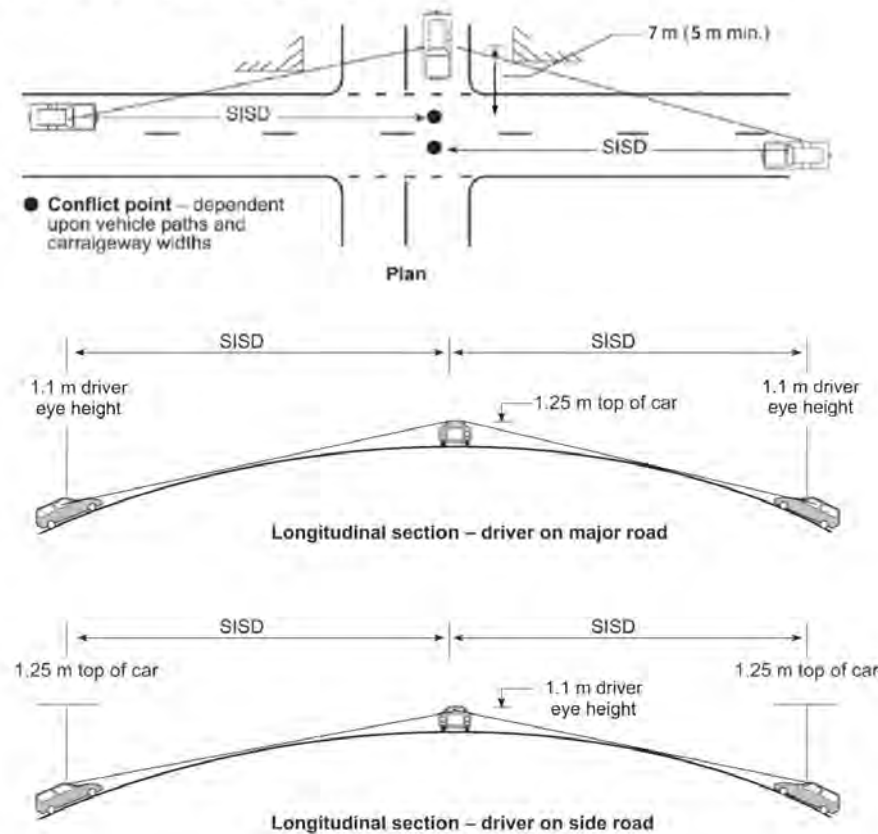
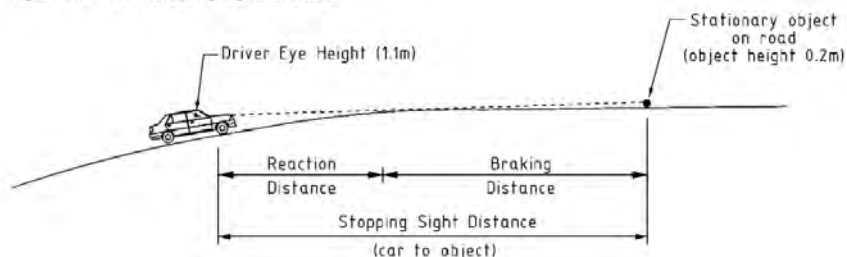


Figure 6 - Assessing SISD (source AGtRD4A 2023)

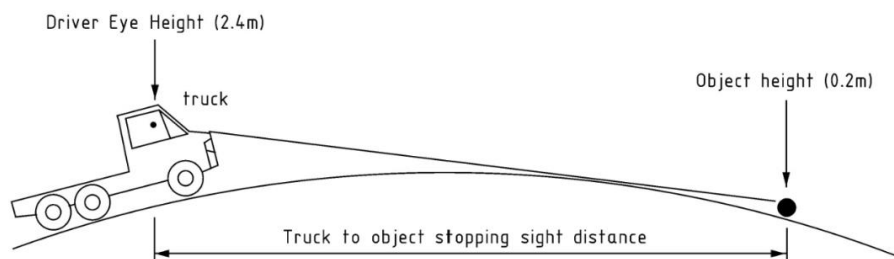


- Safe Stopping Distance (SSD) – is the distance to enable a normally alert driver, travelling at the design speed on wet pavement, to perceive, react and brake to a stop before reaching a hazard on the road ahead.

Figure 5.2: Car stopping sight distance



Crest



Sag

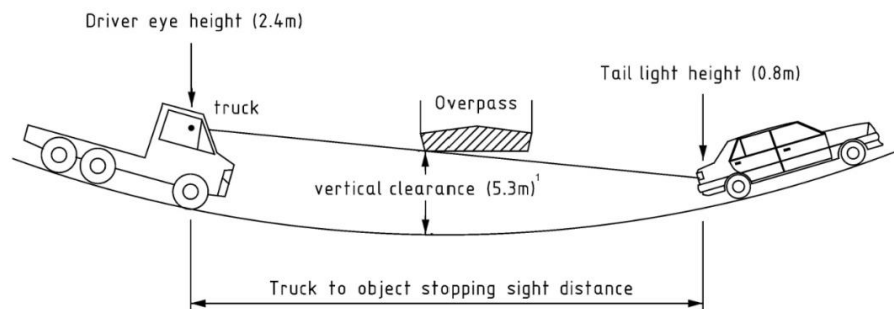


Figure 7 - Assessing SSD (source AGtRD3 2021)

- Approach Sight Distance (ASD) - the minimum level of sight distance that must be available on the minor road approaches to all intersections to ensure that drivers are aware of the presence of an intersection.



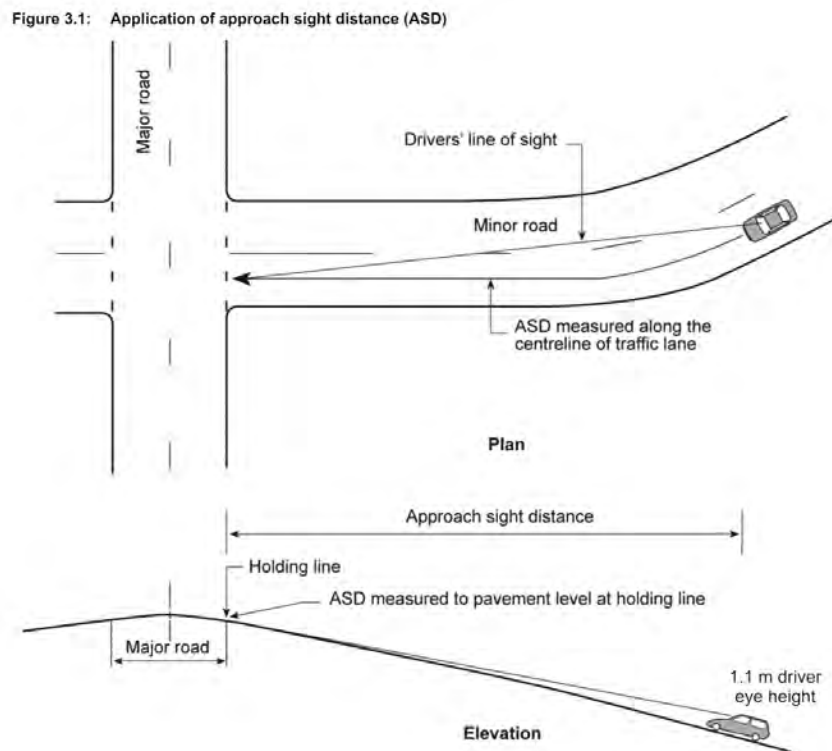


Figure 8 - Assessing ASD (source AGtRD4A 2023)

The guide recommends that the Safe Intersection Sight Distance (SISD) should be the minimum sight distance provided on the Major Road at any intersection.

The Austroads guide provides a formula for calculating SISD values for vehicles at varying design speeds and road conditions. The following formula is used to determine the SISD for heavy vehicles:

Figure 9 - Sight Distance Equation

$$SSD/ASD = \frac{R_t \times V}{3.6} + \frac{V^2}{254x(d + 0.01 \times a)} \qquad SISD = \frac{D^t \times V}{3.6} + \frac{v^2}{254 + (d + 0.01 \times a)}$$

- ASD – Approach Sight Distance (m)
- SSD – Safe Stopping Distance (m)
- Rt – Reaction time (seconds – 2.0 / 2.5) – given the road conditions, minimum reaction times are not appropriate

Note: requirements for both values will be considered

- V – 85th percentile operating speed (km/h)
- Note: at present, data on operating speed is not available; therefore, the design speed will be used as the operating speed.*



- D – coefficient of deceleration (Heavy Vehicles - 0.24/0.29; passenger vehicles – 0.36)
General tables suggest the value of 0.29 should be used for trucks; while the Austroads Guide to Road Design Part 4A suggests that a value of 0.24 should be used for check cases.
- a – longitudinal grade in %
Note: the terrain will be reviewed via Google Earth in absence of survey.
- SISD – Safe Intersection Sight Distance (m)
- Dt – Decision time (s) = observation time (3s) + reaction time (2.0 / 2.5s)

3.2.2.2 Local Sight Distance Assessment

Using available LIDAR data and Google Earth Pro, we assessed the road grades to ascertain the requirements for sight distances. The grades are shown in **Table 5**. Based on the average grades on a 300m long approach to the conflict points, the key roads, in approach to the site access points can be considered flat.

Table 5 - Local Road Grades and Speed Limits

	Quambone Road (eastbound)	Quambone Road (westbound)	Feedlot Access Road
a=grade (%)	-0.05	0.17	-1.6
Speed Limit / Design Speed	100mk/h (110km/h)	100mk/h (110km/h)	30km/h (40km/h)*

In the absence of data on operational speed on key roads, we will rely on the design speed (derived from sign-posted speed). The internal access road is not a gazetted road, therefore the speed limit and the design speed were assumed based on the existing geometry. **Table 6** shows the requirements and availability of key sight distance parameters.

Table 6 - Local Sight Distance Requirements

Road Name	Speed limit (Design Speed)	Reaction time (s)	SISD (m)	SSD/ASD (m)
Quambone Road (eastbound)	100mk/h (110km/h)	2.0	317.33	225.66
		2.5	332.61	240.94
Quambone Road (westbound)	100mk/h (110km/h)	2.0	316.09	224.42
		2.5	331.37	239.70
Feedlot Access Road	30km/h (40km/h)*	2.0	-	45.21
		2.5	-	50.77

Preliminary desktop assessment suggests that all of the sight distance parameters are satisfied. Given that the SSD requirement is well satisfied and that the existing crash record has no crashes involving manoeuvring from access points, it can be concluded that sight distances at property entrance point are appropriate.



3.2.3 SERVICE VEHICLE ACCESS

All service vehicles will use the existing routes to enter and exit the site via the main access way as shown in **Figure 1**. There is no separate service vehicle access to be provided off Quambone Road.

3.3 Circulation

Circulation refers to the internal traffic management strategies implemented to promote the safe and efficient movement of traffic within the site. Internal traffic management may generally involve the use of signage, bollards, line marking or physical barriers to reduce traffic conflicts and ensure smooth traffic flow within the site. The internal traffic management for the site is to be designed to accommodate the largest vehicle anticipated to use the site.

3.3.1 PROPOSED PATTERN OF CIRCULATION

The existing landholding features a number of internal accessways that cater to both – movement of service vehicles and cattle. Internal access ways are unsealed and vary in width from 6.5m to 11m, as measured on the most recent aerial imagery.

3.3.2 SERVICE AREA LAYOUT

As the proposed expansion will maintain the same operational schedules, we anticipate that the main areas for deliveries and collections remain the same. Servicing facilities are accessible via the existing internal tracks.

3.4 Parking

3.4.1 PARKING REQUIREMENTS

The site currently has a workforce of 14 workers (10 off/4 on roster), with 48 workers (assumed 34 off / 14 on roster) expected for the proposed expansion. At present, all staff parks on the site as there is ample space to accommodate demand.

Upon expansion, provisions should be made for a total of 34 light vehicles to park simultaneously, assuming each worker driving to site in their own vehicle. To accommodate any visitors, couriers, or service providers, additional 2 parking spaces will be required. Heavy vehicles should park in designated areas on the subject site, separate from passenger vehicles.

3.4.2 PROPOSED PARKING SUPPLY LAYOUT

Both vehicle and truck parking on site is currently informal. Designated parking area has sufficient space to accommodate all staff and visitor parking, as well as temporary loading zones for service vehicles and couriers.

4. IMPACT OF PROPOSED DEVELOPMENT

4.1 Trip Generation

The preferred hierarchy of data sources for traffic generation rates is:

1. Traffic generation survey of an existing development similar to the proposed development in terms of its land use, scale, location, etc.
2. Guide to Traffic Generating Developments Updated traffic surveys, RMS (2013).
3. Guide to Traffic Generating Development, RTA (2002), and
4. First principles assessment preferably based on forecast usage data.

As there are no available traffic surveys of similar developments and the above referenced documents do not sufficiently cover quarries of a similar size, first principals have been adopted based on forecasted extraction rates and worker numbers on the site.

Traffic impact was estimated based on the operational organisation, as described by the proponent.

4.1.1 AVERAGE ANNUAL DAILY TRAFFIC (AADT)

The feedlot currently accommodates a maximum of 10,000 heads with a Stock Unit Density of 15 m²/head. The proposed development involves an expansion of the existing feedlot to accommodate an overall capacity in the order of 30,000 heads.

Based on the above, estimated traffic volumes are as follows:

- > On average, 8 trucks a day will be required for cattle and commodities arrive/depart from the site to create a daily average of sixteen (16) truck movements.
- > 23 Workers will attend the site each day (10 on / 4 off roster). Workers not living on site are assumed to be travelling in their own vehicles to create a daily average of two (2) vehicles/day and a daily average of nineteen (19) light vehicle movements.
- > The AADT for the proposed feedlot expansion is summarised in **Table 7**.

Table 7 – AADT Generation for Proposed Feedlot Expansion

	Total	Light Vehicles	Heavy Vehicles
AADT (Veh/d)	54	38	16

4.1.2 PEAK HOUR

Peak hour will occur when the maximum loader capacity coincides with the site personnel arriving or departing. This is generally the first and last hour of operation. To calculate the potential peak hour maximum movements, it is assumed two trucks will be coming in and two will be going out from the total six truck per day coinciding with staff arrival/departure.



The estimated peak hour vehicle movements generated from the site during the operational phase is summarised in **Table 8**.

Table 8 – Peak Hour Traffic Generation for Proposed Feedlot Expansion Only

	Total	Light Vehicles	Heavy Vehicles
AM / PM Peak (Veh/hr)	23	19	4

4.1.3 DAILY AND SEASONAL FACTORS

It is not expected that any daily or seasonal factors will affect the maximum peak hour traffic generated from the site.

Generally busiest days are Tuesday, Wednesday and Thursday whereby feedlot would have 90% of cattle and commodities arrive.

4.1.4 PEDESTRIAN GENERATION AND MOVEMENTS

Given the location and extent of the proposed expansion, there are no additional pedestrian movements anticipated around or near the site.

4.2 Traffic distribution

4.2.1 HOURLY DISTRIBUTION OF TRIPS

The hourly distribution of trips has been adopted as per the information as mentioned above.

Peak hour will occur when the maximum loader capacity coincides with the site personnel arriving or departing during construction. Maximum of 36 movements per hour is expected.

4.2.2 TRIP DISTRIBUTION

It is assumed that employees reside in the local area mostly Coonamble and therefore it is expected all the movement will be travelling east on Quambone Road.

Based on the assumed traffic distribution described above, the total post development traffic movements to and from the site have been determined in **Table 9** below.

Table 9 – Distribution of Total Peak Hour Traffic Generation of the Site

	Right In		Left In		Right out		Left Out	
	Heavy	light	Heavy	light	Heavy	light	Heavy	light
Peak	-	-	2	10	2	9	-	-



4.3 Impact of generated traffic

The impact of the additional traffic generated from the proposed feedlot expansion has been analysed and split into three sections, the impact on traffic safety, the impact of additional traffic on Quambone Road and the impact of additional traffic on the intersection of Quambone Road and the site access.

4.3.1 IMPACT ON TRAFFIC SAFETY

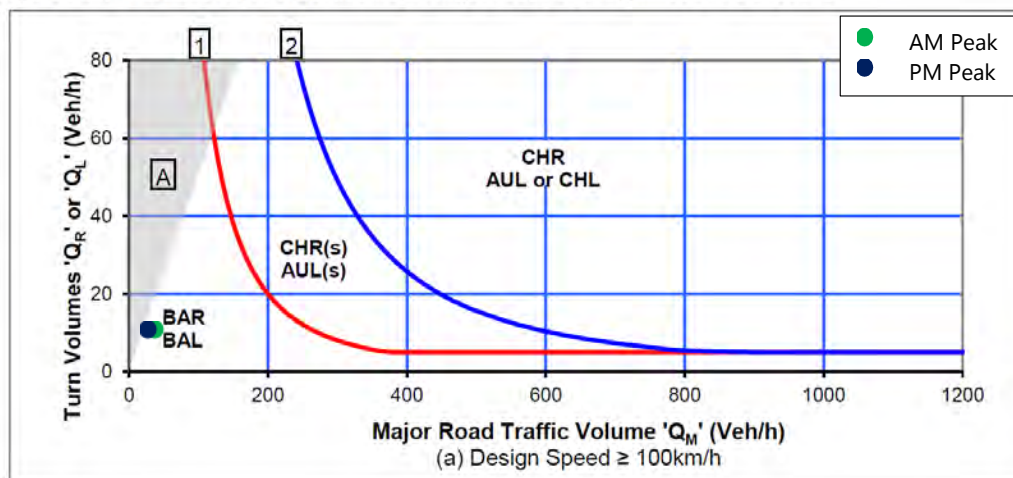
As referenced in **Section 2.6**, from a traffic safety perspective, Quambone Road is currently operating in a manner consistent with other rural roads in the area. The existing access road utilised by the subject site traffic has the required sight distances and will be sufficient to accommodate heavy vehicles.

Turn warrant assessments were undertaken for the intersection between Quambone Road and the site access based on warrants contained in Austroads' "Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings" (AGTM6). The assessment is based on a design speed of 110km/h, being 10km/h above the posted speed limit along with estimated traffic volumes. Error! Reference source not found. a shows the major road turn treatment warrants in the normal design domain for a design speed of 110km/h.

It is assumed that employees reside in the local area mostly Coonamble and therefore it is expected all the movement will be travelling east on Quambone Road, therefore right turn treatment warrants have not been assessed.

Figure 10 – Major Road Turn Warrants – Left Turn

Figure 3.25: Warrants for turn treatments on major roads at unsignalised intersections



The left turn treatment is assessed based on:

- > The morning peak hour having a major road volume (Qm) of 12vph and a left turn volume of 12vph; and
- > The evening peak hour having a major road volume (Qm) of 12vph and a left turn volume of 12vph.

Therefore, the left turn at Quambone Road and the site access warrants the provision of a Rural Basic Left-Turn Treatment (BAL).

With the provision of a BAL access intersection it is not anticipated there will be any additional impact on traffic safety through the increase of quarry traffic using the existing access way off Quambone Road.

4.3.2 IMPACT OF EXPECTED TRAFFIC ON KEY ROADS

A comparison of the AADT and peak hour traffic volumes on Quambone Road for the 2024 existing conditions and the 2025 post development conditions are provided in **Table 13**.

Table 10 – Comparison of Quambone Road traffic volumes and net increase in trips

Road		2024 'Existing' traffic volume	2025 Post Development traffic volume	Net increase
Quambone Road	AADT	231 veh/h	248 veh/h	7.35%
	Peak hour	22 veh/h	35 veh/h	59.1%

The proposed site expansion would result in net increase in traffic volumes on the surrounding road network ranging from 7.5% (AADT on Quambone Road) to 59.1% (peak hour on Quambone Road). While the 59.1% increase during peak hours may appear substantial, the volume of traffic is still significantly below the nominal capacity.

As mentioned above in **Section 2.5.2**, to maintain a LOS A, Quambone Road has a maximum two-way hourly capacity of 310 vehicles per hour. Based on the predicted 2025 traffic volume, and the expected increase in traffic due to the proposed expansion, Quambone Road will have a proposed traffic volume of 35 veh/hr during peak periods. As this is significantly lower than the hourly capacity of 310 vehicles per hour, a LOS A will be maintained for Quambone Road following construction of the proposed expansion.

The increase in daily traffic volume and peak hour volume generated by the proposed expansion would be easily absorbed into the surrounding road network with minimal impact on the capacity of the existing traffic streams using the road system.

4.3.3 POST 10 YEAR TRAFFIC FLOW

TfNSW generally require an assessment to be carried out to determine if there are any impacts from proposed developments for a + 10 years post development scenario.

Existing traffic volumes on roads are expected to increase over time and for a road such as Quambone Road, the natural growth of the traffic volume is expected to be low and in the order of 1% per annum.



On this basis, the existing AADT on Quambone Road would grow over 10 years from the existing 231 veh/day to 255 veh/day.

The existing peak hour traffic would grow from 22 veh/hr to 24 veh/hr in both peaks.

Whilst the traffic volumes on the surrounding roads may increase over time, the overall traffic from the subject site is not likely to change.

Therefore, the relative potential impact of the transport of product from the proposed expansion would decrease over time. Notwithstanding this, the maximum post development peak hour traffic on Quambone Road would grow to a maximum of 45 veh/hr and the road will continue to operate at a LOS A.

4.3.4 IMPACT OF EXPECTED TRAFFIC ON KEY INTERSECTIONS

4.3.4.1 Intersection analysis

Intersection analysis has been undertaken at the intersection between Quambone Road and the site access based on 2034 post development traffic volumes. **Appendix C** shows the SIDRA output results for the above intersection, with key outputs from the SIDRA model summarised below.

- > The overall degree of saturation (DoS) for the intersection is 0.015 for the AM and 0.017 for the PM Peak Hour.
- > The maximum average control delay for any movement is 5.5 seconds, which is for the Coonamble Feedlot Entrance approach during PM Peak.
- > Expected queuing is <1m.
- > The level of service for each leg of the intersection is Level of Service A for both the AM and PM peak hour.



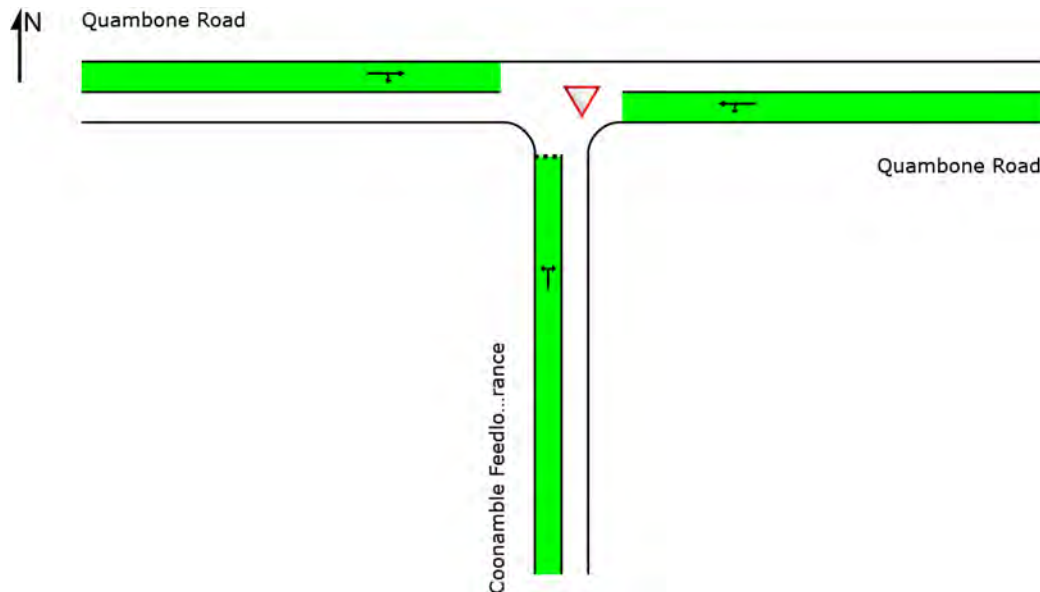


Figure 11 - Quambone Road & Coonamble Feedlot Entrance LOS 2034 AM/PM

4.3.5 IMPACT OF CONSTRUCTION TRAFFIC DURING CONSTRUCTION STAGES

The construction stage of the proposed development is expected to consist of the following items:

- > Mobilisation of temporary site sheds to form the ongoing office and worker amenities facilities.
- > Installation of soil and water management controls.
- > Removal of topsoil and other unsuitable materials.
- > Construction of barns, outbuildings and supporting infrastructure.
- > Demobilisation and site clean-up.

It is anticipated that construction-related vehicles will not exceed in bulk and size of vehicles already accessing the development. The construction traffic impact will be addressed in a Construction Traffic Management Plan, when more detail is available on the construction plan.

4.3.5.1 Construction management plan

Prior to construction commencing a Construction Traffic Management Plan (CTMP) is to be prepared by the appointed contractor. The CTMP will provide specific information on construction associated traffic volumes and their distribution on the existing road network. The CTMP should see to minimise the impact of construction traffic on the road network and cover or make provisions at a minimum for the following items.

- > Vehicle volumes, including vehicle types and distribution onto the road network.
 - Construction hours,
 - Construction Schedule including estimated vehicle movements associated with each stage.



- > Generation of traffic including.
 - Origin and destination of construction heavy vehicles
 - Origin and destination of construction light vehicles
 - Any oversize vehicles.
- > Outline proposed routes for vehicles travelling to and from the site to minimise impact on the local community,
- > Ensure all vehicles enter and exit Quambone Road in a forward direction,
- > Ensure all loading and unloading of materials occurs onsite and not on Quambone Road,
- > Outline suitable methodologies to manage traffic flows to and from site to ensure compliance with the CTMP,
 - Methodologies are to include restrictions to be placed on the contractor or drivers if the CTMP is not adhered to.
- > Outline necessary inductions for all site personnel,
- > Outline a suitable process to receive and handle any complaints arising from the construction works,
- > Highlight any modifications to the proposed vehicle routes to be adopted during periods of poor weather.
- > Ensure the noise reduction recommendations as mentioned in Section 5.4 are included in the CTMP.

5. CONCLUSION

The assessment of the additional net traffic generated by the proposed modification, concluded the following:

- > The increase in the traffic volumes on the surrounding road network will not change the classifications of the roads under the functional road hierarchy.
- > The percentage increases in the traffic volumes on the surrounding road network range from 0.6% for AADT on Quambone Road to 5.7% for the peak hours on Quambone Road. The percentage increase in traffic volume is not considered significant and the net daily traffic volume and peak hour volume generated by the site are easily absorbed into the surrounding road network with minimal impact on the capacity of the existing traffic streams using the road system.
- > The additional traffic generated by the proposed expansion is well below the capacity of the road network at a Level of Service A and all roads would continue to operate at a Level of Service A.
- > The Access Road / Quambone Road intersection will continue to operate with a Level of Service A during the AM and PM peaks.
- > The existing Access Road / Quambone Road three-way priority-controlled intersection has the appropriate sight distances and stopping sight distances as required; and does not require auxiliary lanes.





APPENDIX A

TRAFFIC COUNT DATA

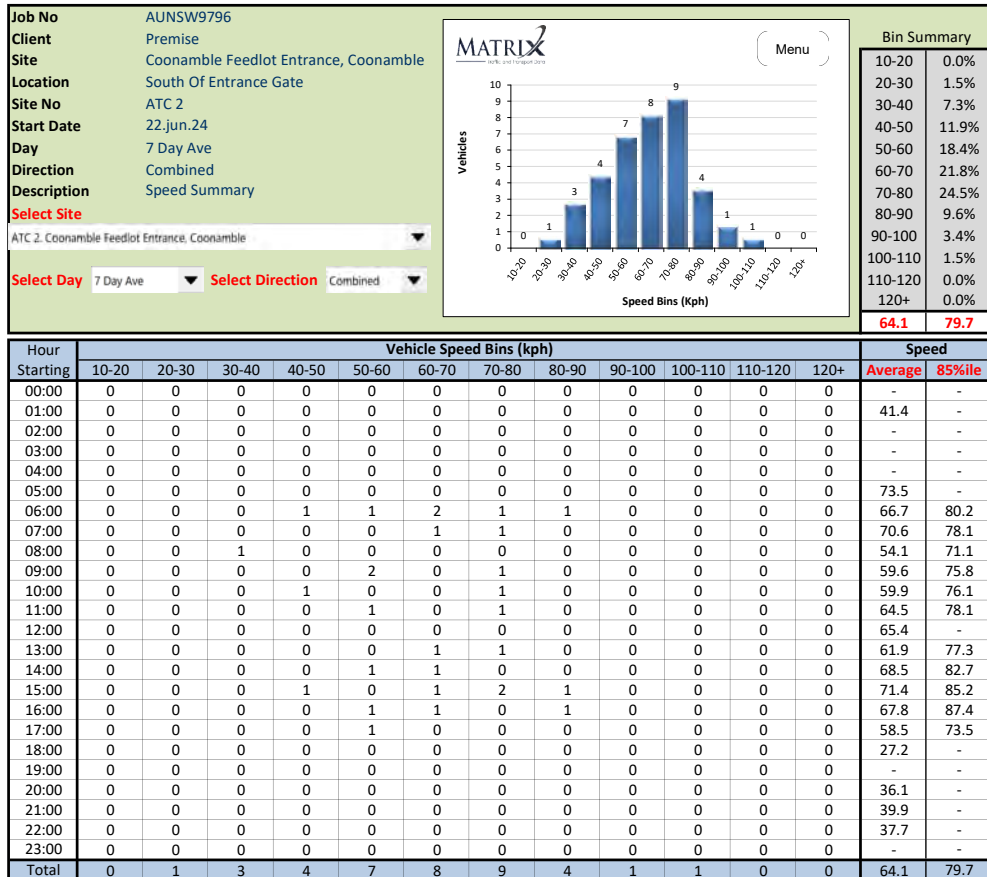
Job No	AUNSW9796
Client	Premise
Site	Coonamble Feedlot Entrance, Coonamble
Location	South Of Entrance Gate
Site No	ATC 2
Start Date	22.jun.24
Description	Volume Summary
Direction	Combined



Hour Starting	Day of Week							W'Day Ave	7 Day Ave
	Mon 24.jun	Tue 25.jun	Wed 26.jun	Thu 27.jun	Fri 28.jun	Sat 22.jun	Sun 23.jun		
AM Peak	7	9	7	8	7	4	5	44	37
PM Peak	5	9	4	8	4	5	5		
00:00	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	1	0	0	0
06:00	7	9	7	6	7	4	5	7	6
07:00	3	6	1	6	1	1	0	3	3
08:00	3	4	3	5	1	0	0	3	2
09:00	0	7	4	8	2	0	3	4	3
10:00	3	7	3	1	0	0	0	3	2
11:00	1	6	6	1	0	1	0	3	2
12:00	2	2	0	2	0	1	1	1	1
13:00	3	5	1	1	2	5	0	2	2
14:00	3	3	2	4	4	2	2	3	3
15:00	5	6	4	8	4	2	5	5	5
16:00	4	9	4	4	3	2	0	5	4
17:00	1	2	4	5	0	0	2	2	2
18:00	0	0	0	0	0	1	0	0	0
19:00	0	0	0	0	0	0	0	0	0
20:00	1	0	0	0	0	0	1	0	0
21:00	1	0	0	0	0	1	0	0	0
22:00	0	0	0	0	0	0	3	0	0
23:00	0	0	0	0	0	0	0	0	0
Total	37	67	39	51	24	21	22	44	37

7-19	28	57	32	45	17	15	13	36	30
6-22	37	66	39	51	24	20	19	43	37
6-24	37	66	39	51	24	20	22	43	37
0-24	37	67	39	51	24	21	22	44	37

V9796 - Coonamble ATC MATRIX ATC 7 Day Data Report.xlsm Volume Summary 1.7.2024



Job No	AUNSW9796
Client	Premise
Site	Quambone Rd, Coonamble
Location	Btwn Kenilworth Lane & Coonamble Feedlot Entrance
Site No	ATC 1
Start Date	22.jun.24
Description	Volume Summary
Direction	Combined



Hour Starting	Day of Week							W'Day Ave	7 Day Ave
	Mon 24.jun	Tue 25.jun	Wed 26.jun	Thu 27.jun	Fri 28.jun	Sat 22.jun	Sun 23.jun		
AM Peak	30	33	28	31	22	19	13	260	231
PM Peak	27	24	24	24	24	18	18		
00:00	0	1	0	0	1	0	0	0	0
01:00	0	3	3	1	2	0	1	2	1
02:00	0	0	2	1	0	0	3	1	1
03:00	2	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0
05:00	6	1	2	1	5	6	4	3	4
06:00	9	15	13	15	13	5	5	13	11
07:00	10	18	14	17	17	12	2	15	13
08:00	30	33	23	31	20	8	7	27	22
09:00	20	33	28	19	15	7	13	23	19
10:00	18	19	15	12	22	10	10	17	15
11:00	15	22	24	13	17	19	7	18	17
12:00	15	11	14	24	16	15	11	16	15
13:00	27	18	16	14	19	14	8	19	17
14:00	13	16	17	19	24	17	11	18	17
15:00	27	24	24	23	21	18	18	24	22
16:00	13	24	18	22	20	5	9	19	16
17:00	22	19	13	21	21	14	8	19	17
18:00	10	5	11	10	15	7	12	10	10
19:00	4	4	0	5	8	5	4	4	4
20:00	7	2	2	2	6	3	4	4	4
21:00	2	2	5	7	2	6	3	4	4
22:00	0	0	2	2	2	2	6	1	2
23:00	0	1	0	3	3	0	1	1	1
Total	250	271	246	262	269	173	147	260	231

7-19	220	242	217	225	227	146	116	226	199
6-22	242	265	237	254	256	165	132	251	222
6-24	242	266	239	259	261	167	139	253	225
0-24	250	271	246	262	269	173	147	260	231

V9796 - Coonamble ATC MATRIX ATC 7 Day Data Report.xlsm Volume Summary 1.7.2024

Job No	AUNSW9796		Bin Summary	
Client	Premise		10-20	0.1%
Site	Quambone Rd, Coonamble		20-30	1.6%
Location	Btwn Kenilworth Lane & Coonamble Feedlot		30-40	5.0%
Site No	ATC 1		40-50	8.7%
Start Date	22.jun.24		50-60	5.1%
Day	7 Day Ave		60-70	2.7%
Direction	Combined		70-80	5.4%
Description	Speed Summary		80-90	12.2%
Select Site			90-100	24.8%
ATC 1, Quambone Rd, Coonamble		100-110	19.3%	
Select Day	7 Day Ave	110-120	10.7%	
Select Direction	Combined	120+	4.4%	
		86.7	110.1	


Hour Starting	Vehicle Speed Bins (kph)													Speed	
	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120+	Average	85%ile	
00:00	0	0	0	0	0	0	0	0	0	0	0	0	115.9	-	
01:00	0	0	0	0	0	0	0	0	0	0	0	0	85.9	106.8	
02:00	0	0	0	0	0	0	0	0	0	0	0	0	95.4	-	
03:00	0	0	0	0	0	0	0	0	0	0	0	0	97.0	-	
04:00	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
05:00	0	0	0	0	0	0	0	0	0	1	1	0	100.5	118.3	
06:00	0	0	1	2	3	0	1	1	1	1	1	0	69.2	104.6	
07:00	0	0	0	1	1	1	0	1	3	2	2	1	90.6	113.1	
08:00	0	0	1	1	1	1	1	2	6	4	3	2	91.8	112.7	
09:00	0	2	1	2	1	0	1	2	5	3	1	1	79.0	105.0	
10:00	0	0	1	2	1	1	1	2	3	3	1	0	83.8	108.5	
11:00	0	0	1	1	0	1	1	2	4	3	2	1	86.5	108.9	
12:00	0	0	1	1	1	0	1	2	5	3	1	0	88.0	107.5	
13:00	0	0	0	2	2	0	1	2	4	2	2	0	82.4	105.5	
14:00	0	0	1	1	0	1	2	2	4	3	3	0	86.4	110.6	
15:00	0	0	2	3	1	0	1	2	6	4	2	1	84.6	109.4	
16:00	0	0	0	2	1	0	0	2	4	5	1	1	89.2	107.9	
17:00	0	0	1	0	1	0	1	2	4	4	2	1	93.9	111.5	
18:00	0	0	0	0	0	0	1	3	2	3	1	0	90.4	106.2	
19:00	0	0	0	0	0	0	0	1	1	2	1	0	100.3	113.2	
20:00	0	0	1	0	0	0	0	0	1	0	0	0	82.4	108.1	
21:00	0	0	0	1	0	0	0	1	1	1	0	0	91.3	112.6	
22:00	0	0	0	0	0	0	0	0	1	0	0	0	77.4	99.6	
23:00	0	0	0	0	0	0	0	0	0	0	0	0	107.4	-	
Total	0	4	12	20	12	6	13	28	57	45	25	10	86.7	110.1	



APPENDIX B

SIDRA OUTPUT – 2024 EXISTING CONDITIONS

USER REPORT FOR SITE

 **Project: KC01846.000 M01 Quambone Road & Coonamble Feedlot Entrance**

Template: Default Site User Report

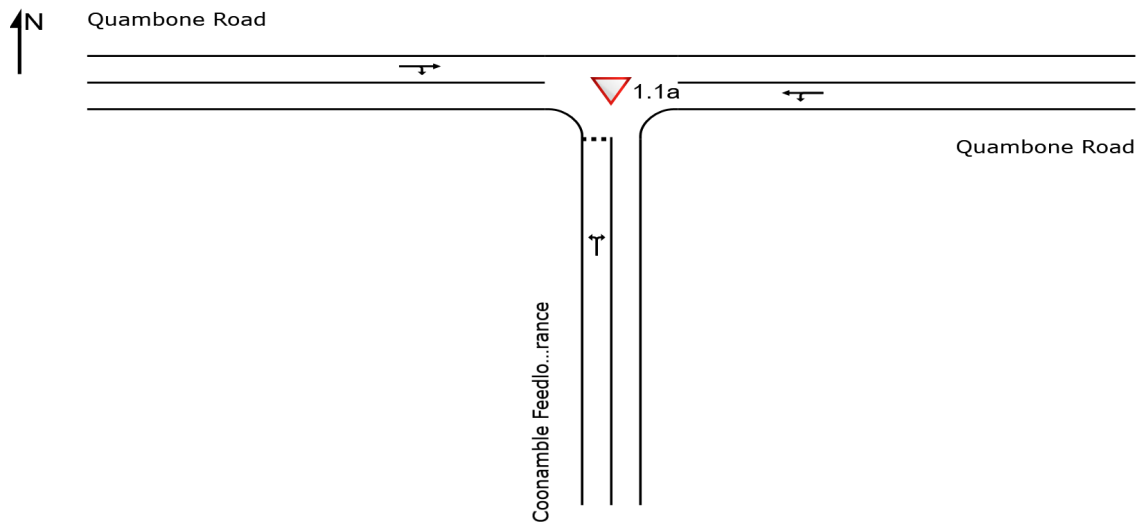
Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 **Site: 1.1a [1.1a Quambone Road & Coonamble Feedlot Entrance 2024 AM (Site Folder: Base 2024)]**

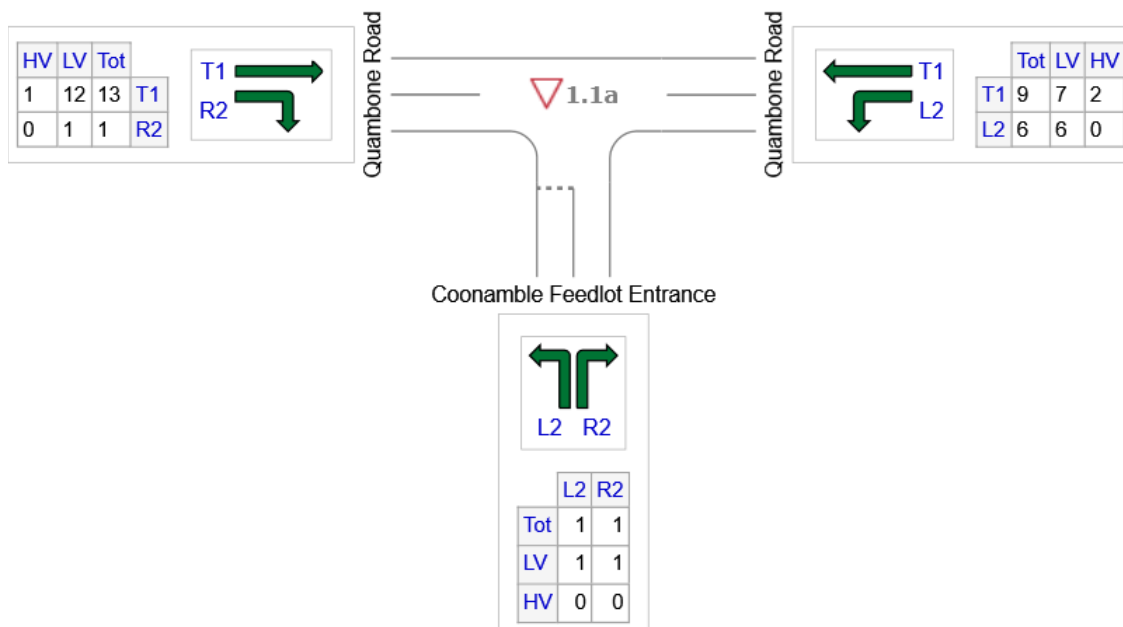
1.1a Quambone Road & Coonamble Feedlot Entrance 2024 AM
Site Category: Base Year
Give-Way (Two-Way)

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Approach Movement Demand Flows



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: Coonamble Feedlot Entrance	2	2	0
E: Quambone Road	16	14	2
W: Quambone Road	14	13	1
Total	32	28	3

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue	95% Back Of Dist	Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]										[Veh]	[Dist]
South: Coonamble Feedlot Entrance															
Lane 1	2	0.0	2	0.0	1417	0.001	100	4.6	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	2	0.0	2	0.0		0.001		4.6	LOS A	0.0	0.0				
East: Quambone Road															
Lane 1	16	13.3	16	13.3	1826	0.009	100	1.8	LOS A	0.0	0.0	Full	90	0.0	0.0
Approach	16	13.3	16	13.3		0.009		1.8	NA	0.0	0.0				
West: Quambone Road															
Lane 1	14	7.7	14	7.7	1906	0.007	100	0.6	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	14	7.7	14	7.7		0.007		0.6	NA	0.0	0.0				
All Vehicles	32	10.0	32	10.0		0.009		1.4	NA	0.0	0.0				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Queue	Back Of Queue	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.	Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Coonamble Feedlot Entrance															
1	L2	All MCs	1	0.0	1	0.0	0.001	4.6	LOS A	0.0	0.0	0.06	0.52	0.06	56.6
3	R2	All MCs	1	0.0	1	0.0	0.001	4.6	LOS A	0.0	0.0	0.06	0.52	0.06	43.7
Approach			2	0.0	2	0.0	0.001	4.6	LOS A	0.0	0.0	0.06	0.52	0.06	51.0
East: Quambone Road															
4	L2	All MCs	6	0.0	6	0.0	0.009	4.5	LOS A	0.0	0.0	0.00	0.26	0.00	74.8
5	T1	All MCs	9	22.2	9	22.2	0.009	0.0	LOS A	0.0	0.0	0.00	0.26	0.00	91.3
Approach			16	13.3	16	13.3	0.009	1.8	NA	0.0	0.0	0.00	0.26	0.00	83.9
West: Quambone Road															
11	T1	All MCs	13	8.3	13	8.3	0.007	0.0	LOS A	0.0	0.0	0.01	0.05	0.01	96.9
12	R2	All MCs	1	0.0	1	0.0	0.007	7.5	LOS A	0.0	0.0	0.01	0.05	0.01	63.6
Approach			14	7.7	14	7.7	0.007	0.6	NA	0.0	0.0	0.01	0.05	0.01	91.1
All Vehicles			32	10.0	32	10.0	0.009	1.4	NA	0.0	0.0	0.01	0.19	0.01	82.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

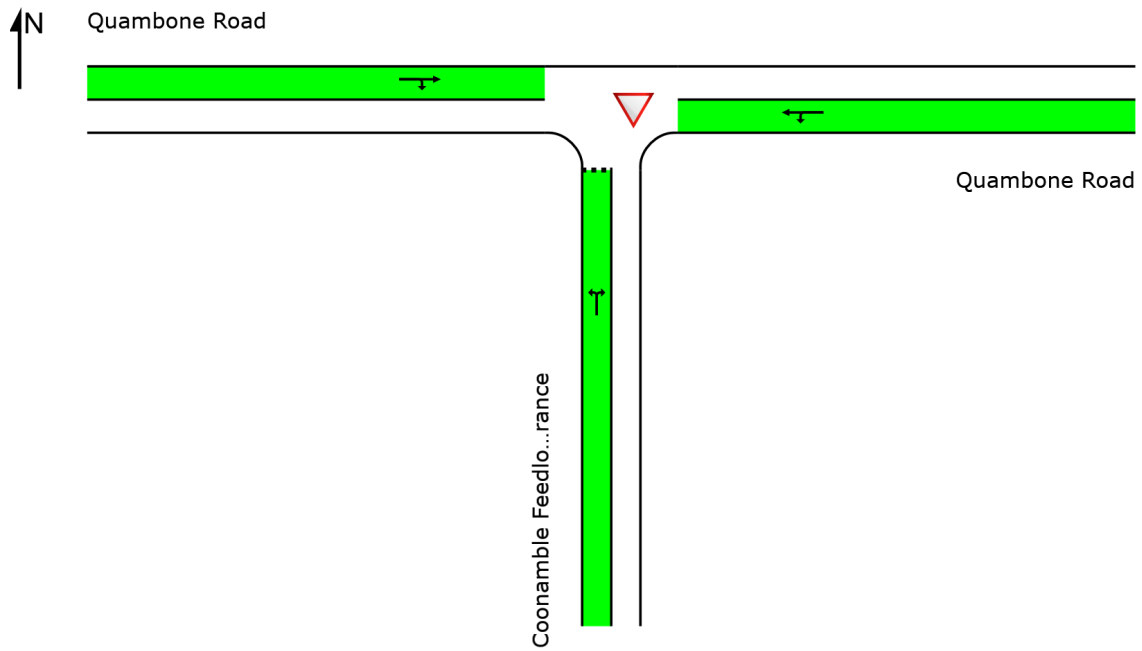
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

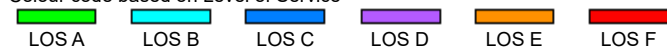
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Level of Service

LOS	Approaches			Intersection
	South	East	West	
A	NA	NA	NA	NA (TWSC)
	(TWSC)	(TWSC)	(TWSC)	



Colour code based on Level of Service



NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

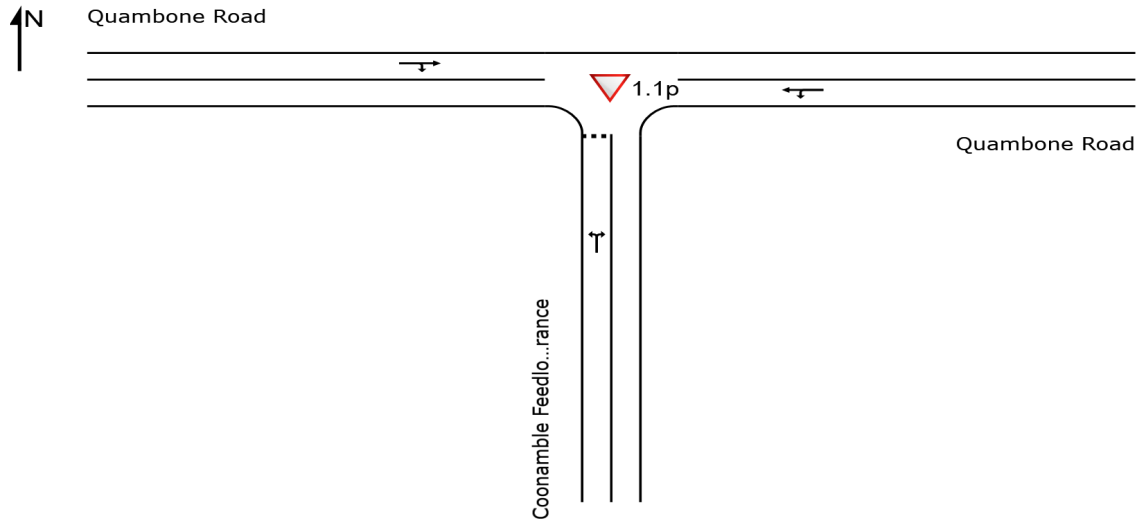
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

▽ Site: 1.1p [1.1p Quambone Road & Coonamble Feedlot Entrance 2024 PM (Site Folder: Base 2024)]

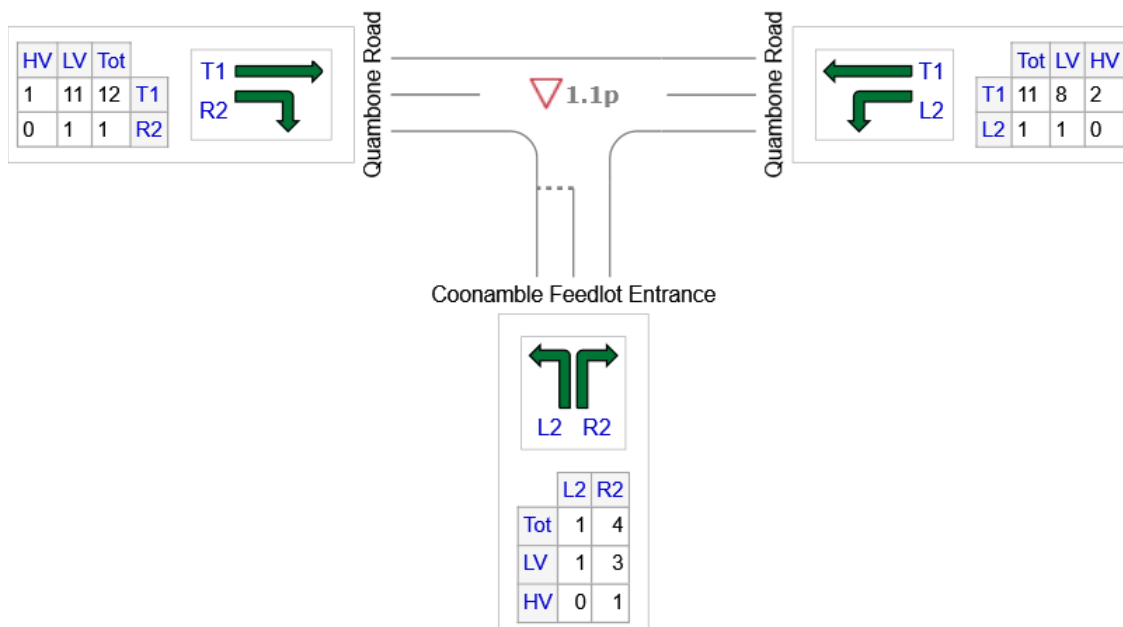
1.1p Quambone Road & Coonamble Feedlot Entrance 2024 PM
Site Category: Base Year
Give-Way (Two-Way)

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Approach Movement Demand Flows



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)
S: Coonamble Feedlot Entrance	5	4	1
E: Quambone Road	12	9	2
W: Quambone Road	13	12	1
Total	29	25	4

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue	95% Back Of Dist	Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]										[Veh]	[Dist]
South: Coonamble Feedlot Entrance															
Lane 1	5	20.0	5	20.0	1190	0.004	100	4.8	LOS A	0.0	0.1	Full	500	0.0	0.0
Approach	5	20.0	5	20.0		0.004		4.8	LOS A	0.0	0.1				
East: Quambone Road															
Lane 1	12	18.2	12	18.2	1800	0.006	100	0.4	LOS A	0.0	0.0	Full	90	0.0	0.0
Approach	12	18.2	12	18.2		0.006		0.4	NA	0.0	0.0				
West: Quambone Road															
Lane 1	13	8.3	13	8.3	1898	0.007	100	0.6	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	13	8.3	13	8.3		0.007		0.6	NA	0.0	0.0				
All Vehicles	29	14.3	29	14.3		0.007		1.3	NA	0.0	0.1				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.	Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Coonamble Feedlot Entrance															
1	L2	All MCs	1	0.0	1	0.0	0.004	4.6	LOS A	0.0	0.1	0.07	0.52	0.07	56.1
3	R2	All MCs	4	25.0	4	25.0	0.004	4.9	LOS A	0.0	0.1	0.07	0.52	0.07	42.5
Approach			5	20.0	5	20.0	0.004	4.8	LOS A	0.0	0.1	0.07	0.52	0.07	45.8
East: Quambone Road															
4	L2	All MCs	1	0.0	1	0.0	0.006	4.5	LOS A	0.0	0.0	0.00	0.06	0.00	79.0
5	T1	All MCs	11	20.0	11	20.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	97.8
Approach			12	18.2	12	18.2	0.006	0.4	NA	0.0	0.0	0.00	0.06	0.00	95.7
West: Quambone Road															
11	T1	All MCs	12	9.1	12	9.1	0.007	0.0	LOS A	0.0	0.0	0.01	0.06	0.01	96.7
12	R2	All MCs	1	0.0	1	0.0	0.007	7.5	LOS A	0.0	0.0	0.01	0.06	0.01	63.6
Approach			13	8.3	13	8.3	0.007	0.6	NA	0.0	0.0	0.01	0.06	0.01	90.4
All Vehicles			29	14.3	29	14.3	0.007	1.3	NA	0.0	0.1	0.02	0.14	0.02	77.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

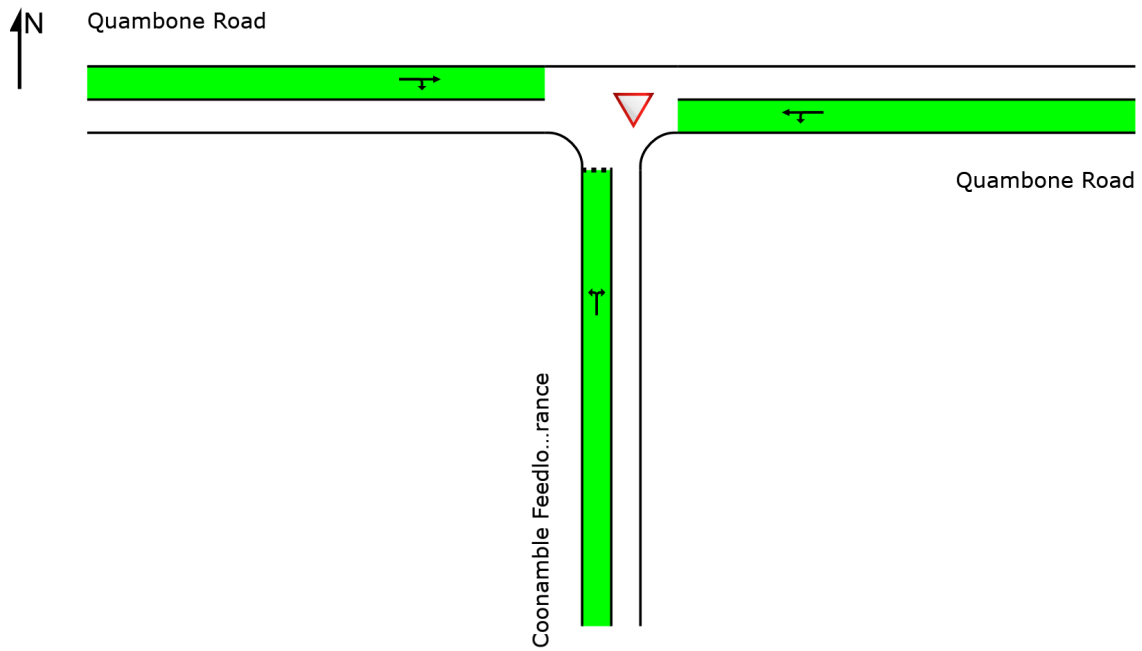
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

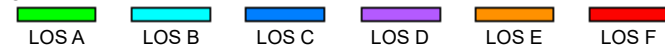
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Level of Service

LOS	Approaches			Intersection
	South	East	West	
A	NA (TWSC)	NA (TWSC)	NA (TWSC)	NA (TWSC)



Colour code based on Level of Service



NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

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Project: C:\Users\User\Box\KCTT Projects\KC00000 Current Projects\KC01846.000 [222230] 701 Quambone Road, Coonamble\Outgoing \SIDRA\240701 Rev AKC01846.000 M01 Quambone Road & Coonamble Feedlot Entrance.sip9



APPENDIX C

SIDRA OUTPUT – 2034 POST DEVELOPMENT CONDITIONS

USER REPORT FOR SITE

 **Project: KC01846.000 M01 Quambone Road & Coonamble Feedlot Entrance**

Template: Default Site User Report

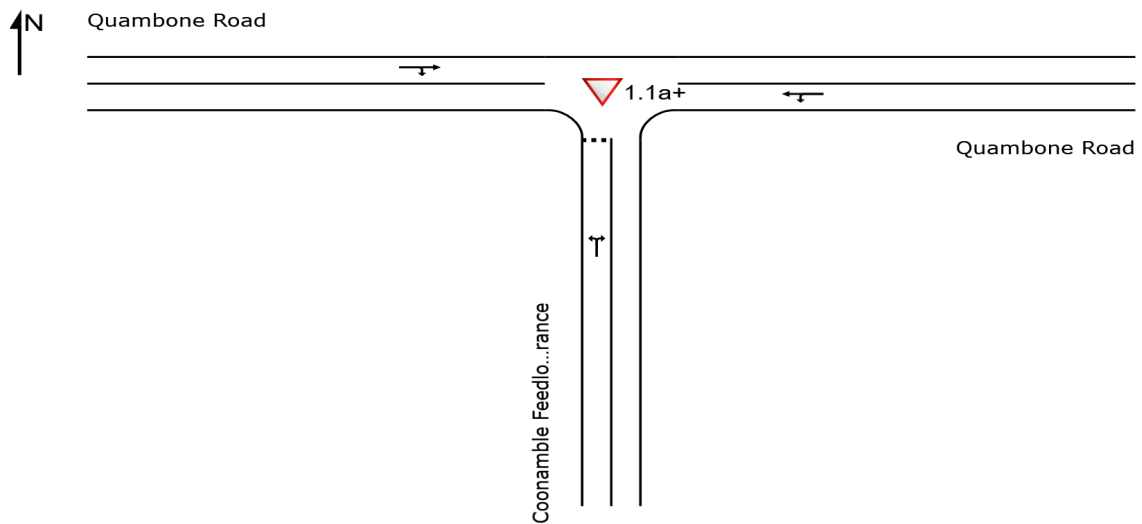
Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 **Site: 1.1a+ [1.1a+ Quambone Road & Coonamble Feedlot Entrance 2034 AM (Site Folder: Deisgn year 2034 + Dev)]**

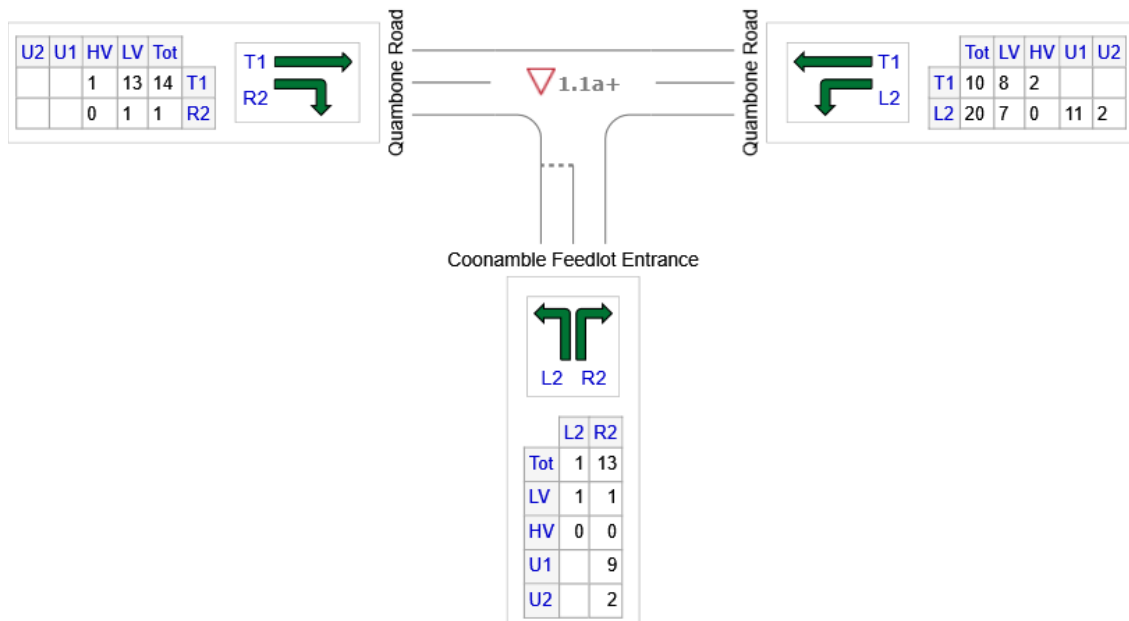
1.1a+ Quambone Road & Coonamble Feedlot Entrance 2034 AM
 Site Category: Future Conditions 1
 Give-Way (Two-Way)
 Design Life Analysis (Final Year): Results for 10 years

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Approach Movement Demand Flows



	All MCs	Light Vehicles (LV)	Heavy Vehicles (HV)	Development LV (U1)	Developn
S: Coonamble Feedlot Entrance	14	2	0	9	
E: Quambone Road	30	15	2	11	
W: Quambone Road	15	14	1	-	
Total	59	31	3	20	

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Prob. Adj. Block.	
	[Total]	[HV]	[Total]	[HV]						[Veh]	[Dist]			%	%
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m	m	%	%	
South: Coonamble Feedlot Entrance															
Lane 1	14	15.1	14	15.1	1176	0.012	100	5.6	LOS A	0.0	0.3	Full	500	0.0	0.0
Approach	14	15.1	14	15.1		0.012		5.6	LOS A	0.0	0.3				
East: Quambone Road															
Lane 1	30	14.7	30	14.7	1780	0.017	100	3.3	LOS A	0.0	0.0	Full	90	0.0	0.0
Approach	30	14.7	30	14.7		0.017		3.3	NA	0.0	0.0				
West: Quambone Road															
Lane 1	15	7.7	15	7.7	1904	0.008	100	0.6	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	15	7.7	15	7.7		0.008		0.6	NA	0.0	0.0				
All Vehicles	59	13.0	59	13.0		0.017		3.2	NA	0.0	0.3				

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Queue Dist	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Coonamble Feedlot Entrance															
1	L2	All MCs	1	0.0	1	0.0	0.012	4.6	LOS A	0.0	0.3	0.09	0.55	0.09	60.1
3	R2	All MCs	13	16.5	13	16.5	0.012	5.7	LOS A	0.0	0.3	0.09	0.55	0.09	46.9
Approach			14	15.1	14	15.1	0.012	5.6	LOS A	0.0	0.3	0.09	0.55	0.09	48.3
East: Quambone Road															
4	L2	All MCs	20	10.7	20	10.7	0.017	5.1	LOS A	0.0	0.0	0.00	0.40	0.00	56.6
5	T1	All MCs	10	22.2	10	22.2	0.017	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	69.5
Approach			30	14.7	30	14.7	0.017	3.3	NA	0.0	0.0	0.00	0.40	0.00	60.5
West: Quambone Road															
11	T1	All MCs	14	8.3	14	8.3	0.008	0.0	LOS A	0.0	0.0	0.02	0.05	0.02	96.8
12	R2	All MCs	1	0.0	1	0.0	0.008	7.5	LOS A	0.0	0.0	0.02	0.05	0.02	63.6
Approach			15	7.7	15	7.7	0.008	0.6	NA	0.0	0.0	0.02	0.05	0.02	90.9
All Vehicles			59	13.0	59	13.0	0.017	3.2	NA	0.0	0.3	0.03	0.35	0.03	62.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

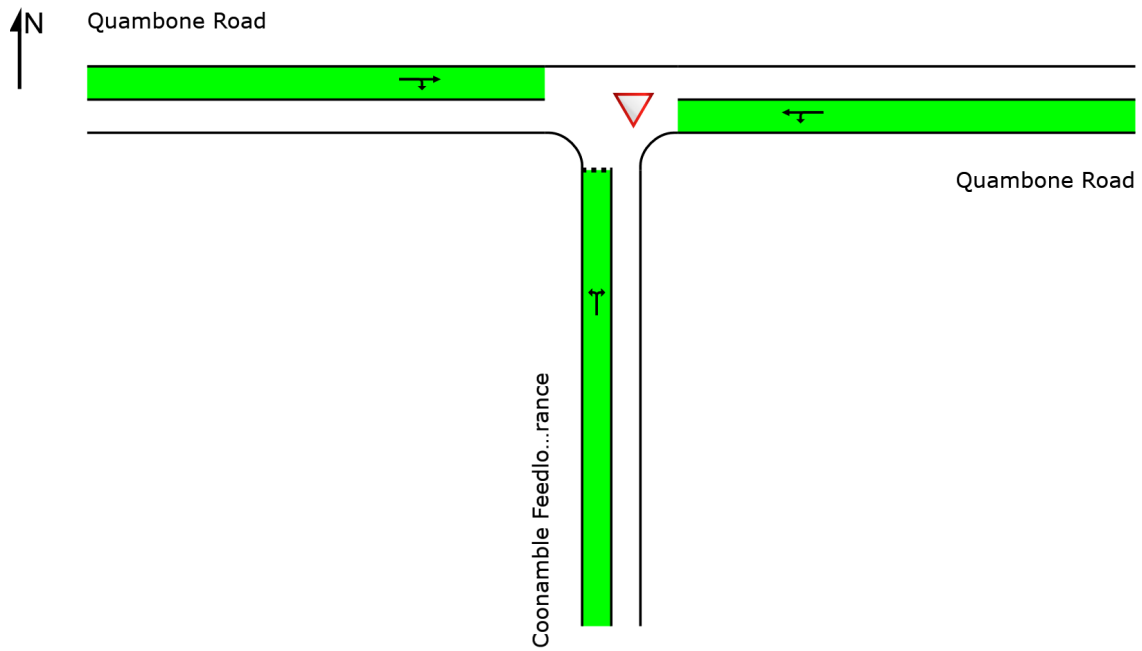
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Level of Service

LOS	Approaches			Intersection
	South	East	West	
A	NA (TWSC)	NA (TWSC)	NA (TWSC)	NA (TWSC)



Colour code based on Level of Service



NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

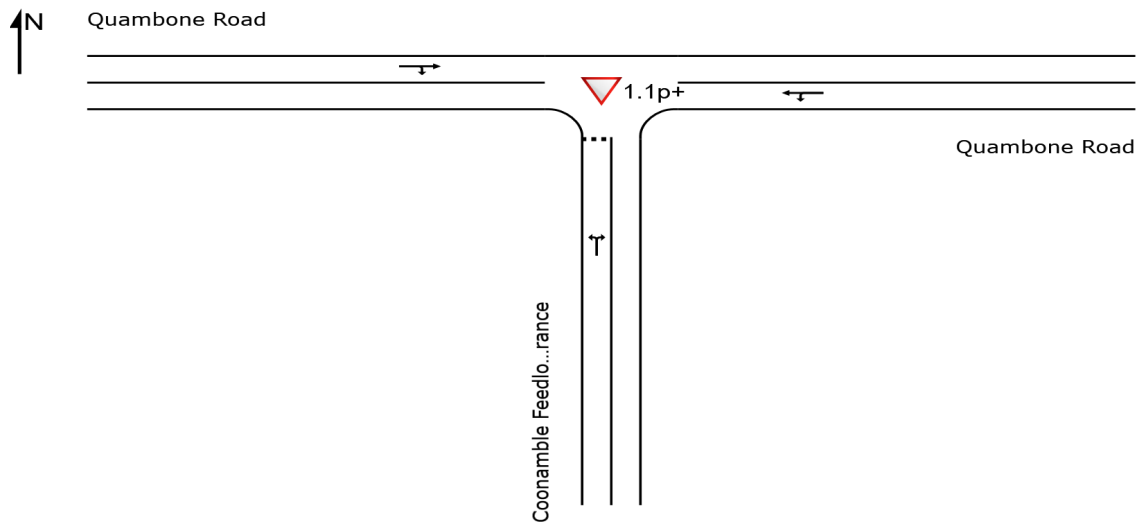
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

▽ Site: 1.1p+ [1.1p+ Quambone Road & Coonamble Feedlot Entrance 2034 PM (Site Folder: Deisgn year 2034 + Dev)]

1.1p+ Quambone Road & Coonamble Feedlot Entrance 2034 PM
Site Category: Future Conditions 1
Give-Way (Two-Way)
Design Life Analysis (Final Year): Results for 10 years

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Approach Movement Demand Flows

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Lane LOS values are based on average delay per lane.

Minor Road Approach LOS values are based on average delay for all lanes.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue	Queue Dist	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Coonamble Feedlot Entrance															
1	L2	All MCs	1	0.0	1	0.0	0.015	4.6	LOS A	0.0	0.4	0.09	0.55	0.09	59.3
3	R2	All MCs	16	20.1	16	20.1	0.015	5.6	LOS A	0.0	0.4	0.09	0.55	0.09	45.9
Approach			17	18.8	17	18.8	0.015	5.5	LOS A	0.0	0.4	0.09	0.55	0.09	47.0
East: Quambone Road															
4	L2	All MCs	13	16.5	13	16.5	0.014	5.1	LOS A	0.0	0.0	0.00	0.32	0.00	54.2
5	T1	All MCs	12	20.0	12	20.0	0.014	0.0	LOS A	0.0	0.0	0.00	0.32	0.00	69.3
Approach			24	18.2	24	18.2	0.014	2.7	NA	0.0	0.0	0.00	0.32	0.00	60.4
West: Quambone Road															
11	T1	All MCs	13	9.1	13	9.1	0.007	0.0	LOS A	0.0	0.0	0.02	0.06	0.02	96.5
12	R2	All MCs	1	0.0	1	0.0	0.007	7.5	LOS A	0.0	0.0	0.02	0.06	0.02	63.5
Approach			14	8.3	14	8.3	0.007	0.6	NA	0.0	0.0	0.02	0.06	0.02	90.3
All Vehicles			56	15.9	56	15.9	0.015	3.1	NA	0.0	0.4	0.03	0.33	0.03	60.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

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Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

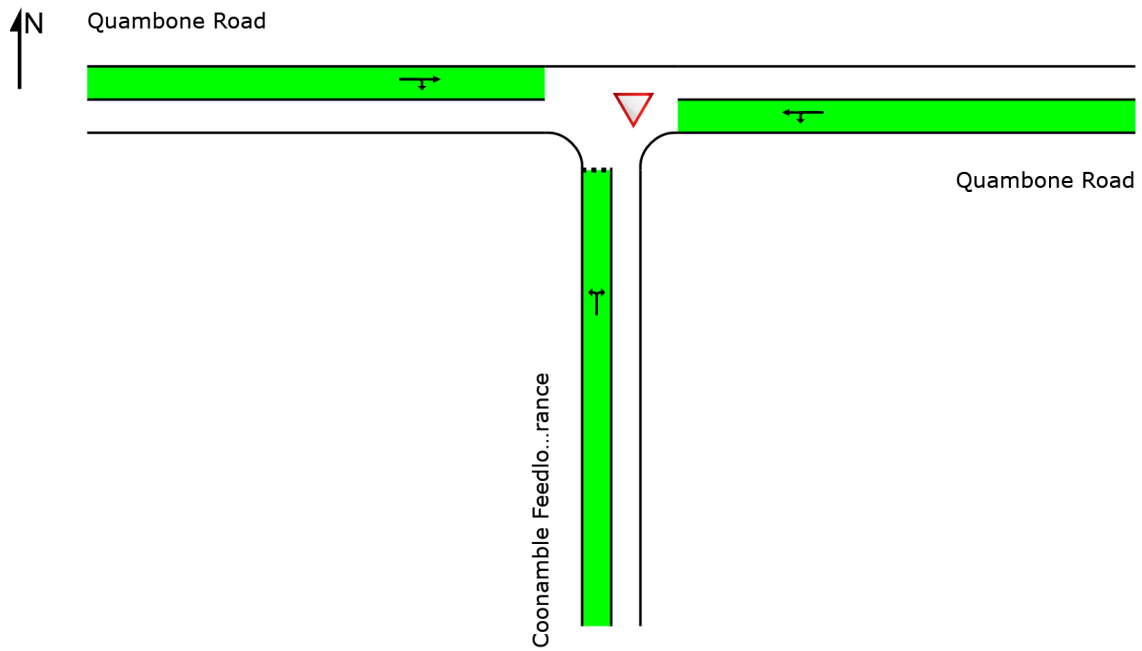
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Level of Service

LOS	Approaches			Intersection
	South	East	West	
A	NA	NA	NA	NA (TWSC)
	(TWSC)	(TWSC)	(TWSC)	



Colour code based on Level of Service



NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

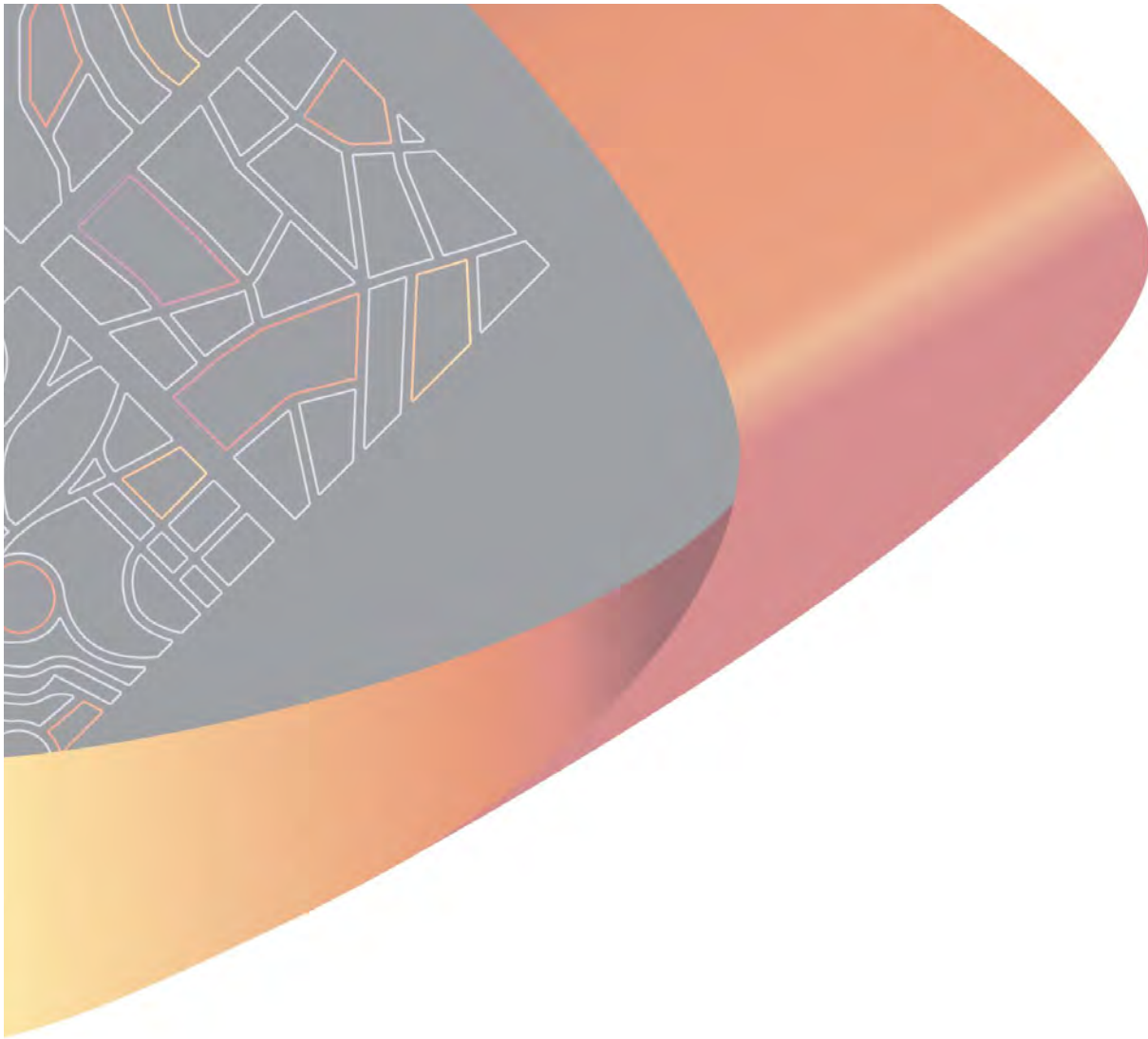
Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

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Project: C:\Users\User\Box\KCTT Projects\KC00000 Current Projects\KC01846.000 [222230] 701 Quambone Road, Coonamble\Outgoing \SIDRA\240701 Rev AKC01846.000 M01 Quambone Road & Coonamble Feedlot Entrance.sip9



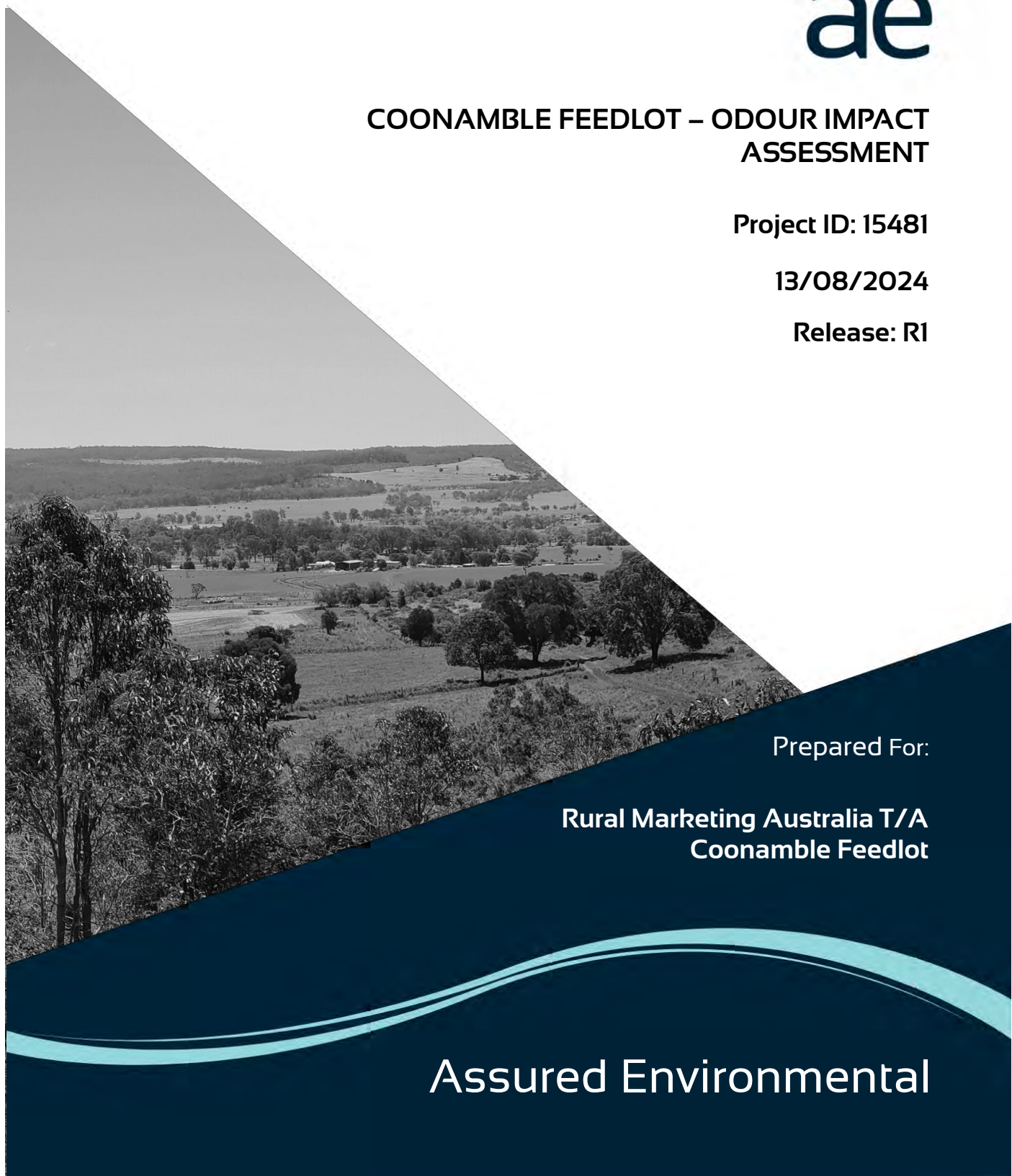


**COONAMBLE FEEDLOT – ODOUR IMPACT
ASSESSMENT**

Project ID: 15481

13/08/2024

Release: R1



Prepared For:

**Rural Marketing Australia T/A
Coonamble Feedlot**

Assured Environmental



DOCUMENT CONTROL PAGE

Project Title: COONAMBLE FEEDLOT – ODOUR IMPACT ASSESSMENT

Project Reference ID: 15481

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Report Prepared for:

Rural Marketing Australia T/A Coonamble Feedlot
 42 Castlereagh Street
 Coonamble, NSW, 2829

M. Clifton

Author: Michelle Clifton

Aiden Allen

Reviewer: Aiden Allen

Table 1: History of Revisions

Revision	Date	Issued to	Changes
R0	13/05/2024	D. Mathew	Initial Release
R1	13/08/2024	D. Mathew	Revised Layout

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GLOSSARY

Hedonic Tone	A judgement of the relative pleasantness or unpleasantness of an odour
Odour	The property of a substance which affects the sense of smell
Odour annoyance	The generation of one or more of a wide variety of responses due to the intensity and hedonic tone of an odour. Odour annoyance is generally considered to occur at levels of 5 - 10 times the detection threshold.
Odour character	The property that identifies an odour and differentiates it from another odour of equal intensity. The character of an odour results from the combination and concentration of compounds in a mixture.
Odour complaints	Odour complaints are formal acknowledgments of odour annoyance to a person and usually requires persistent or repeated odour annoyance over a considerable length of time.
Odour concentration	The concentration of the odorous gas relative to the concentration at the threshold of detection.
Odour emission rate (OER)	Total rate of emissions from an odour source expressed in units of odour units per unit time (ou/sec).
Odour intensity	An assessment of odour strength based on an initial perception. This perception will rapidly diminish with constant exposure.
Odour threshold	For individuals, the odour detection threshold is that concentration of an odorant above which the individual can smell the odorant and below which they cannot. Human odour sensitivity varies over a significant range; therefore, the odour threshold is defined as the level at which 50 % of the population can just detect the odour.
Panel	A group of panel members (assessors who are qualified to judge samples of odorous gas, using dynamic olfactometry in accordance with AS 4323.3).
Peak to mean ratio	A conversion factor that adjusts mean dispersion model predictions to the peak concentrations perceived by the human nose
Percentile	The frequency of occurrence, for example the 99.5 th percentile gives the value exceeded by 0.5% of the measurements or predictions.
Perception	Awareness of the effects of single or multi-sensory stimuli.
Nose-response time	Instantaneous response of the human nose which is typically between 0.1 and 1 second.
Source odour emission rate (SOER)	Rate of emission from an odour source expressed in odour units per unit area per unit time (ou/sec).

ABBREVIATIONS

SCU	Standard Cattle Units
DA	Development Approval
EPA	Environmental Protection Authority
GLC	Ground Level Concentration
TAPM	The Air Pollution Model



1 INTRODUCTION

1.1 Background

Rural Marketing Australia (RMA) trading as Coonamble Feedlot are proposing to expand their existing beef cattle feedlot at Coonamble. The existing feedlot is licensed to 10,000 Standard Cattle Units (SCU). RMA are seeking approval to expand their feedlot to carry up to 30,000 SCU.

1.2 Scope of Assessment

Assured Environmental (AE) has been engaged by RMA to prepare an odour impact assessment of the proposed 30,000 SCU expansion to their feedlot at 701 Quambone Road, Coonamble.

The primary concerns pertain to impacts from odour as a result of the proposed development. The assessment will be undertaken in accordance with:

- Protection of the Environment Operations Act 1997 (POEO Act);
- Protection of the Environment Operations Clean Air Regulation 2010 (POEO Clean Air Regulation);
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (NSW EPA, 2022);
- Technical Framework - Assessment and management of odour from stationary sources in NSW, Sydney: DECC (DEC, 2006a);
- Technical Notes: assessment and management of odour from stationary sources in NSW (DEC, 2006b); and
- National Guidelines for Beef Cattle Feedlots in Australia - 3rd Edition.

1.3 SEARS

Planning Secretary's Environmental Assessment Requirements (SEAR) reference 1848 were received on 12 February 2024. In relation to air quality, the following requirements were identified:

- A description of all potential sources of air and odour emissions during construction and operation, including cumulative impacts;
- An odour impact assessment in accordance with Environment Protection Authority (EPA) documents Technical framework: Assessment and management of odour from stationary sources in NSW (EPA, 2006) and Technical notes: Assessment and management of odour from stationary sources in NSW (EPA, 2006);
- A description and appraisal of air quality impact mitigation and monitoring measures.

1.4 This Report

This report summarises the methodology, results, and conclusions of the odour impact assessment.



2 DESCRIPTION OF ENVIRONMENTAL VALUES

2.1 Location

The Subject Site is located at 701 Quambone Road, Coonamble, NSW on five lots: 1/DP1124929, 113/DP754199, 119/DP754199, 121/DP754199 and 24/DP754199. The Feedlot is located within Coonamble Shire Council and is zoned as RUI (primary production) with an overall Lot size of 1,035 ha. The Subject Site is located approximately 4 km south west of the centre of Coonamble.

2.2 Receptors

A review of the land use of the surrounding area has identified that the land use is classed as Rural as shown in Figure 2. Table 2 presents the nearest sensitive receptors. All surrounding receptors have been identified as residential land uses.

Table 2: Sensitive Receptors

Sensitive Receptor	Coordinates (UTM 55)		Land Zoning
	Eastings	Northings	
R1	627019	6567146	Rural (RUI)
R2	628807	6567984	Rural (RUI)
R3	629804	6567778	Rural (RUI)
R4	630140	6567754	Rural (RUI)
R5	630496	6567916	Rural (RUI)
R6	630543	6568447	Rural (RUI)
R7	630612	6568960	Rural (RUI)
R8	630131	6569854	Rural (RUI)
R9	628870	6570063	Rural (RUI)
R10	631687	6570591	Rural (RUI)
R11	629830	6572338	Rural (RUI)
R12	631360	6572711	Rural (RUI)
R13	625122	6570538	Rural (RUI)
R14	624048	6572270	Rural (RUI)
R15	624953	6566740	Rural (RUI)
R16	628934	6571315	Rural (RUI)

2.3 Terrain

There is no Lidar coverage of the Subject Site and surrounding area, as such, the topography data was extracted from NASA’s Shuttle Radar Topography Mission 1 (STRM 1) which provides coverage at 30 m intervals globally.

Figure 3 illustrates the local topography, it can be seen that the Subject Site is on the north western side of a hill. A review of the wind roses (Figure 5) shows that NW is the leeward side of the hill. The Subject Site is relatively flat with the AHD ranging from 410 to 440 west to east.



2.4 Climatic Conditions

The long-term climatic conditions recorded at Bureau of Meteorology's Coonamble Airport station (station number 051161) show that January is the hottest month, while July is the coldest month. Rainfall peaks in the at the start and end of the year and is at its lowest during winter months. Humidity levels exhibit variability over the day and seasonal fluctuations. Wind speeds during the warmer months are higher compared to the colder months as shown in Figure 4.

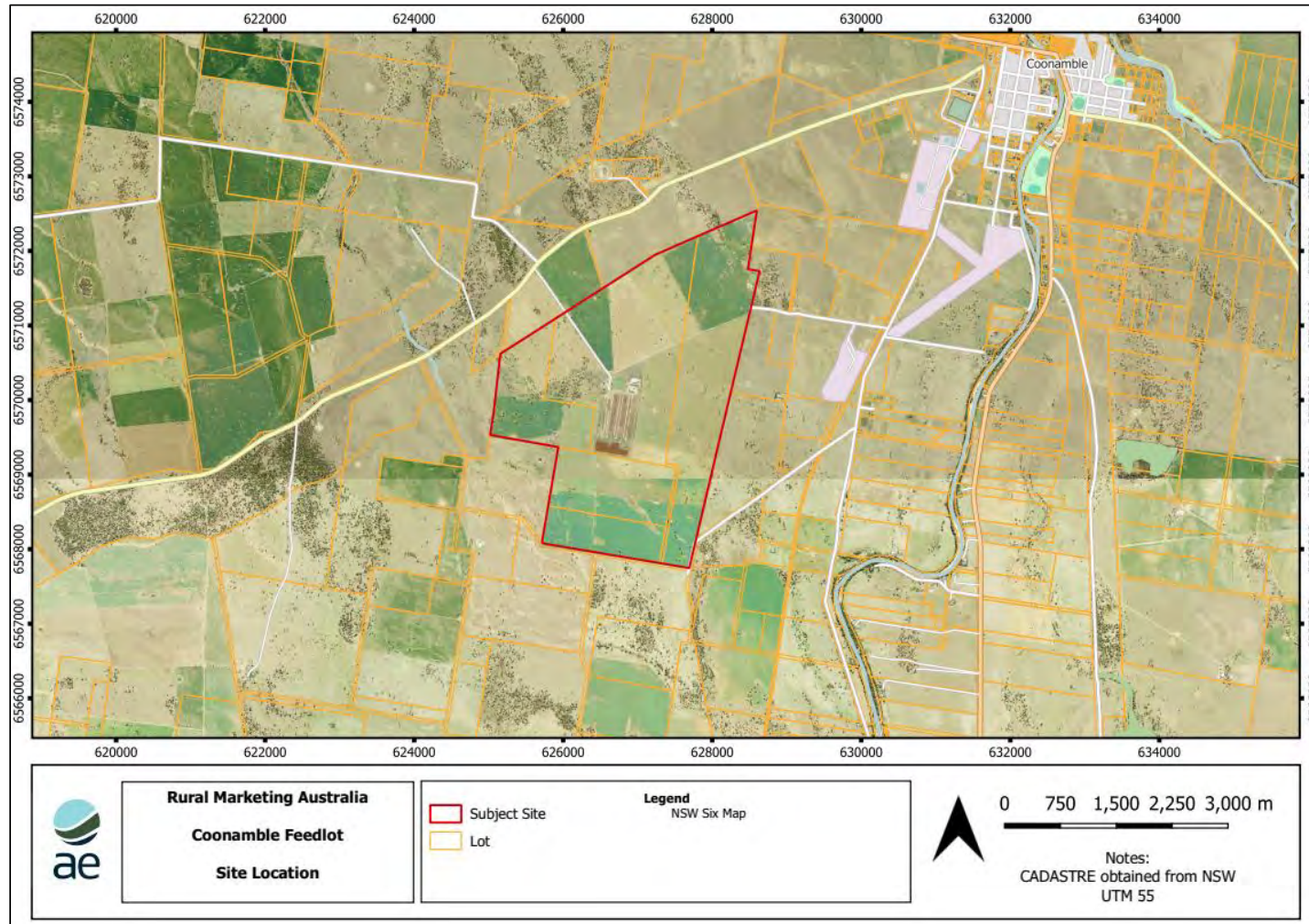


Figure 1: Site Location

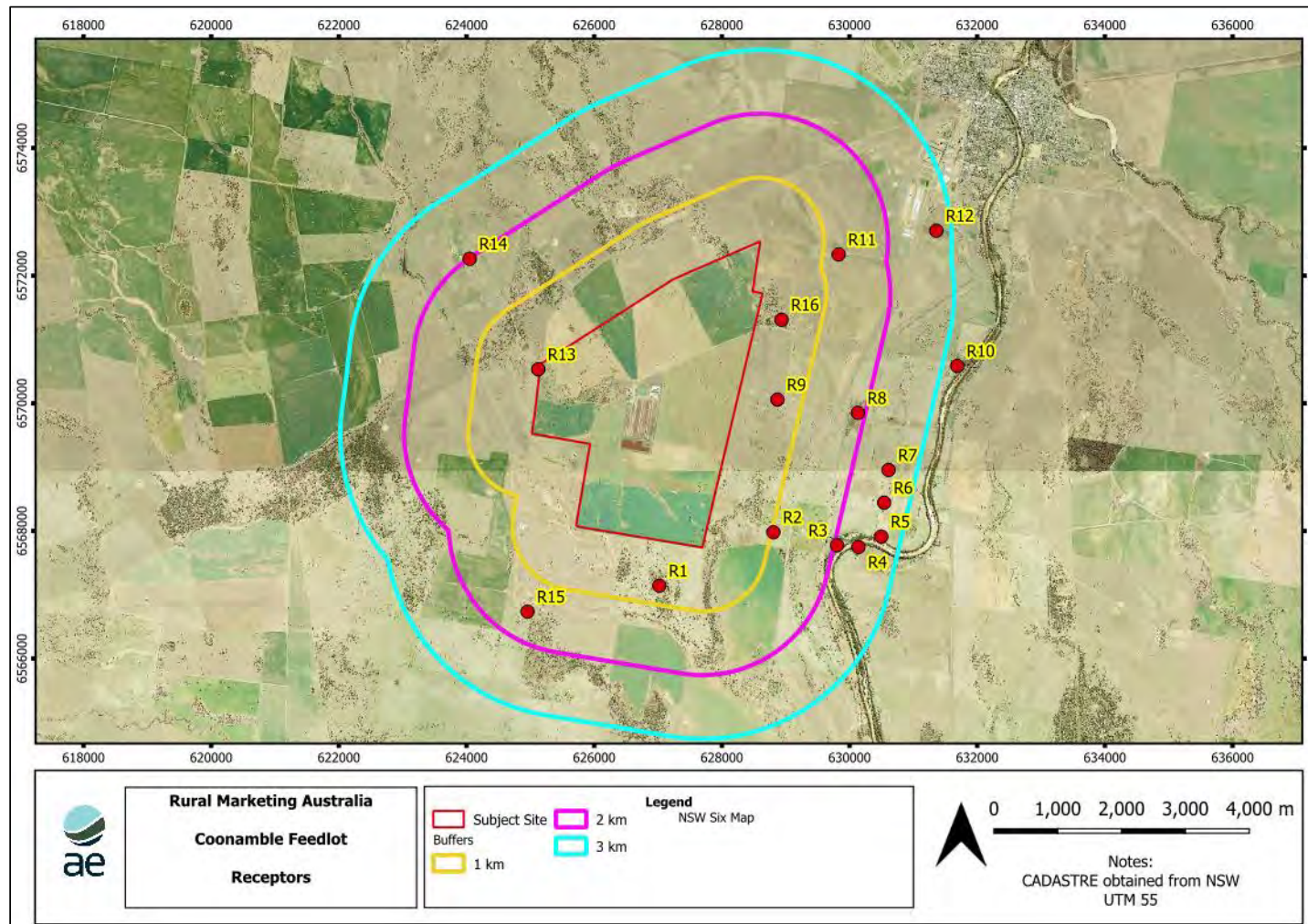


Figure 2: Sensitive Receptors

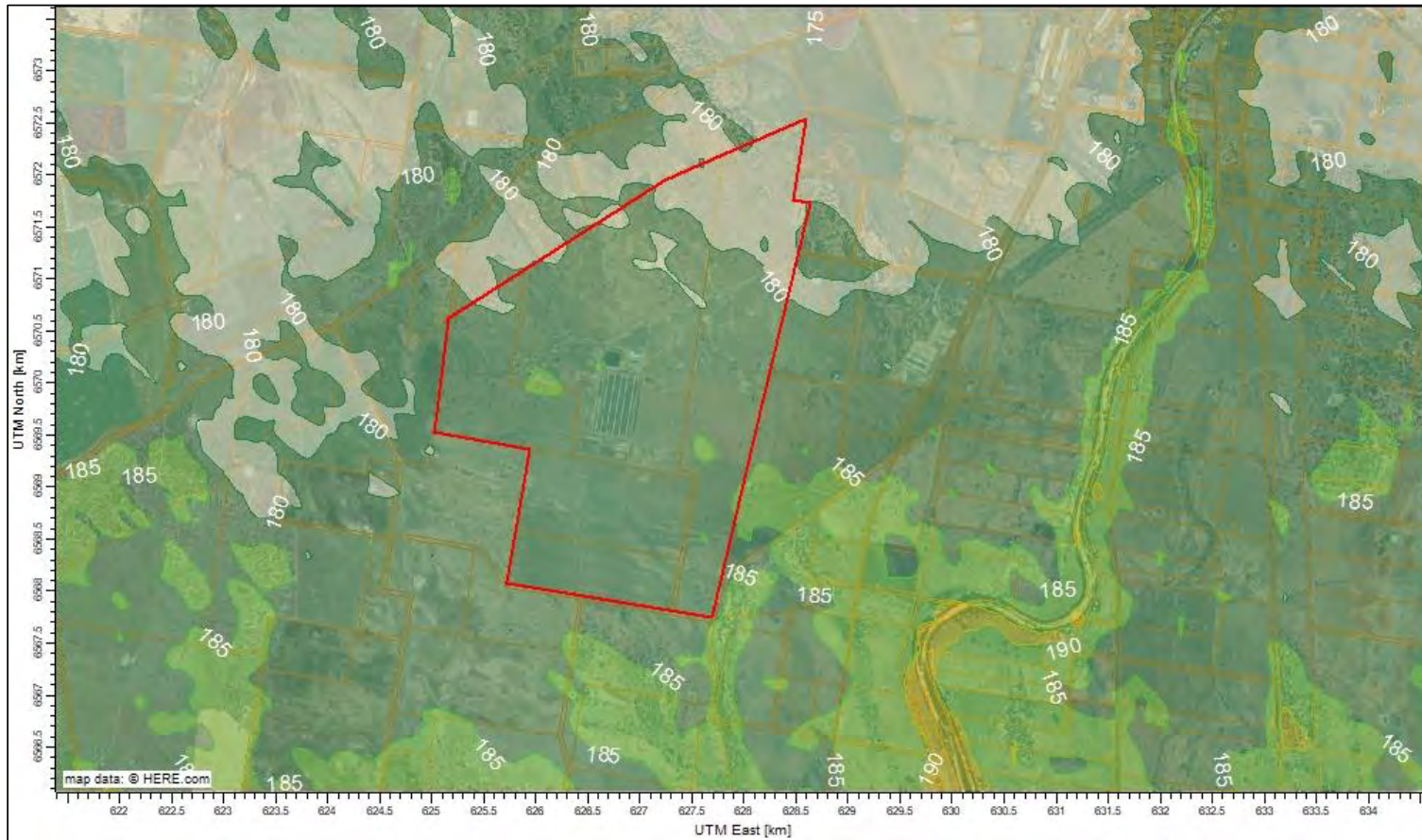
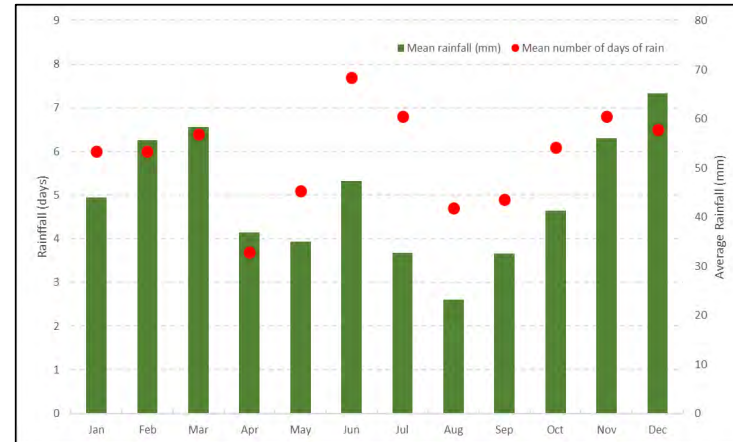


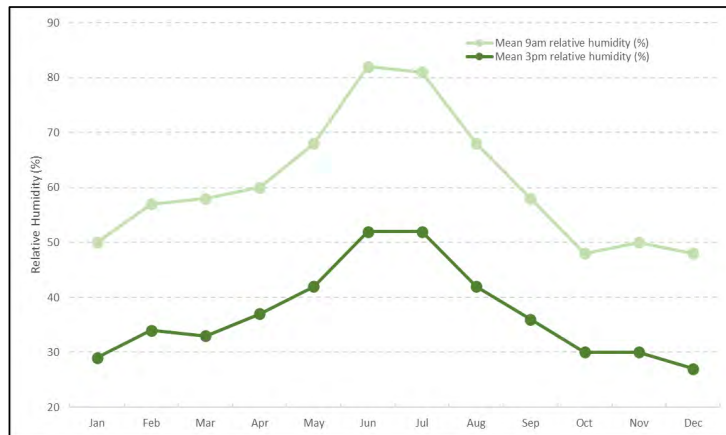
Figure 3: Topography (STRM 1)



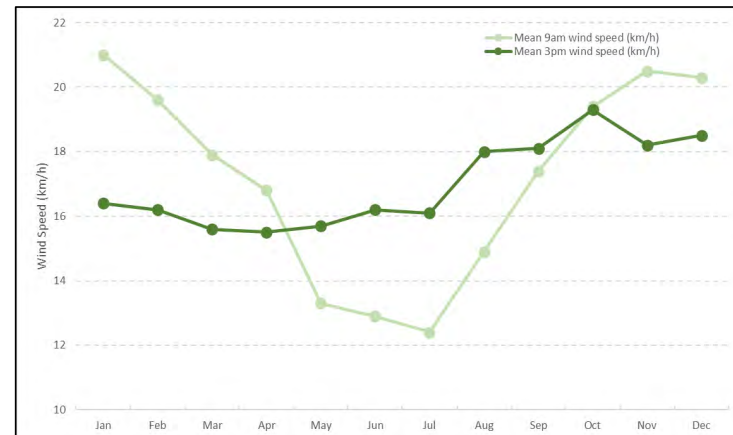
Average Temperature (Min, Max, Mean over 25-year Average)



Average Rainfall and Rainfall Days (25-year Average)



Relative Humidity (25-year Average)



Wind Speed (25-year Average)

Figure 4: Climatic Conditions (BOM Coonamble Airport)



3 REGULATORY REQUIREMENTS

3.1 Technical Framework: Odour from Stationary Sources

The Technical framework for the assessment and management of odour from stationary sources in NSW (EPA, 2006) delineates a structured approach aimed at safeguarding both the environment and the community against the ramifications of odour emissions, while concurrently fostering fair and impartial outcomes for operators engaged in activities generating odour.

Key principles underscored by the framework encompass the following:

- **Sustainable Land-Use Planning and Management:** Recognizing the dynamic nature of land use patterns evolving over time to accommodate shifting industrial and societal demands, sustainable land-use planning and management emerge as pivotal strategies to avert odour impacts.
- **Shared Responsibility:** Acknowledging that mitigating odour impacts necessitates collaborative efforts between operators and local land-use planners, the framework advocates for a shared responsibility model. Nevertheless, the primary onus for managing odour impacts arising from the operation extends to the operator of the activity emitting odour, even beyond its immediate boundaries.
- **Unpreventable Odour Emissions:** While proactive measures can mitigate odour emissions, it's acknowledged that complete elimination of odour from certain activities might be unfeasible. The framework thus dispels the notion of attaining a 'no odour' objective as a realistic endeavour.

In essence, the framework provides a structured approach to address odour emissions, emphasising proactive planning, shared responsibility, and realistic expectations regarding odour management within the regulatory landscape of New South Wales.

The framework has three levels of assessment with Level 3 being a refined dispersion model that uses site specific input data, which is the most comprehensible and realistic assessment available. The technical notes that accompany the framework state that a level 3 assessment should be undertaken in accordance with the requirements of *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*.

3.2 Approved Methods

Odour criteria relevant to this assessment are also presented in the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (2022)*, published by the NSW EPA.

The Approved Methods note that the odour assessment criteria for complex mixtures of odors need to be designed to consider the range of sensitivities to odours within the community, and to provide additional protection for individuals with a heightened response to odours. Therefore, the odour assessment criteria allow for population size, cumulative impacts, anticipated odour levels during adverse meteorological conditions and community expectations of amenity.

Table 3 presents odour criteria for various population sizes, as specified by the EPA.



Table 3: NSW EPA Odour Criteria

Population of Affected Community	Criteria 1-hour 99 th percentile for Complex Odours (OU)
Rural single residence (\leq)	7
~ 10	6
~ 30	5
~ 125	4
~ 500	3
Urban area (\geq 2000) and/or schools and hospitals	2

Approved Methods provides the equation below to calculate the criteria for areas with different populations from the above table for complex mixtures of odorous air pollutants:

$$\text{Impact assessment criterion (OU)} = (\log_{10}(\text{population}) - 4.5) / -0.6$$

The township of Coonamble has a population of 2,353 persons with a population of 2.3 people per house (2021 census); however, near the Subject Site, the population is sparse. To determine the most suitable criterion for odour for the closest sensitive receptors, the impact of the proposed expansion odour contours were reviewed (Figure 8). Within the 2 OU contour line, there are six sensitive receptors, with an estimated population of 13.8 people based on the 2021 census. Therefore, the assessment criteria is 5.6 ou, 1-hour, 99th percentile.

The township of Coonamble is assessed against the 2 OU criterion due to the increase in population.

In assessing compliance of predicted ground level odour concentrations, it is necessary to estimate the peak-to-mean concentration ratios for the source being considered. These peak-to-mean ratios (Table 4) allow estimation of 1-second average (nose response time) concentrations based on the predicted 1-hour average concentrations generated by the air dispersion model.

The evaluation of odour impacts requires the estimation of short or peak concentrations on the time scale of less than one second. Dispersion model predictions are typically valid for averaging periods of one hour and longer.

The prediction of peak concentrations from estimates of ensemble means can be obtained from a ratio between extreme short-term concentration and longer-term averages. Properly defined peak-to-mean ratios depend upon the type of source, atmospheric stability, and distance downwind. Table 4 shows the EPA-recommended factors for estimating peak concentrations for different source types, stabilities, and distances.



Table 4: Factors for Estimating Peak Odour Concentrations in Flat Terrain

Source Type	Pasquill–Gifford Stability Class	Ratio of Peak 1-Second Average Concentrations to Mean 1-hour Average Concentrations	
		Near-field P/M60 ^{a)}	Far-field P/M60 ^{b)}
Area ^{c)}	A – D	2.5	2.3
	E – F	2.3	1.9
Line ^{d)}	A – F	6	6
Surface wake-free point ^{g)}	A – C	12	4
	D – F	25	7
Tall wake-free point ^{e) g)}	A – C	17	3
	D – F	35	6
Wake affected point	A – F	2.3	2.3
Volume	A – F	2.3	2.3

- a) The near field is the zone where source structure directly affects plume dispersion. The near field is typically 10 times the largest source dimension, either height or width.
- b) The far-field region is the zone where plume rise, and meandering have fully occurred, and the plume is well mixed in the vertical plane from ground level to the base of the first temperature inversion
- c) An area source has a large surface area such as a liquid surface (pond, lagoon) or a landfill surface
- d) A line source is taken to be at ground level and thin. A line source becomes an area source if the breadth exceeds 20% of the length.
- e) Tall point source usually refers to sources that protrude out of the surface boundary layer (e.g. over 30–50 m tall)
- f) A point source is wake-affected if stack height is less than or equal to 2.5 times the height of buildings located within a distance of 5L (where L is the lesser of the height or width of the building) from each release point.
- g) Wake-free point sources are more than 2.5 times the height of the largest nearby building, so that surrounding buildings do not influence the stack top airflow.
- h) A volume source is a uniform diffuse source, such as emissions from within a building.



4 METEOROLOGICAL MODELLING

4.1 TAPM Predictions

Atmospheric dispersion modelling involves the mathematical simulation of the dispersion of air contaminants in the environment. The modelling utilises a range of information to estimate the dispersion of pollutants released from a source, including:

- Meteorological data for surface and upper air winds, temperature, and pressure profiles, as well as humidity, rainfall, cloud cover and ceiling height information;
- Emissions parameters including source, location, and height, source dimensions and physical parameters (e.g., exit velocity and temperature) along with pollutant mass emission rates;
- Terrain elevations and land use both at the source and throughout the surrounding region; and
- The location, height, and width of any obstructions (such as buildings or other structures) that could significantly impact on the dispersion of the plume.

For the purpose of the assessment, meteorological modelling has been undertaken using TAPM (The Air Pollution Model) and CALMET to predict localised meteorological conditions. The meteorological data derived from these models have been used as an input for the CALPUFF dispersion modelling.

A site-specific meteorological dataset has been determined using the prognostic model TAPM. Prognostic models, such as TAPM, permit the development of localised meteorological datasets, based on synoptic weather conditions. The model predicts the regional flows important to dispersion, such as sea breezes and terrain induced flows, against a background of larger-scale meteorology provided by synoptic analyses.

The output of this model, when used with a diagnostic meteorological model, such as CALMET, provides a meteorological dataset suitable for introduction into the wind field results. This methodology is the recommended approach for the modelling of contaminant concentrations using CALMET^a.

^aTRC Environmental Corporation (March 2011) 'Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion into the 'Approved Methods for the Modelling and Assessments of Air Pollutants in NSW, Australia' prepared on behalf of the NSW Office of Environment and Heritage



Table 5: Summary of Meteorological Modelling Parameter

Model	Aspect	Assigned Parameter
TAPM (v4.04)	Year Modelled	One full year - 2017 which is compared to long-term observations to demonstrate suitability. Hourly data from BOM Coonamble Airport was assimilated into TAPM.
	Coordinates	Latitude: -31°0.0 / Longitude: 148°19.5
	Domain Grids	25 x 25 x 25 grid points
	Nesting Spacing	30 km, 10 km, 3 km, and 1 km.
CALMET (v 7.1)	Databases	Default databases for sea temperature, terrain and land cover applied
	Model Domain	20-km x 20-km grid (200 m grid intervals)
	Terrain Data	Nasa Shuttle Radar Topography Mission (SRTM) 1-second (approximately 30 m) digital elevation model
	Land Use	Default from USGS for 1 km spacing. Review of the land use was undertaken and updated based on recent aerial imagery
	Vertical Layers	13 Layers – 0 m, 20 m, 50 m, 75 m, 150 m, 200 m, 500 m, 750 m, 1,000 m, 2,000 m, 3,000 m, and 4,000 m

Figure 5 presents the annual wind rose for the Subject Site during 2017. Detailed meteorological analysis of the dataset is presented in Appendix A.

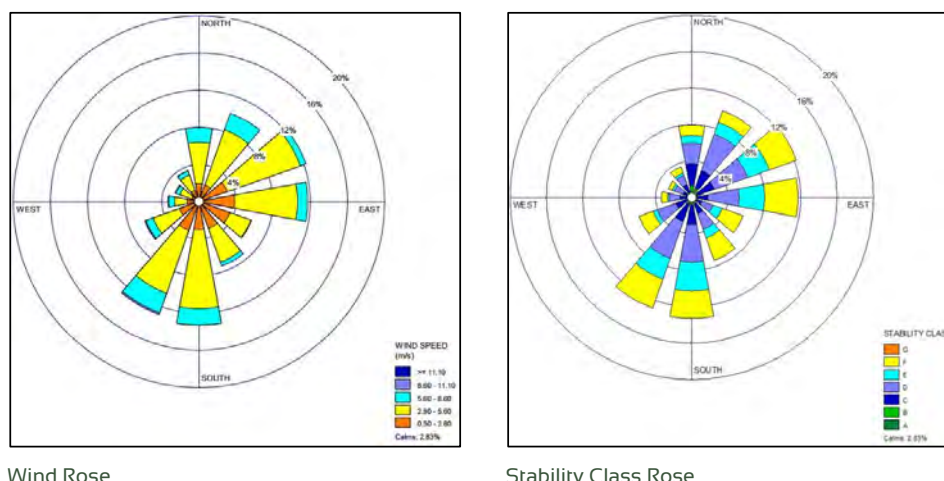


Figure 5: Predicted Annual Wind and Stability Class Roses at Subject Site for 2017

4.2 CALPUFF Dispersion Modelling

The CALPUFF modelling system treats emissions as a series of puffs. These puffs are then dispersed throughout the modelling area and allowed to grow and bend with spatial variations in meteorology. In doing so, the model can retain a memory of the plume's movement throughout a single hour and from one hour to the next while continuing to better approximate the effects of complex air flows.

CALPUFF utilises the meteorological processing and prediction model CALMET to provide three-dimensional wind field predictions for the area of interest. The final wind field developed by the model (for consideration by CALPUFF) includes an approximation of the effects of local topography, the effects of varying surface temperatures (as is observed in land and sea bodies)



and surface roughness (resulting from varied land uses and vegetation cover in an area). The CALPUFF model can resolve complex terrain influences on local wind fields including consideration of katabatic flows and terrain blocking.

Post processing of modelled emissions is undertaken using the CALPOST package. This allows the rigorous analysis of pollutant predictions generated by the CALPUFF system. CALPOST is able to provide an analysis of predicted pollutant concentrations for a range of averaging periods from 1 hour to 1 year.

4.3 Receptors

A computational grid of 16 km by 16 km at 200 m spacing has been modelled. A nested grid grids covering the existing and proposed feedlots was modelled with centre co-ordinates 626962, 6569773 for a distance of 600 m at 50 m spacing and 4,000 m at 100 m spacing.

In addition, existing receptors were modelled as shown in Figure 2 and receptors were placed at 50 m intervals along the boundary of the Subject Site (a total of 280 boundary receptors).

4.4 Existing Odour

There are no other sources of odour in the surrounding area which are considered cumulative to the feedlot operations.

4.5 Other Settings

For the purposes of the assessment, the air dispersion modelling has utilised the following settings for CALPUFF:

- three-dimensional mode using meteorological data file from CALMET;
- ISC rural wind speed profile;
- no chemical transformation;
- no gaseous deposition;
- transitional plume rise;
- stack tip downwash for point sources;
- partial plume penetration for point sources;
- dispersion coefficients using Pasquill–Gifford coefficients or turbulence calculated from micro-meteorology;
- no adjustment of dispersion curves for roughness;
- partial plume path adjustment method for terrain using default coefficients;
- no building wakes were modelled.



5 EMISSIONS

5.1 Overview

The primary emissions from the expansion of the feedlot are:

- Particulates from the construction of additional pens and ponds; and
- Odour from the operation of the feedlot.

5.2 Construction Emissions

Emissions of dust particulates to air can occur during the preparation of the land (e.g. demolition, land clearing, and earth moving), and during construction. Emissions can vary substantially from day to day, depending on the level of activity, the specific operations being undertaken, and the weather conditions.

The Guidance on the Assessment of Dust from Demolition and Construction published by the Institute of Air Quality Management in the United Kingdom (IAQM 2014) provides a screening assessment to determine the need for a detailed assessment. The guideline states that an assessment is not normally required if there is a 'human receptor' within 350 m of the boundary of the construction site.

A review of the sensitive receptors in Figure 2, confirms that there are no receptors within 350 m of the construction activities. As such a detailed assessment of construction activities has not been undertaken.

5.3 Operational Emissions

Odour emission rates have been estimated using design plans for the Project. Key odour sources at a feedlot include:

- Pens;
- Holding ponds;
- Sedimentation basins; and
- Manure stockpiles.

Odour emission rates for each source of odour were derived using their respective dimensions taken from the design plans and using the methodologies detailed in the Meat and Livestock Australia (MLA) report *"Development of an odour emissions model for Australian feedlots. Part F: Emissions estimation and model application"*^b.

MEDLI modelling and outputs were completed by Premise using MEDLI version 2 in April 2024. For the purposes of this assessment, the data for 2017 was used in the analysis to allow contemporaneous assessment with the meteorological year.

^b MLA. (2015). Development of an Odour Emissions Model for Australian Feedlots. Part F: Emissions estimation and model application. Project reference B.FLT.0369).



5.3.1 Pen Odour

Emissions of odour from pens are dependent on rainfall, pad moisture content, manure depth and temperature. Emissions of odour from holding ponds and sedimentation basins are dependent on rainfall, pond volume and temperature. Premise supplied MEDLI lot moisture, lot manure depth and pond volume data for the feedlot catchment. Ambient temperature was derived from the CALMET meteorological model.

Odour emissions from pens were modelled as a function of:

- Average daily manure depth (D), extracted from MEDLI output;
- Average daily top layer pad moisture (M), extracted from MEDLI output; and
- Maximum daily temperature (T), extracted from CALMET output.

A daily average emission rate was calculated using the following equation:

$$OER = -2.60 + 0.034D + 0.014M + 0.04T$$

Where OER has units of ou/m²/s. A minimum emission rate of 0.05 ou/m²/s was applied. Hourly emission rates were based on the daily average and the scaling factors presented in Figure 6.

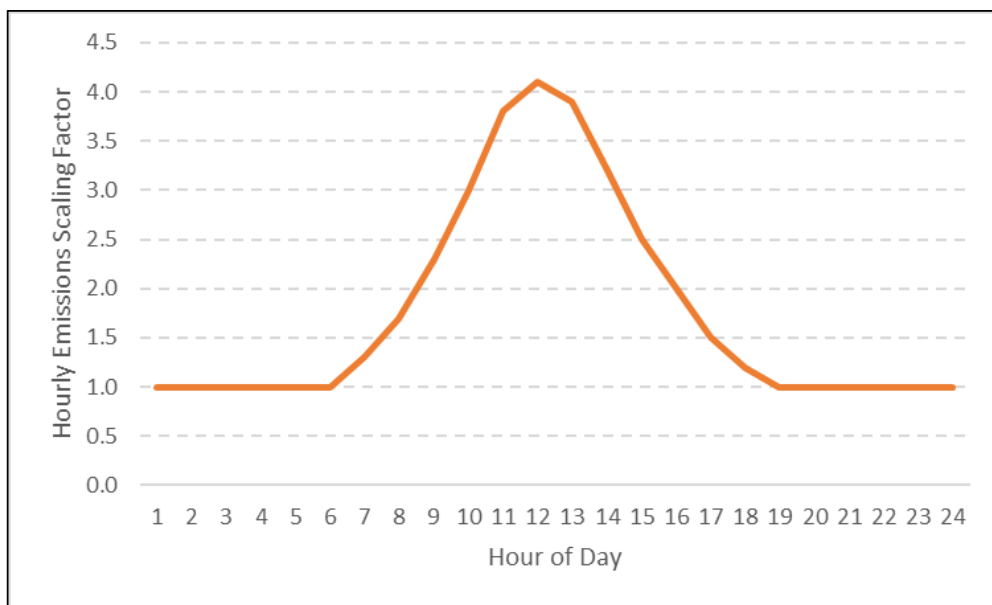


Figure 6: Generic Hourly Scaling Factor for Pad Emissions

5.3.2 Holding Ponds

Odour emissions from the holding ponds were calculated for each inflow event (as derived from MEDLI). The emissions profile is characterised by a build-up of emission rate from the start of the inflow event to a peak day (x_p), followed by a decay in emission rate. The peak day is determined as:

$$Peak\ day = x_p = -0.3 \times T_1 + 11.75$$



Odour emissions before the peak day ($x < x_p$) were determined by:

$$OER = Me^{-kx_p}1.25^{x-x_p} + b$$

After the peak day, until 50 days from the inflow event ($x_p < x < 50$), odour emissions were determined by:

$$OER = Me^{-kx} + b$$

Where:

T_1 = Average daily temperature on the day of the inflow event

x = Days since inflow event

b = Baseline odour emission rate (ou/m²/s) = 0.07

M = 2.4 x inflow ratio

k = $\sqrt{(\text{inflow ratio})/15}$

A maximum OER of 9.3 ou/m²/sec was applied.

5.3.3 Sedimentation Basins

The calculation of the odour emission rates for sedimentation basins are as the calculation for holding ponds, however the value for $M = 1.4 \times$ inflow ratio, and $b = 0.6$ ou/m²/sec.

A maximum OER of 5 ou/m²/sec was applied.

5.3.4 Manure Stockpiles

Manure stockpiles will be located adjacent to the future pens; for the purposes of modelling, it has been assumed that manure will be stored in a rectangular pile type arrangement of four windrows with a total surface area of 676 m².

Odour emissions from manure stockpiles were estimated using a base emission rate of 0.67 ou/m²/s, based on the highest measurement of odour emission rate recorded by Meat and Livestock Australia (MLA) report "Development of an odour emissions model for Australian feedlots. Part A: Sampling results – Odour emissions from Australian feedlots" ^c. The base emission rate was scaled according to wind speed and stability, according to work of Watts (2000). The scaling factors are reproduced in Table 6.

Table 6: Odour Emissions Versus Wind Speed and Stability Class

Wind Speed Category	Wind Speed (m/s)	Stability Class					
		A	B	C	D	E	F
1	< 0.6	86%	86%	80%	72%	46%	30%
2	0.6 – 1.2	149%	149%	139%	125%	80%	52%

^c MLA. (2015). Development of an Odour Emissions Model for Australian Feedlots. Part A: Sampling results – Odour emissions from Australian feedlots. Project reference B.FLT.0369).



Wind Speed Category	Wind Speed (m/s)	Stability Class					
		A	B	C	D	E	F
3	1.2 – 1.8	192%	192%	180%	161%	104%	67%
4	1.8 – 2.4	227%	227%	213%	190%	123%	79%
5	2.4 – 3.0	257%	257%	241%	216%	139%	90%
6	> 3.0	399%	399%	374%	335%	216%	139%

5.4 Summary of Emissions

The layout of the odour emission sources of the Subject Site is shown in Figure 7. Average odour emission rates based on size for each of the source types is shown in Table 7.

Table 7: Average Emissions for Feedlot

Feedlot	Average Emission Rate (ou/sec)				
	Pens	Holding Ponds	Sedimentation Basin	Manure Stockpile	Total
Existing	69,804	116,090	4,078	11,179	201,151
Future	129,005	77,403	4,957	22,358	233,723

Figure 7 presents the layout of the proposed stages of expansion.

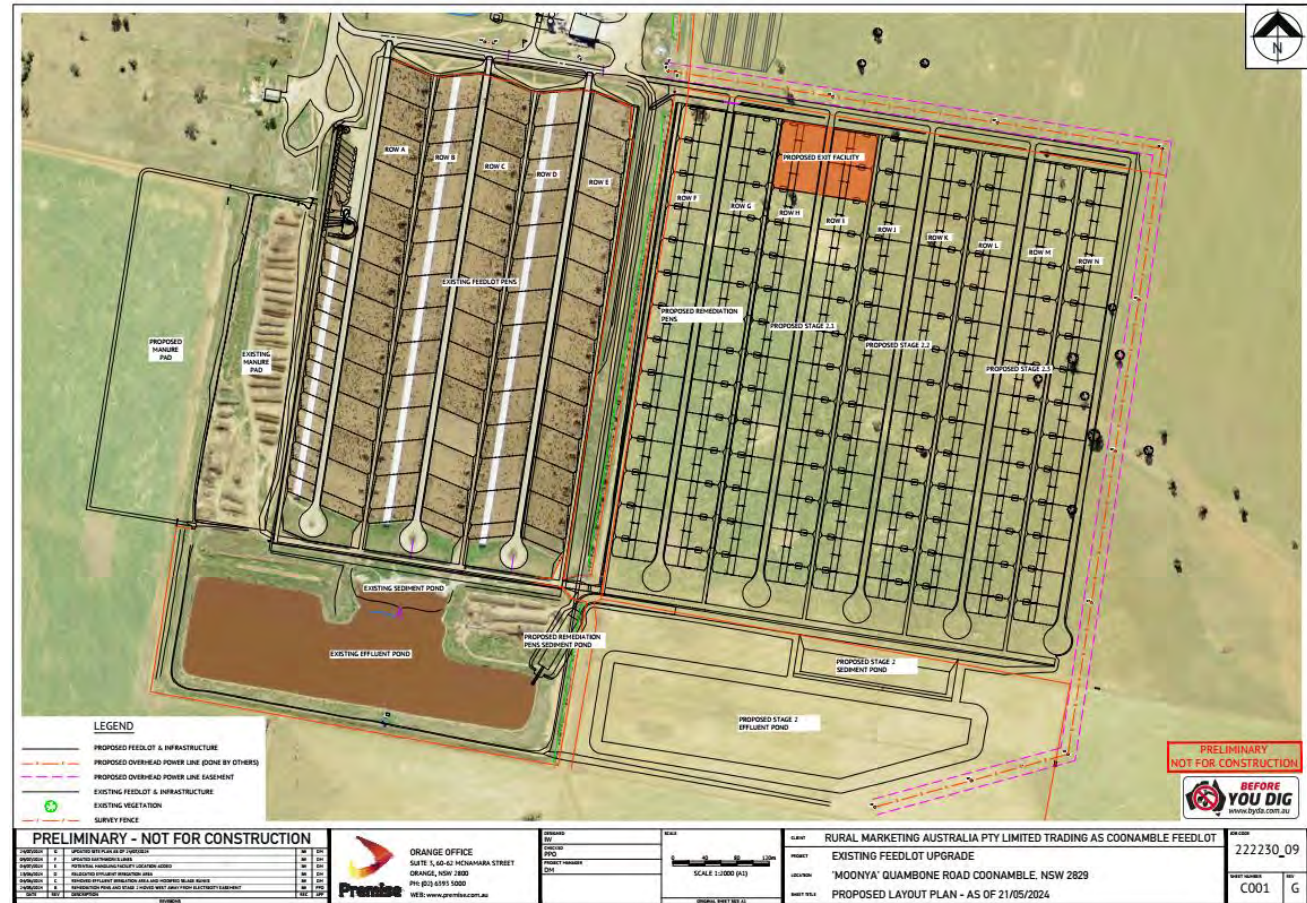


Figure 7: Existing Operations and Proposed Development



6 PREDICTED ODOUR CONCENTRATIONS

The results in this Section are presented as follows:

- Predicted concentrations from the existing feedlot operations based on feedlot modelling from MEDLI; and
- Predicted concentration of the existing and future expansion based on feedlot modelling from MEDLI.

The results indicate the following:

- Predicted ground-level concentrations of odour due to the existing feedlot comply with the assessment criterion of 5.6 ou 1-second 99th percentile at all sensitive receptors.
- Predicted ground-level concentrations of odour due to the expanded feedlot comply with the assessment criterion of 5.6 ou 1-second 99th percentile at all sensitive receptors except R16, which is a recent development.
- The highest predicted odour concentration for the existing feedlot is at receptor R13 with a 1-second, 99th percentile concentration of 1.6 OU. The future expansion will increase the odour concentration to 1-second, 99th percentile 5.4 OU at this receptor.

Table 8 presents a summary of the predicted odour concentrations at the sensitive receptors for existing and future operations.

Table 8: Predicted Ground Level Odour Concentration at Sensitive Receptors

Receptor	Predicted 1 Second, 99 th Percentile Odour Concentration (OU)		Criteria (OU)	Compliant?
	Existing Operations	Future Operations		
R1	0.7	2.9	5.6	Yes
R2	0.4	2.0	5.6	Yes
R3	0.2	1.0	5.6	Yes
R4	0.2	0.8	5.6	Yes
R5	0.2	0.6	5.6	Yes
R6	0.2	0.7	5.6	Yes
R7	0.2	0.9	5.6	Yes
R8	0.3	1.8	5.6	Yes
R9	0.9	4.7	5.6	Yes
R10	0.2	0.8	5.6	Yes
R11	0.4	2.3	5.6	Yes
R12	0.2	1.3	5.6	Yes
R13	1.6	5.4	5.6	Yes
R14	0.5	1.7	5.6	Yes
R15	0.8	2.2	5.6	Yes

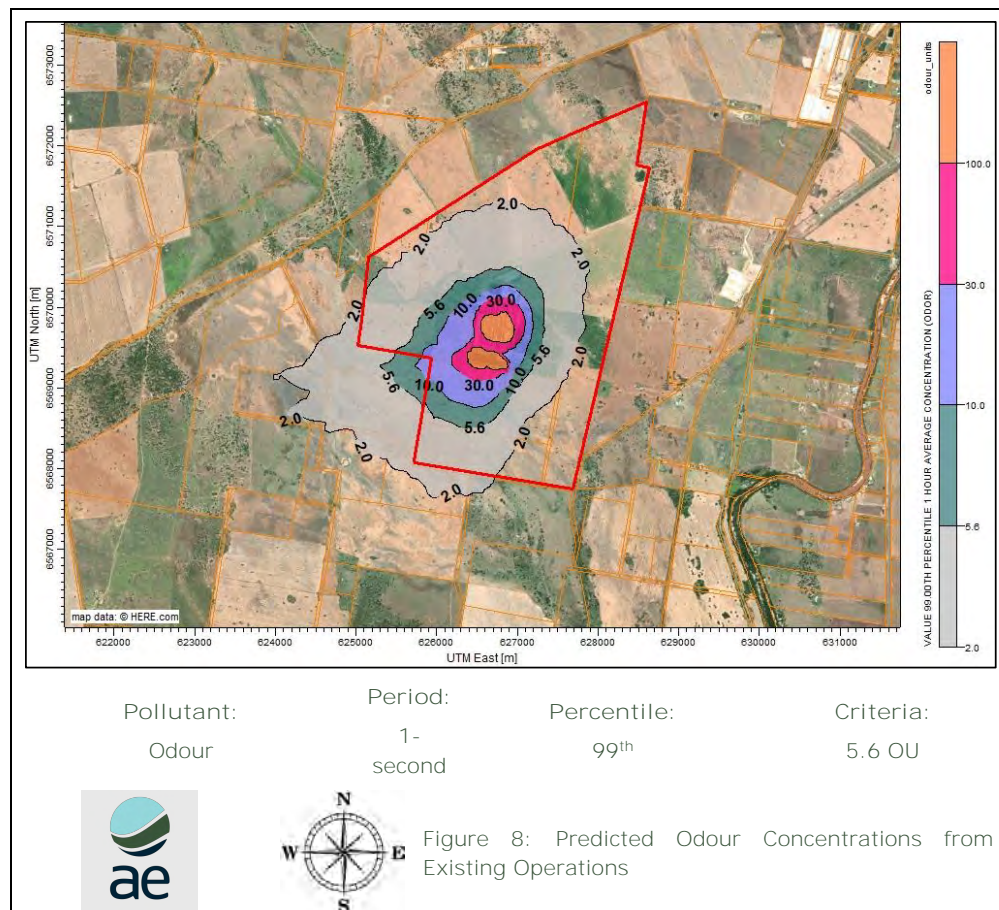


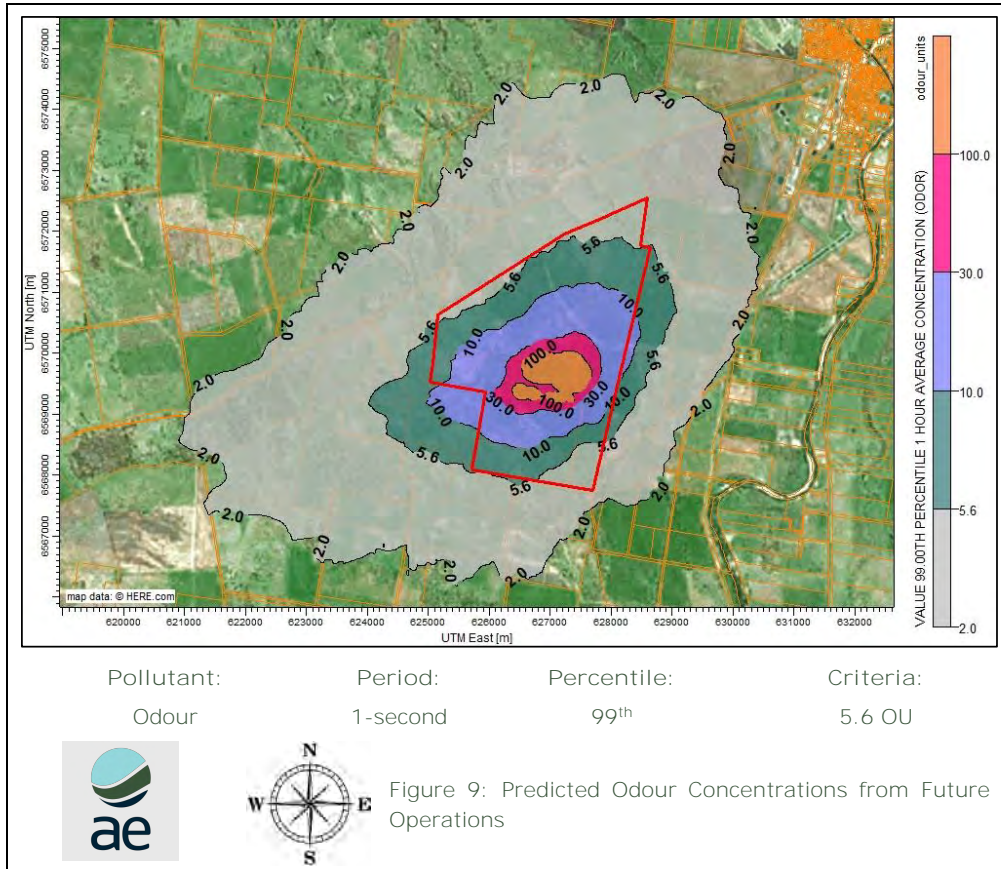
Receptor	Predicted 1 Second, 99 th Percentile Odour Concentration (OU)		Criteria (OU)	Compliant?
	Existing Operations	Future Operations		
RI6	0.8	5.7	5.6	No

Figure 7 presents the isopleths for the existing operations. It can be seen that the 5.6 ou contour sits within the Subject Site boundary, excepts the south west corner. The future expansion is shown in Figure 9, which shows the 5.6 ou contour extending beyond the Subject Site boundary to the east and south west.

For the future operations, the 2-ou contour, which as detailed in Table 3 is applicable to urban areas (with a population >2,000 people), does not encroach towards Coonamble township.

The odour guidelines require the predicted odour concentration to be for the 99th percentile; the predicted results show compliance is achieved, however there is still a likelihood that odours from the feedlot may occasionally be detected in Coonamble. This occurrence doesn't necessarily indicate non-compliance, as sporadic odour detections may occur due to various factors such as changes in weather conditions (including light winds and low mixing heights during the night as well as excessive rainfall), or other transient influences.







7 MITIGATION

7.1 Facility Management

In instances where predicted odour concentrations exceed the established odour criteria, (R16), proactive mitigation measures become paramount to ensure regulatory compliance and minimise potential impacts on surrounding communities. Immediate steps should include intensifying cleaning and housekeeping practices within the beef feedlot facility, with a focus on increasing the frequency of manure removal and maintaining waste management protocols.

The proposed feedlot follows best practice design and maintenance guidelines to minimise odour generation. The Technical Framework (DEC, 2006) recommends that no individual be exposed to ambient odour levels greater than 1-second, 99th percentile 7 OU, which the predicted results comply with.

7.2 Managing Odour in the Pathway

The Technical Framework discusses managing odour in the pathway; establishing a stand of trees or shrubs can help disperse odour before it reaches the boundary of a facility or reduce the wind over an odour source (for example, holding ponds).

The effectiveness of a vegetation barrier is determined by its height, thickness and width, as well as the appropriateness of its location. This solution is an especially suitable option in an agricultural setting where the trees will also act as a dust filter and may release a natural masking fragrance. Figure 10 presents two vegetation buffers for the expanded facility; the preferred location is as close to the pens as this would be more effective.

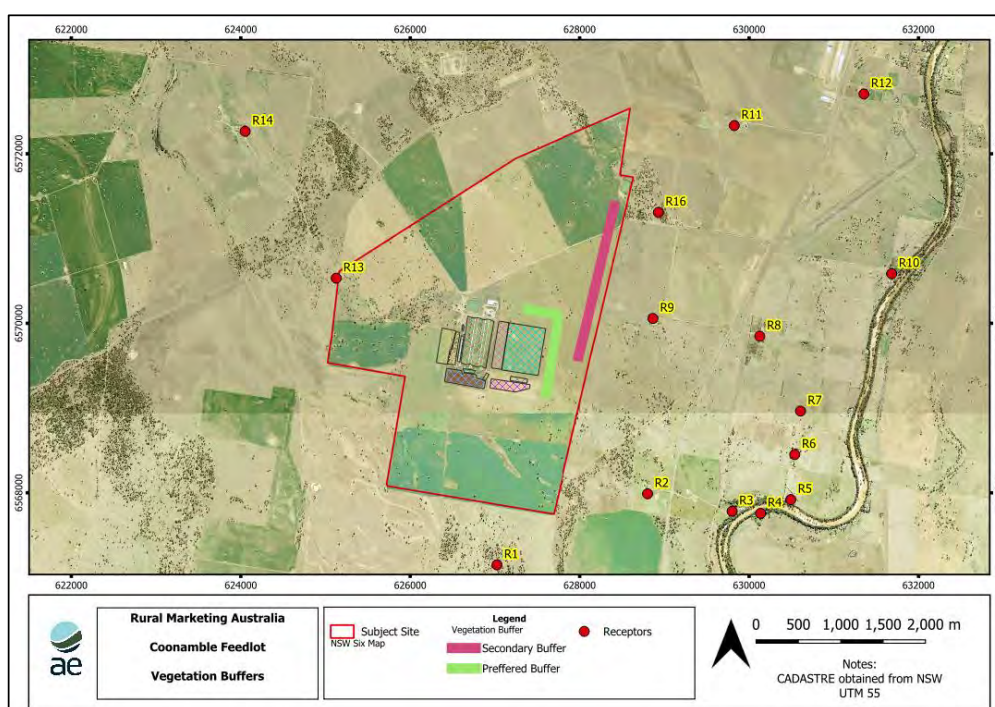


Figure 10: Recommended Vegetation Buffers



7.3 Buffer Design

The most effective vegetation buffer design comprises:

- A minimum 5 – 10 m wide buffer;
- As close to the odour source as possible, taking into account localised topography;
- A variety of tree species and heights. A mixture of ground cover species, shrubs, small trees and large trees.

An example of a design is presented in Figure 11. A landscape consultant should provide the correct species suitable for the buffer.

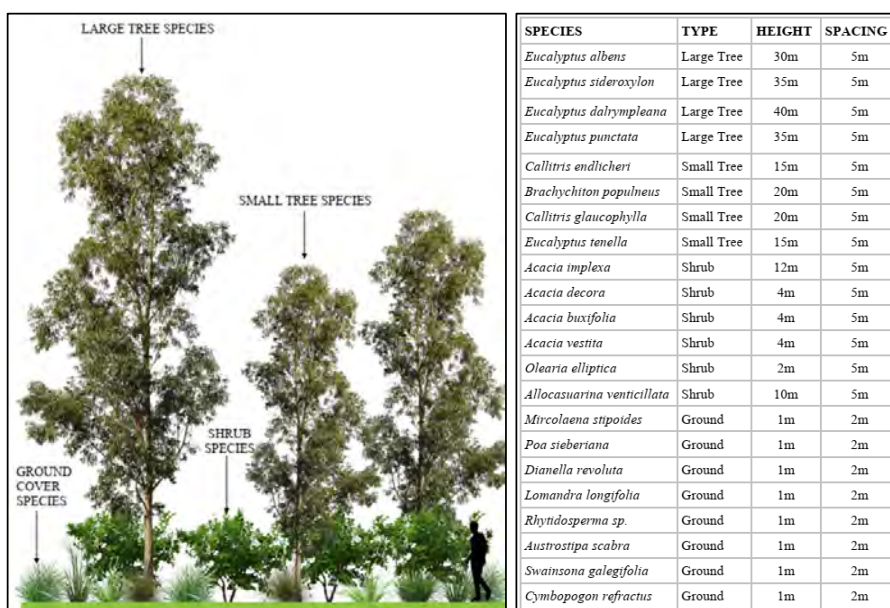


Figure 11: Example of Vegetation Buffer Design



8 CONCLUSION

Rural Marketing Australia (RMA) trading as Coonamble Feedlot are proposing to expand their existing beef cattle feedlot at Coonamble. The existing feedlot is licensed to 10,000 Standard Cattle Units (SCU). RMA are seeking approval to expand their feedlot to carry up to 30,000 SCU.

Assured Environmental have undertaken a Level 3 air quality assessment in accordance with *“Technical Framework - Assessment and management of odour from stationary sources in NSW”* (DEC, 2006). The odour emission rates have been developed from the methodologies detailed in *“Development of an odour emissions model for Australian feedlots. Part F: Emissions estimation and model application”* (MLA, 2015) using outputs from the feedlot module within the MEDLI model as provided by Premise.

The evaluation of air quality has examined potential increases in odour concentrations on surrounding sensitive receptors. This assessment utilised dispersion modelling employing TAPM and CALMET to simulate meteorological conditions for a representative year, along with CALPUFF for dispersion modelling. The outcomes of dispersion modelling have been compared to the necessary regulatory thresholds.

The results show that the predicted ground-level concentrations of odour due to the expanded feedlot comply with the assessment criterion of 5.6 ou 1-second 99th percentile at all sensitive receptors except RI6. In addition, the township of Coonamble will comply with the 2-ou contour, which is applicable to urban areas.

In instances where predicted odour concentrations exceed the established odour criteria, such as RI6, proactive mitigation measures become paramount to ensure regulatory compliance and minimise potential impacts on surrounding communities. Immediate steps should include intensifying cleaning and housekeeping practices within the beef feedlot facility, with a focus on increasing the frequency of manure removal and maintaining waste management protocols to reduce the off-site impacts.

It is recommended that a vegetation buffer is developed and maintained as outlined in Figure 10 and follows the guidelines in section 7.3. These buffers will promote odour dispersion and are an accepted mitigation measure to manage odour in the pathway from source to receptor as outlined in the Technical Framework.



APPENIDX A: METEOROLOGICAL VARIBILITY AND ASSESSMENT YEAR SELECTION

Site Weather Station

As detailed in Section 2, there is a weather station located at the Subject Site. The height of the weather station is 2 m above ground. As such, the use of the weather station data is not suitable for dispersion modelling.

Methodology

The nearest available automatic weather stations (AWS) to the project area that are operated by the Bureau of Meteorology is located in Coonamble Airport (station number 51161), which is located 11 km from the Subject Site.

Table 9: Summary of Meteorological Parameters Available at BOM Stations Reviewed

Station	Meteorological Parameters Available				
	Wind Speed	Wind Direction	Air Temperature	Sea Level Pressure	Rainfall
BOM Coonamble Airport	Y	Y	Y	Y	Y

Meteorological data from Coonamble was reviewed between 2015 – 2019 to determine its suitability for use in the air quality modelling. When determining the most suitable year for modelling, the following considerations apply:

- A year with a moderate or strong El Nino Southern Oscillation Index (SOI) classification should be avoided, where possible.
- A year with rainfall significantly higher or lower than average should be avoided, where possible.
- Temperature, wind speed, wind direction and mean sea level pressure should be as close to the mean distribution as possible.

Analysis of Yearly Variability

Rainfall

Annually, the mean rainfall is 374 mm between 2015 - 2019. The closest year is 2017 with 348 mm.

Southern Oscillation Index

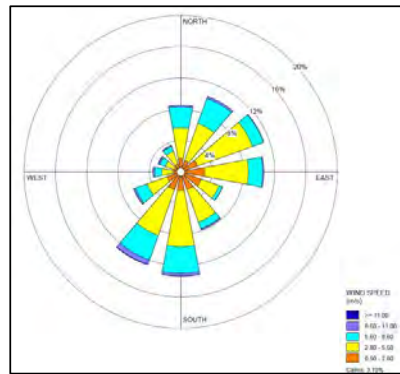
The Southern Oscillation Index, or SOI, gives an indication of the development and intensity of El Niño or La Niña events in the Pacific Ocean. Bureau of Meteorology releases monthly values of the SOI. The mean value for each year has identified:

- The neutral years (neither El Nino or La Nina) are 2016, 2017 and 2018.
- El Nino year is 2015 (strong) and 2019 (weak).

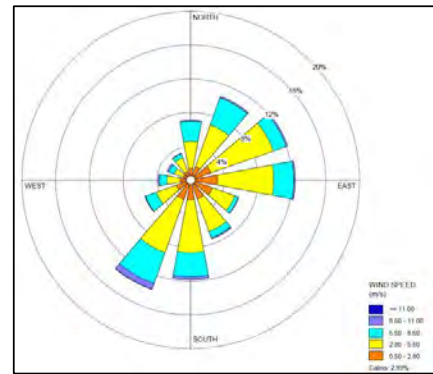


Most Suitable Year for Modelling

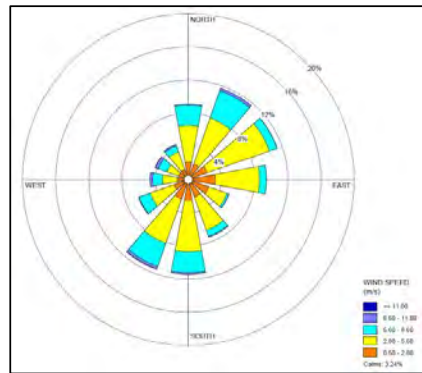
To determine the most representative meteorological year to utilise in the modelling, seven years (2012 - 2019) of meteorological observations from BOM Coonamble Airport (station number 051161) were reviewed. Figure 12 presents the annual wind roses for 2012 – 2019.



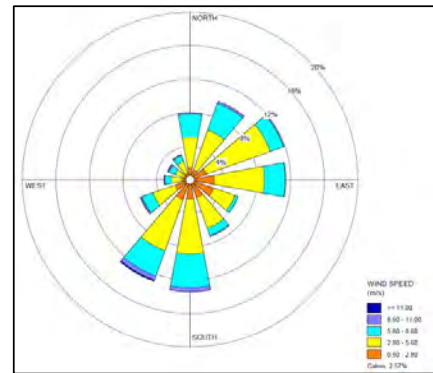
Annual 2012 - 2019



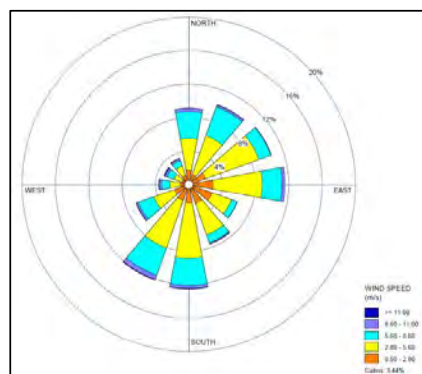
Annual 2015



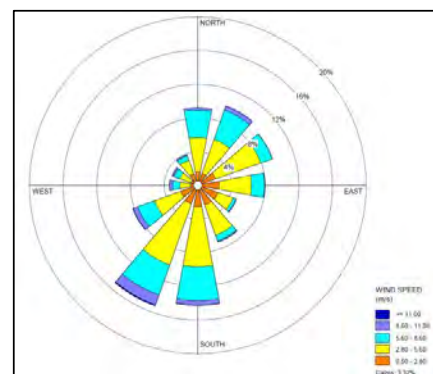
Annual 2016



Annual 2017



Annual 2018



Annual 2019

Figure 12: Annual Wind Roses from BOM Coonamble Airport (2012 - 2019)



Figure 12 present the observed annual wind roses for BOM Coonamble Airport The following is noted:

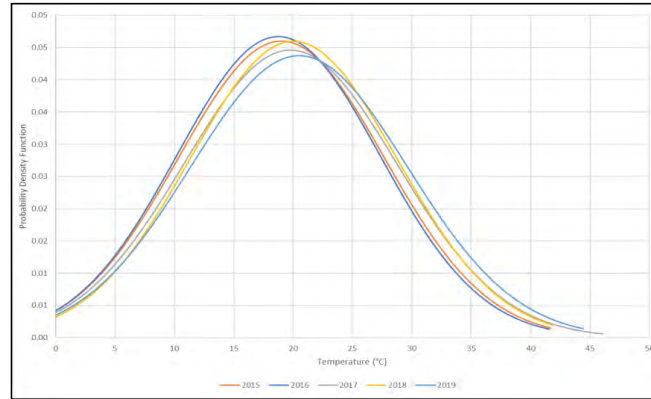
- The annual wind roses for all years are very similar in wind direction and wind speed to the seven-year wind roses.
- 2017 and 2019 are the closest representative wind roses of the five years reviewed.

Figure 13 a yearly comparison of various meteorological parameters against the five-year dataset.

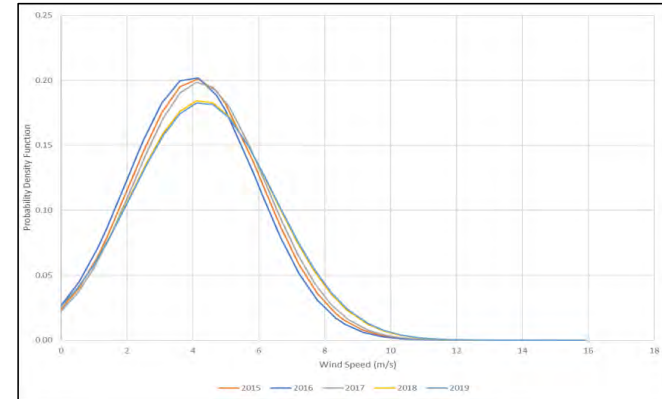
Additionally, the statistical correlations (probability density functions) and rainfall were analysed and are shown in Figure 13. The following was found:

- Slight variability in wind direction and wind speed was noted;
- The year 2017 demonstrated the highest correlation for rainfall;
- 2019 was the best year for temperature and relative humidity but was a very dry year.

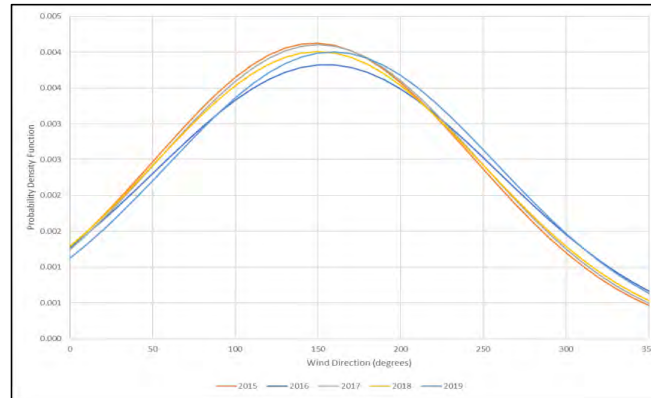
Based on this assessment, the year 2017 was selected as a representative period for the meteorological modelling simulation.



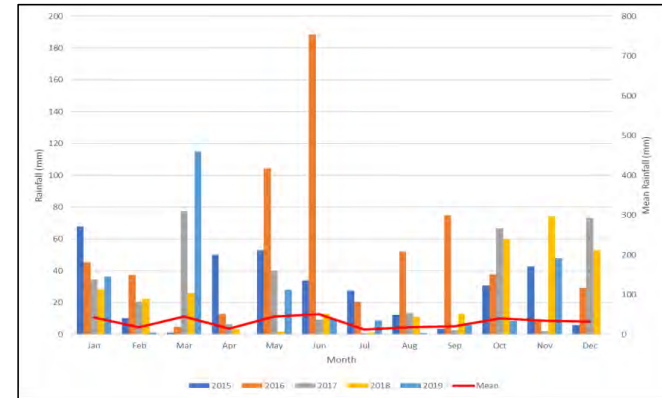
Temperature



Wind Speed



Wind Direction



Rainfall

Figure 13: Meteorological Analysis at Coonamble Airport



APPENDIX B: METEOROLOGICAL MODEL PERFORMANCE AND SITE CONDITIONS

Model Performance

Figure 14 presents a comparison of the 9 am, 3 pm, and annual 2017 predicted and observed wind roses at BOM Coonamble.

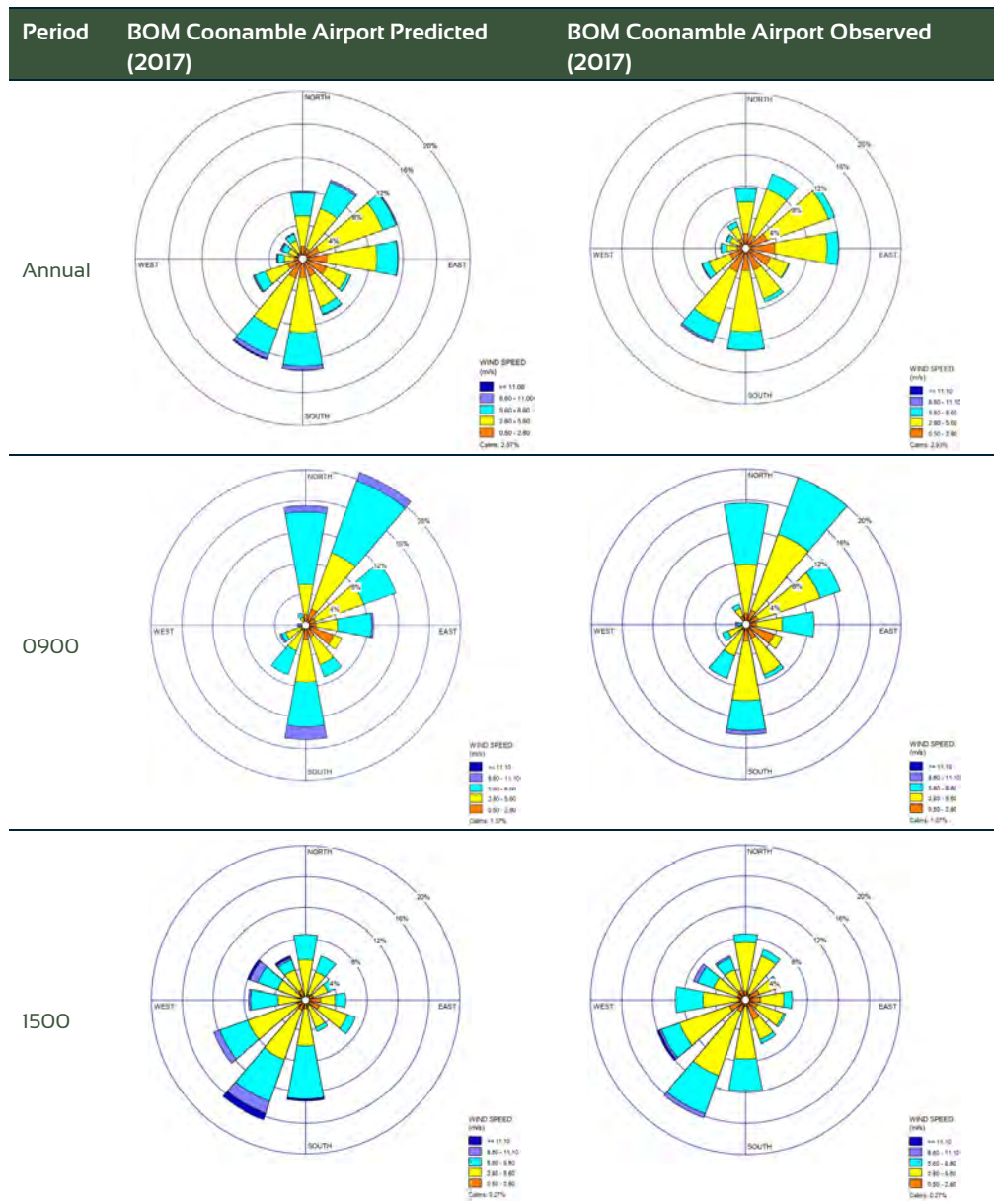


Figure 14: Comparison of Predicted (2017) and BOM Observed Wind Roses (2017) at BOM Coonamble Airport

Comparison of the BOM site observed wind roses with predicted wind roses indicate a very close correlation between the wind roses. The predicted wind speed is lower than the observed



wind speed, which is a known feature of TAPM. The dispersion of odour occurs during calm conditions; therefore, the lower wind speeds will not affect the dispersion of odour.

Figure 15 shows the probability density functions that graphically compare statistical distributions of individual meteorological parameters between TAPM/CALMET output and observational data, as extracted from the BOM Coonamble location.

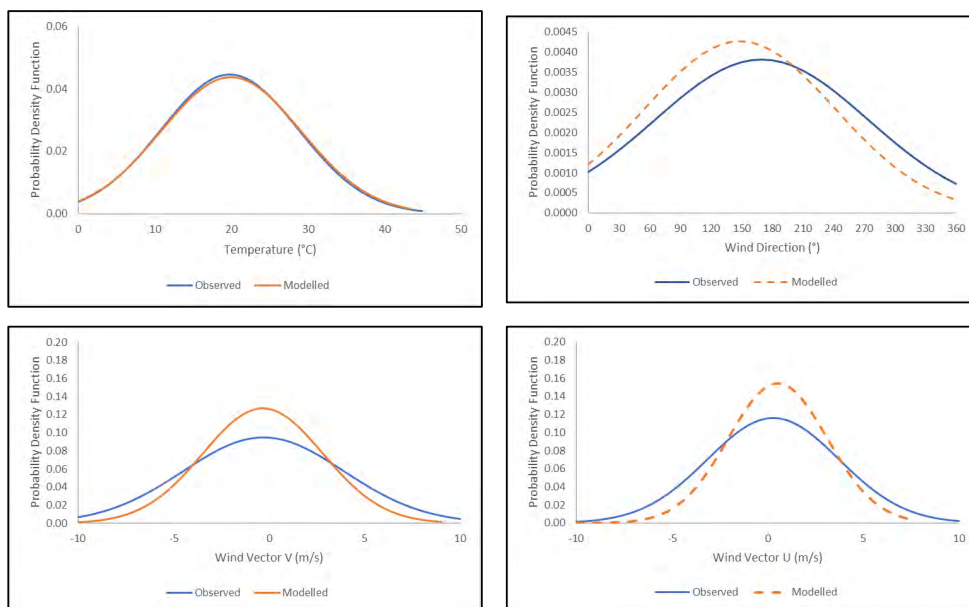


Figure 15: Probability Density Functions (pdf) Comparing Observational and Modelled Data at BOM Coonamble Airport

Review of the data has identified that the modelled and observed datasets are very similar, with the following noted:

- The modelled temperatures are more likely to be higher than those observed;
- The modelled wind vector V (south/north component) is slightly different to the observed.
- The modelled wind speed and wind vector U (east/ west component) are very similar to those observed with the wind vector U modelled values matching the observed values.

On this basis, the prognostic dataset is considered suitable for the purposes of the assessment.

Prognostic Dataset Review at Subject Site

This section provides an analysis of the prognostic meteorological dataset extracted from the CALMET model for 2017 at the Subject Site.

Predicted Atmospheric Stability

The amount of turbulence in the ambient air has a major effect upon the rise and dispersion of emissions. In particular, the amount of turbulence in the atmosphere plays a key role in diffusion of an emitted plume in the air with stronger turbulence (increased instability) increasing the rate of diffusion. Where the atmosphere exhibits weak turbulence (increased stability), downwind contaminant concentrations can be expected to increase due to the limited diffusion.



Figure 16 presents the diurnal variability in atmospheric stability identified in the predicted meteorological dataset. As can be seen, atmospheric instability increased during the day where the influence of solar energy drives convection in the atmosphere. Conversely, increased stability can be seen during night periods where stable conditions are predicted for more than 50% of the time.

Monin-Obukhov Length

The Monin-Obukhov Length represents a parameter (with dimension of length) which provides a relationship between parameters characterising dynamic, thermal, and buoyant processes. The parameter, first described by Obukhov in 1946, is the characteristic height scale of the dynamic sub-layer of the atmosphere and is positive for stable stratifications and negative for unstable stratifications.

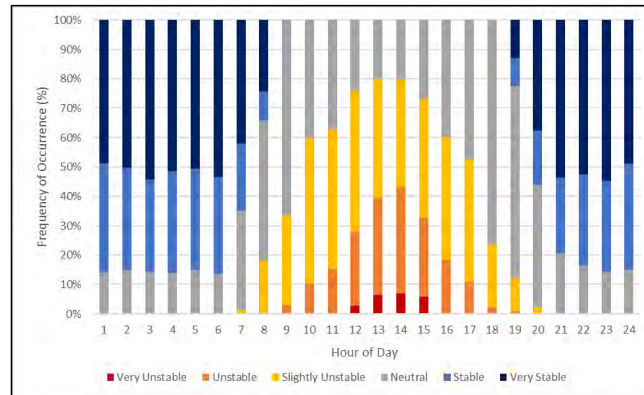
Figure 16 presents a graphical representation of the reciprocal of the Monin-Obukhov length (1/L) for the 2017 prognostic (CALMET) dataset. In this figure, neutral stability conditions have the 1/L value of zero (0), stable conditions have positive values of 1/L and unstable conditions have negative values of 1/L. The more positive 1/L value, the more stable the atmosphere is assumed to be by the model. Similarly, the more negative 1/L becomes, the more unstable the atmosphere is assumed to be by the model.

Predicted Atmospheric Mixing Height

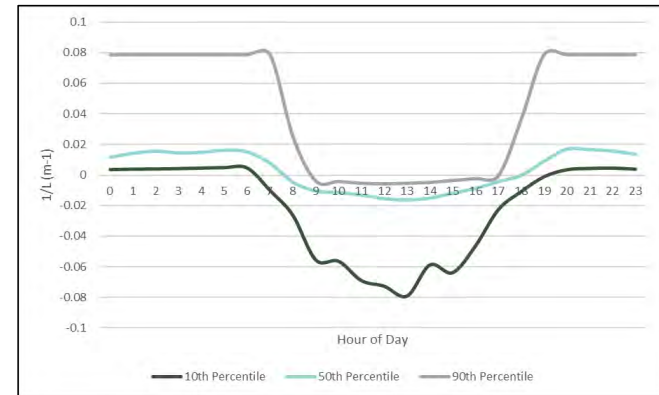
Figure 16 presents an illustration of diurnal variations in maximum and average mixing heights predicted by CALMET at the Subject Site across the 2017 prognostic meteorological dataset. As expected, an increase in mixing height during the morning is apparent, arising due to the onset of vertical mixing following sunrise. Maximum mixing heights generally occur in the mid to late afternoon, due to the dissipation of ground-based temperature inversions and growth of the convective mixing layer. The highest maximum mixing height for the Subject Site occurs during the late afternoon period.

Temperature

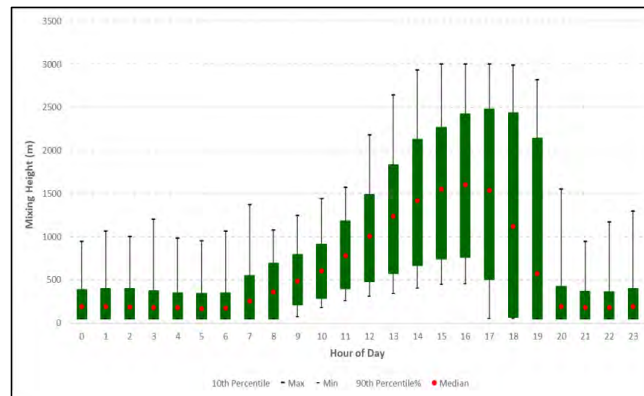
Figure 16 presents an illustration of diurnal variations in maximum and average temperatures predicted by CALMET at the Subject Site across the 2017 prognostic meteorological dataset.



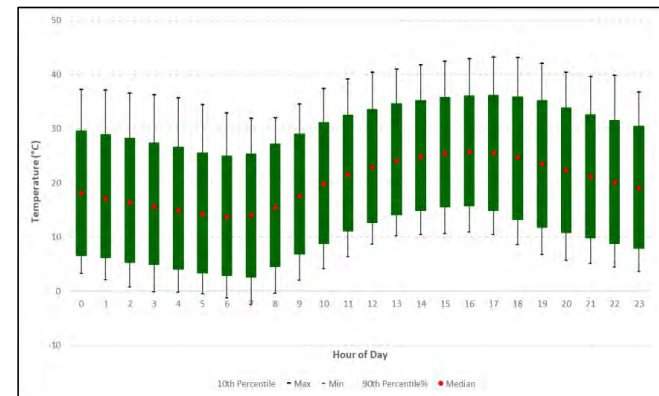
Annual Atmospheric Stability by Hour



Annual Variability of Monin-Obukhov Length by Hour



Atmospheric Mixing Height by Hour



Temperature by Hour

Figure 16: Meteorological Analysis at Subject Site



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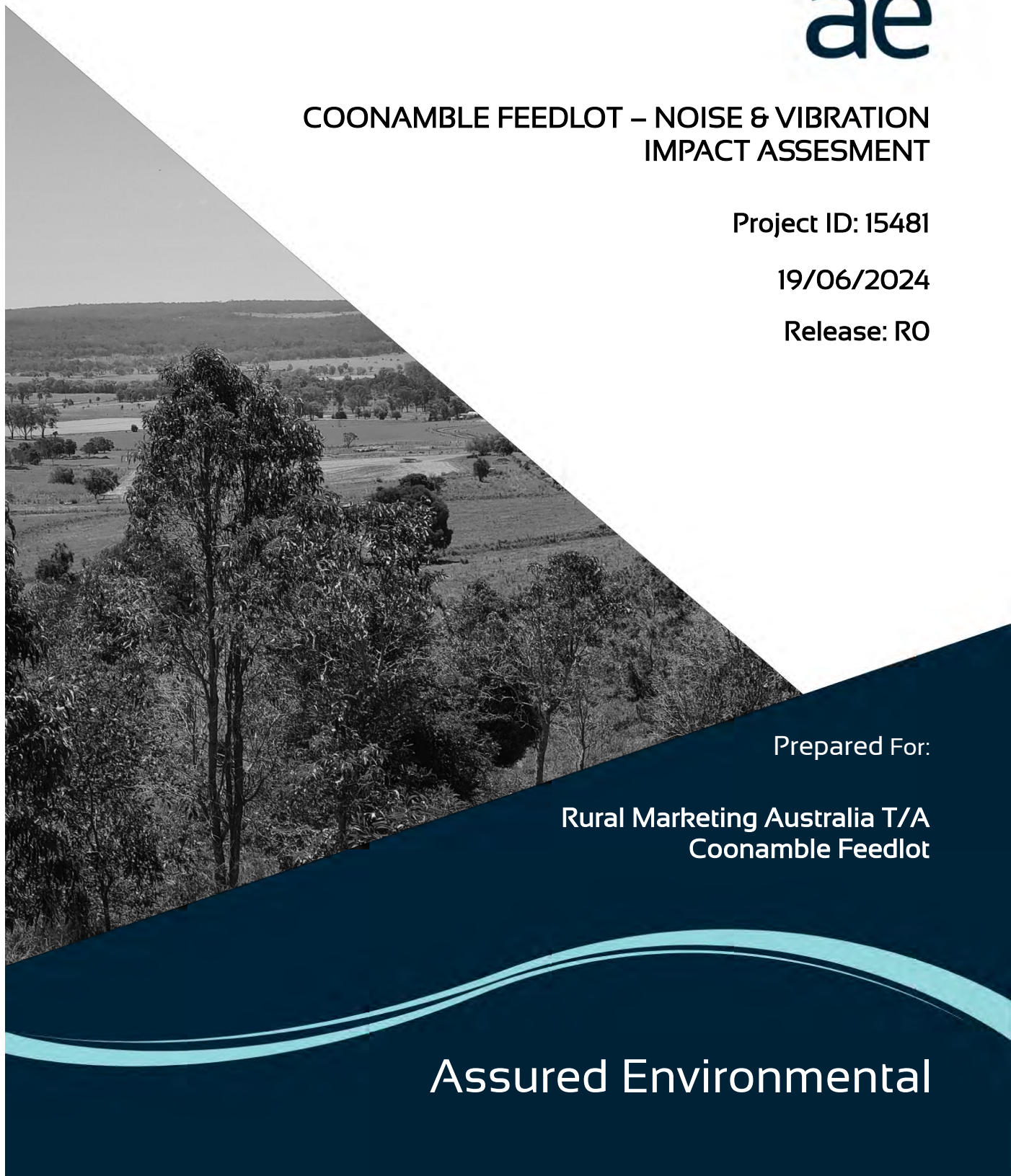


**COONAMBLE FEEDLOT – NOISE & VIBRATION
IMPACT ASSESMENT**

Project ID: 15481

19/06/2024

Release: RO



Prepared For:

**Rural Marketing Australia T/A
Coonamble Feedlot**

Assured Environmental



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Project Reference ID: 15481

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Reviewer: Luke McPherson

Table 1: History of Revisions

Revision	Date	Issued to	Changes
RO	19/06/2024	D. Mathew	Initial Release

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1 INTRODUCTION

1.1 Background

Rural Marketing Australia (RMA) trading as Coonamble Feedlot are proposing to expand their existing beef cattle feedlot at Coonamble. The existing feedlot is licensed to 10,000 Standard Cattle Units (SCU). RMA are seeking approval to expand their feedlot to carry up to 30,000 SCU.

1.2 Scope of Assessment

Assured Environmental (AE) has been engaged by RMA to prepare a noise impact assessment of the proposed 30,000 SCU expansion to their feedlot at 701 Quambone Road, Coonamble. The assessment has been undertaken in accordance with the following guidelines:

- NSW Noise Policy for Industry (NPFI) (EPA,2017);
- NSW Road Noise Policy (DECCW, 2011);
- NSW Draft Construction Noise Guideline (EPA,2020);
- NSW Assessing Vibration: A technical guideline (DEC,2006).

1.3 SEARS

Planning Secretary's Environmental Assessment Requirements (SEAR) reference #1848 was received on 12 February 2024. In relation to noise and vibration, the following requirements were identified:

- A description of all potential noise and vibration sources during construction and operation, including road traffic noise and cumulative impacts
- A noise and vibration assessment in accordance with the relevant Environmental Protection Authority guidelines
- A description and appraisal of noise and vibration mitigation and monitoring measures.

1.4 This Report

This report summaries the methodology, results and conclusions of the noise and vibration impact assessment



2 DESCRIPTION OF ENVIRONMENTAL VALUES

2.1 Location

The Subject Site is located at 701 Quambone Road, Coonamble, NSW on five lots:

- Lot 1 on DP1124929;
- Lot 113 on DP754199;
- Lot 119 on DP754199;
- Lot 121 on DP754199; and
- Lot 24 on DP754199.

The Feedlot is located within Coonamble Shire Council and is zoned as RUI (primary production) with an overall Lot size of 1,035 ha. The Subject Site is located approximately 4 km southwest of the centre of Coonamble.

2.2 Receptors

A review of the land use of the surrounding area has identified that the land use is classed as Rural. Table 2 presents the nearest sensitive receptors. All surrounding receptors have been identified as residential land uses.

Table 2: Sensitive Receptors

Sensitive Receptor	Coordinates (UTM 55)		Land Zoning
	Eastings	Northings	
R1	627019	6567146	Rural (RUI)
R2	628807	6567984	Rural (RUI)
R3	629804	6567778	Rural (RUI)
R4	630140	6567754	Rural (RUI)
R5	630496	6567916	Rural (RUI)
R6	630543	6568447	Rural (RUI)
R7	630612	6568960	Rural (RUI)
R8	630131	6569854	Rural (RUI)
R9	628870	6570063	Rural (RUI)
R10	631687	6570591	Rural (RUI)
R11	629830	6572338	Rural (RUI)
R12	631360	6572711	Rural (RUI)
R13	625122	6570538	Rural (RUI)
R14	624048	6572270	Rural (RUI)
R15	624953	6566740	Rural (RUI)
R16	628934	6571315	Rural (RUI)

2.3 Terrain

There is no Lidar coverage of the Subject Site and surrounding area, as such, the topography data was extracted from NASA's Shuttle Radar Topography Mission 1 (STRM 1) which provides coverage at 30 m intervals globally.



Figure 3 illustrates the local topography; it can be seen that the Subject Site is on the northwestern side of a hill. The Subject Site is relatively flat with the AHD ranging from 180 to 190 west to east.

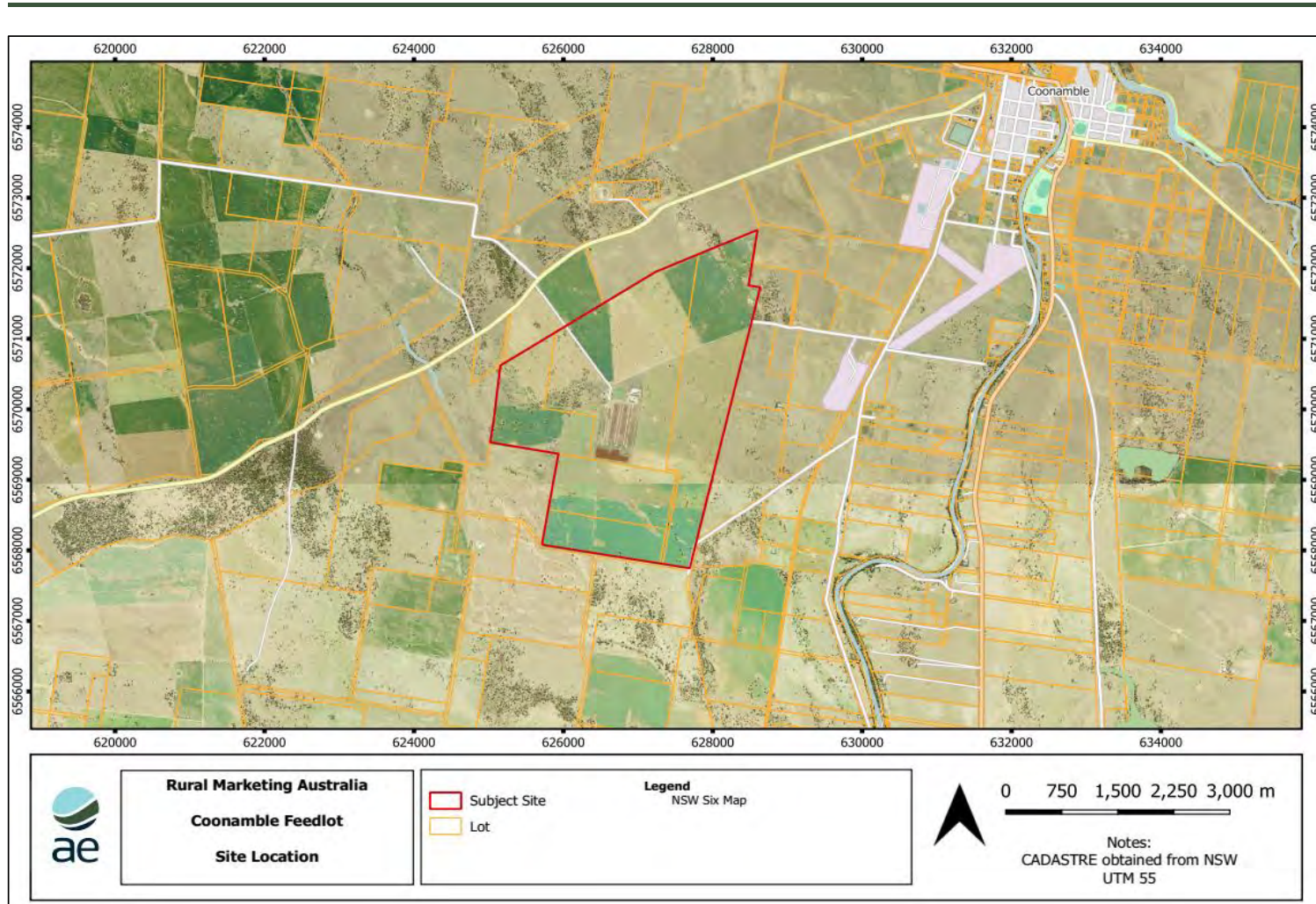


Figure 1: Site location

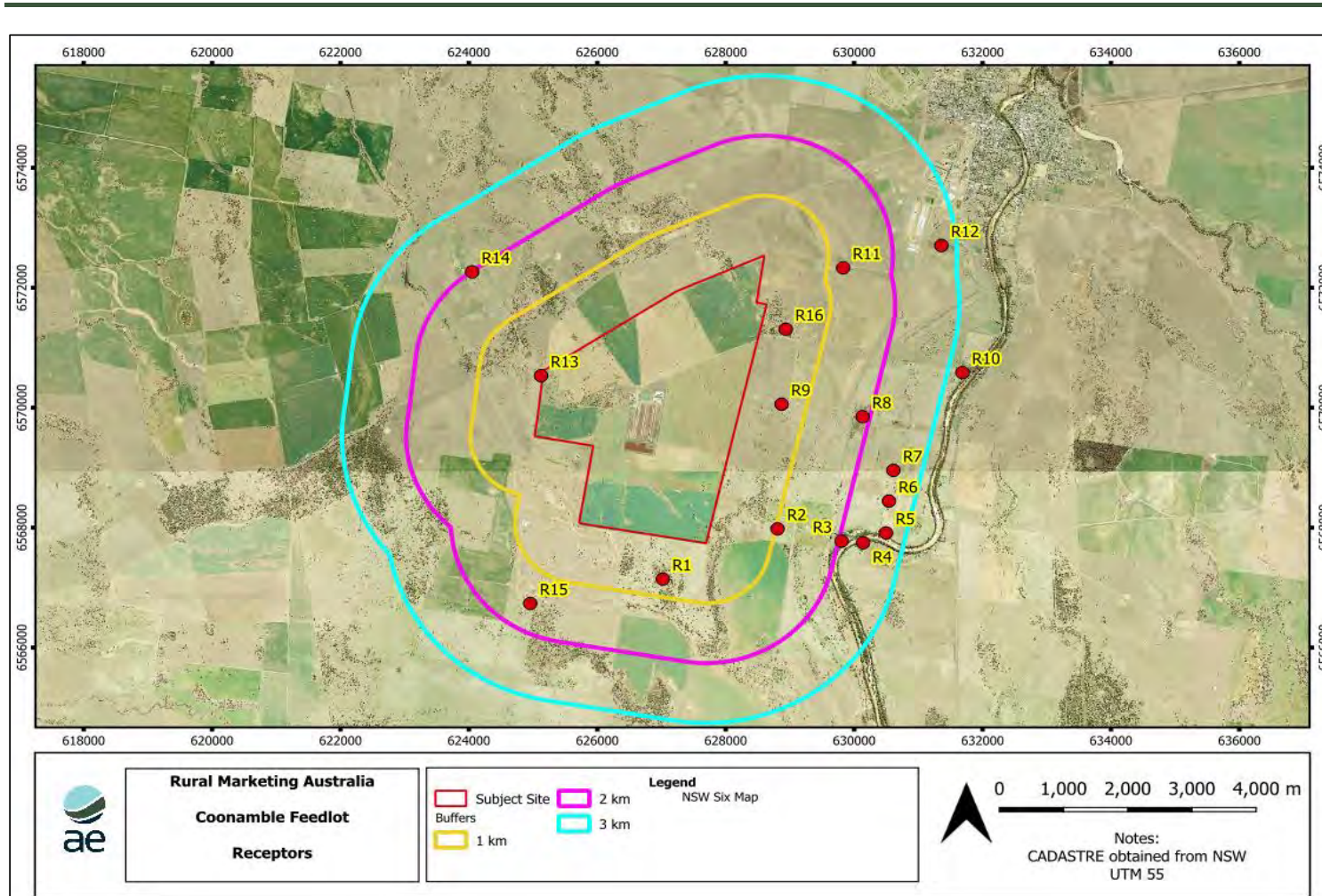


Figure 2: Receptor Locations



Figure 3: Topography



3 PROPOSED DEVELOPMENT

The proposed development involves an expansion of the existing feedlot to accommodate an over capacity in the order of 30,000 head. The existing feedlot has a capacity of 10,000 head. A summary of key elements of the proposal are set out in the Table 3 below.

Table 3: Comparison of Key Elements - Existing and Proposed.

Feedlot Operation	Existing	Proposed Total
Stock Unit Density	15 m2	14 m2
Area of Pens	19.5 ha	50 ha
Total runoff area	21.5 ha	58 ha
Sedimentation basin	4.1 ML	6.6 ML
Holding basin	57 ML	107 ML
Effluent irrigation area	Existing	Required
Solid waste application area	Existing	Required
Vehicle movements per day	6	13



4 CONSTRUCTION NOISE ASSESMENT

4.1 Duration of Construction Works

The construction of the facility expansion is expected to take approximately 28 weeks (~7 months) with an expansion to 20,000 SCU capacity and eventually to 30,000 SCU capacity.

Table 4: Standard Construction Hours

Work type	Weekday	Saturday	Sunday or Public Holiday
Normal Construction	0700 to 1800	0800 to 1300	No work

Table 4 presents the recommended standard hours for construction work as described by the Draft Construction Noise Guideline.

7am – 7pm Monday to Saturday are construction hours considered for this project as advised by Premise.

4.2 Draft Construction Guideline

Guidance on the assessment and management of construction noise in NSW is provided by the Draft Construction Noise Guideline 2020 published by the NSW EPA.

The main objectives of the guideline are to:

- Ensure noise impacts associated with construction activities are identified, minimised, and managed in a consistent and transparent manner,
- Provide flexibility to selecting appropriate work practices and mitigation measures to manage construction noise.
- Describe procedures for assessing the potential impact of construction noise.
- Provide a management framework that prioritises community relations and implementation of all feasible and reasonable mitigation measures.
- Streamline the assessment and approval stages and reduce time spent dealing with complaints at the project implantation stage.

In achieving these objectives, the guideline provides a framework for qualitative and quantitative assessment of potential construction noise impacts. Noting that, for major projects a quantitative assessment is the preferred approach. Table 5 presents construction noise criteria outlined in the guideline:



Table 5: NSW EPA Construction Noise Criteria - Residential Receivers

Time of Day	Management Level (Free-field)	How to Apply
Recommended standard hours: Monday to Friday, 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise Affected RBL + 10 dB	Where the predicted or measured $L_{Aeq}(15\text{ min})$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. As a matter of good practice, noise should be reduced as far as reasonably practicable. The proponent should also inform all potentially impacted residents.
	Highly Noise Affected 75 dB(A)	Where noise is above the highly noise affected management level, all feasible and reasonable mitigation shall be applied as well as engagement with the consent authority or regulator to identify other measures to manage noise impacts. Where appropriate, engagement with the community is encouraged to determine the preferred mitigation approach, such as: <ul style="list-style-type: none"> ▪ negotiated agreements and/or respite periods to restrict work activity, ▪ identification of times when the community is less sensitive to noise, including options for longer periods of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise Affected RBL + 5 dB	A strong justification would typically be required for works outside the recommended standard hours. The proponent shall apply all feasible and reasonable work practices to meet the noise affected management level. Where this cannot be met, residual impacts should be quantified, and potentially impacted residents notified. The supplementary mitigation described in Table 5 of the DCNG must also be considered.
	Highly Noise Affected 65 dB(A)	The highly noise affected management level represents the point above which the supplementary mitigation described in Table 5 of the DCNG. must be considered, subject to the application notes in section 5.4 of the DCNG. The proponent must justify the selection of feasible and reasonable mitigation, including the supplementary mitigation, with emphasis on consultation with the community and the consent authority or regulator, and community views on work scheduling and respite periods, as described in section 5.4 of the DCNG.

Selecting reasonable mitigation measures from those that are feasible; involves a judgement to determine whether the overall noise benefit outweighs the overall social, economic, and environmental effects.



4.3 Construction Noise Sources

In terms of noise emissions, the activities are expected to represent those with the most significant potential for adverse impacts.

It is noted that initial construction stages are expected to build straight to 20,000 SCU capacity in the 7 months of initial construction with additional construction to 30,000 SCU dependant on earthworks and the construction team.

Table 6 presents a summary of the equipment likely to be required to complete the construction works. The sound power levels presented have been sources from published noise emission data sets and the library of sources noise levels maintained by AE.

Table 6: Construction Phases and Expected Equipment

Construction Phase	Plant Item	Number Required ^{a)}	Individual Sound Power Level, dB(A)	Acoustical Usage Factor, % ^{b)}
Expansion of Feedlot to 30,000 Head	Vibratory Roller	2	101	40
	Water Cart	1	116	16
	Scraper	1	111	50
	Grader	2	104	20
	Excavator	1	113	40

- a) Assumed number operating concurrently at any given time during an assessment period.
- b) The 'Acoustical Usage Factor' represents the percentage of time that a particular item of equipment is assumed to be running at full power while working on site.
- c) Construction plant used intermittently as required. Continuous use not expected.
- d) Deliveries to site only to occur during standard construction hours.

4.4 Assessment of impacts

Calculations of the noise impacts from construction activities have been undertaken using first principle calculations based on the separation distance to the receptor.

Table 7 presents predicted receptor noise levels taking into consideration the following assumptions

- All equipment related to feedlot construction is located in the same area at the closest point where construction works are the take place, and the distance is measured to the boundary of noise sensitive receptors. This is a hypothetical worst-case scenario and unlikely to occur.
- The quantity of equipment at this stage of development are based off email correspondence with Premise dated 14th May 2024.
- Propagation is assumed to occur over hard ground, with no screening objects between the source and receptors.



As a result of these assumptions, calculated noise levels are considered to be a worst-case scenario.

Table 7: Predicted Receptor Noise Levels – Concurrent Construction Activities, dB(A)

Receptor	Description	Predicted Construction Noise Levels, $L_{Aeq, 15min}$	Standard Hours Criteria	
			Noise Affected	Highly Noise Affected
R1	Existing receptor	49	45	75
R2	Existing receptor	50	45	75
R3	Existing receptor	46	45	75
R4	Existing receptor	45	45	75
R5	Existing receptor	45	45	75
R6	Existing receptor	45	45	75
R7	Existing receptor	45	45	75
R8	Existing receptor	47	45	75
R9	Existing receptor	53	45	75
R10	Existing receptor	43	45	75
R11	Existing receptor	49	45	75
R12	Existing receptor	42	45	75
R13	Existing receptor	49	45	75
R14	Existing receptor	44	45	75
R15	Existing receptor	45	45	75
R16	Existing receptor	49	45	75

The calculated construction noise levels exceed the noise affected level during the proposed works, though the highly noise affected levels is not expected to be exceeded. These results warrant consideration of all feasible and reasonable mitigation measures to reduce the impacts of construction noise.



Table 8: Predicted Receptor Noise Levels – Outside of Standard Hours Construction Activities, dB(A)

Receptor	Description	Predicted Construction Noise Levels, L _{Aeq, 15min}	Outside Standard Hours	
			Noise Affected	Highly Noise Affected
R1	Existing receptor	49	40	65
R2	Existing receptor	50	40	65
R3	Existing receptor	46	40	65
R4	Existing receptor	45	40	65
R5	Existing receptor	45	40	65
R6	Existing receptor	45	40	65
R7	Existing receptor	45	40	65
R8	Existing receptor	47	40	65
R9	Existing receptor	53	40	65
R10	Existing receptor	43	40	65
R11	Existing receptor	49	40	65
R12	Existing receptor	42	40	65
R13	Existing receptor	49	40	65
R14	Existing receptor	44	40	65
R15	Existing receptor	45	40	65
R16	Existing receptor	49	40	65

The construction hours for the project were identified as between 07:00 to 19:00 for the duration of the construction period. Construction falling between the hours of 17:00 – 19:00 falls outside of standard working hours and is subject to more stringent assessment criteria.

For work occurring outside of standard working hours, Table 8 demonstrates the calculated construction noise levels exceed the noise affected level but are below the highly noise affected criteria. The proponent shall apply all feasible and reasonable work practices to minimise construction noise impacts.



4.5 Mitigation of Construction Noise Levels

Given the variable and mobile nature of the construction works, the use of permanent or temporary acoustic barriers at source is not considered feasible. Potential controls available to the construction contractor to minimise potential impacts for construction works could include:

- Limiting the type and scale of concurrent activities undertaken close to sensitive receptors where possible;
- Using broadband reversing alarms on all mobile plant and equipment;
- Examine different types of machines that perform the same function and compare the noise level data to select the least noisy machine;
- Operating plant in a quiet and efficient manner;
- Reduce throttle setting and turn off equipment when not being used;
- Regularly inspect and maintain equipment to ensure it is in good working order including checking the condition of mufflers; and
- Conduct community consultation to discuss the timing of works and potential respite periods.

It is recommended that during any work generating high noise levels that have impulsive, intermittent, low frequency or tonal characteristics, consultation with sensitive receptors occurs regularly.

It is also noted that work outside of standard operational hours occurs on weekdays between 6pm and 7pm and on Saturday between 1pm and 7pm. Where practical, noise should be reduced as much as possible during these hours and affected residents should be notified of working hours and duration of construction.

As the highest predicted noise levels do not exceed the highly noise affected criteria of 65 dB(A) at any receptor, the implementation of additional noise controls not listed above, such as construction noise monitoring, is not considered necessary.



5 CONSTRUCTION VIBRATION ASSESSMENT

5.1 Overview

A review of the proposal indicates that there are earthworks required during the establishment of the new feedlot pens. As a result, there is potential from generation of ground borne vibration during the construction phase, although it is noted that no piling is proposed. Regardless, an assessment of the potential for vibration impacts has been undertaken. In particular, the assessment has considered the potential for impacts on both human comfort and structural damage for the nearest residence to the construction works.

5.2 Assessment Criteria

The vibration criteria presented in the Environmental Noise Management – *Assessing Vibration: A Technical Guideline* (2006) published by the NSW Department of Environment and Conservation (DEC) have been adopted for the assessment. The technical guide provides vibration criteria associated with amenity impacts (human annoyance) for the three categories of vibration:

- Continuous vibration (e.g., road traffic, continuous construction activity);
- Impulsive vibration includes less than 3 distinct vibration events in an assessment period (e.g., occasional dropping of heavy equipment); and
- Intermittent vibration includes interrupted periods of continuous vibration (e.g., drilling), repeated periods of impulsive vibration (e.g., pile driving) or continuous vibration that varies significantly in amplitude.

Table 9 and

Table 10 present the criteria for continuous and impulsive vibration and intermittent vibration, respectively.

Table 9: Continuous & Impulsive Vibration Criteria for Residences – Peak Velocity

Location	Vibration Type	Preferred Limit (mm/s)	Maximum Limit (mm/s)
Residences	Continuous	0.28	0.56
Residences	Impulsive	8.6	17

Table 10: Intermittent Vibration Criteria for Residences

Location	Assessment Period	Preferred Value (m/s ^{1.75})	Maximum Value (m/s ^{1.75})
Residences	Daytime	0.20	0.40

The above criteria are suitable for assessing human annoyance in response to vibration levels. In order to assess potential damage to buildings, reference has been made to British Standard *BS 7385-2: 1993 Evaluation and measurement of vibration in buildings – Part 2: Guide to damage levels from ground borne vibration*. Table 11 presents vibration criteria for assessing the potential for building damage.



Table 11: Transient Vibration Guide Values for Cosmetic Damage

Type of Building	Peak Particle Velocity (mm/s)	
	4 Hz to 15 Hz	15 Hz and above
Unreinforced or light framed structures – residential or light commercial type buildings	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

5.3 Potential Vibration Sources

Table 12 identifies the vibration source levels for the equipment likely to be used for the construction of the project.

Table 12: Vibration Source levels – Peak Particle Velocity

Equipment Item	PPV at 10 metres (mm/s)	Source
7 tonne compactor	5 - 7	DEC
Loaded trucks (rough surface)	5	USA DT ^{a)}
Loaded trucks (smooth surface)	1 - 2	USA DT ^{a)}
Excavator	2.5 - 4	DEC

a) Transit Noise and Vibration Impact Assessment, US Department of Transportation, May 2006.
b) Rockhill, D.J., Bolton, M.D. & White, D.J. (2003) 'Ground-borne vibrations due to press-in piling operations'

5.4 Assessment of Potential Impacts

Based on the vibration source levels at 10 metres presented in Table 13, peak particle velocities have been predicted at various separation distances. The NSW DEC indicates that in predicting vibration levels, it can be assumed that the vibration level is inversely proportional to distance (with the relationship varying between $d^{-0.8}$ to $d^{-1.6}$ based on field data).

The US Department of Transportation's Transit Noise and Vibration Impact Assessment (May 2006) presents the following construction vibration propagation formula assuming an inverse relationship:

$$PPV@d_2 = PPV@d_1 \times (d_1/d_2)^{1.5}$$

where: d_1 = distance 1 (reference distance for source data) (m)

d_2 = distance 2 (separation distance for predicted PPV) (m)

PPV = peak particle velocity (mm/s)

The above formula has been considered for predicted PPVs at various distances from construction equipment. Based on the above information, Table 13 presents PPV predictions for the various construction equipment.

All vibration sources were considered to be continuous in modelling methodology. This is the most conservative approach and in instances where compliance is achieved for continuous sources, they will also be compliant for intermittent sources producing the same vibration levels.



Table 13: Predicted Peak Particle Velocity at Sensitive Receptors (mm/s)

Distance from Source (m)	Predicted Peak Particle Velocity (mm/s)			
	7 tonne compactor	Excavator	Loaded trucks (rough surfaces)	Loaded trucks (smooth surfaces)
10	7.00	4.00	5.00	1.00 - 2.00
20	2.47	1.41	1.77	0.35 - 0.71
30	1.35	0.77	0.96	0.19 - 0.38
40	0.88	0.50	0.63	0.13 - 0.25
50	0.63	0.36	0.45	0.09 - 0.18
60	0.48	0.27	0.34	0.07 - 0.14
70	0.38	0.22	0.27	0.06 - 0.11
80	0.31	0.18	0.22	0.05 - 0.09
90	0.26	0.15	0.19	0.04 - 0.07
100	0.22	0.13	0.16	0.03 - 0.06
150	0.12	0.07	0.09	0.02 - 0.03
215	0.07	0.04	0.05	0.01 - 0.02
Type	Continuous			
Nuisance Criteria	Residential 0.28 (preferred) / 0.56 (max)			

The predicted vibration levels presented in Table 13 indicate compliance with the continuous preferred vibration nuisance criteria for locations at a separation distance of >90 metres. Compliance with the building damage criteria is predicted at 10 metres from construction for each source.

The closest sensitive receptor (R13) is over 1 km from the site footprint. Nearby residential residences will not be impacted by vibration due to the substantial distance between the receptor and source, thus compliance is achieved without the need for further mitigation.

5.5 Operational Vibration

The vibration from development site will be minimal due to the separation distance between receptors and site footprint.



6 ROAD TRAFFIC NOISE ASSESMENT

6.1 Assessment Criteria

Reference is made to the noise criteria provided in the NSW Road Noise Policy (RNP). Based on the type of roadway, Table 14 presents the applicable road traffic noise criteria for existing residences affected by traffic on existing roadways generated by land use developments.

Table 14: Applicable Road Traffic Noise Criteria

Road Category	Type of Project & Land Use	Assessment Criteria
Freeways or motorways/ arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	Day: $L_{Aeq,15\text{ hour}}$ 60 dB(A) Night: $L_{Aeq,9\text{ hour}}$ 55 dB(A) (external)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	Day: $L_{Aeq,1\text{ hour}}$ 55 dB(A) Night: $L_{Aeq,1\text{ hour}}$ 50 dB(A) (external)

6.2 Assessment of Impacts

Vehicle movements related to the feedlot operations were provided by Premise in email correspondence dated 14 May 2024.

Within existing operations, a yearly total of 1097 total livestock and commodity vehicle movements occur, which represents an average of 6 vehicle movements over a day. Vehicle movements are primarily during the day period, where the assessment criteria is based on a $L_{Aeq,15\text{ hour}}$ metric. Based on the provided vehicle movements, there will be less than 0.5 heavy vehicles an hour impacting the connecting sub-arterial roads during the current operations.

Future operations predict a total of 2,311 total livestock and commodity vehicle movements to occur when the operation is scaled up to 30,000 head. This represents an average of 13 vehicle movements a day. This amounts to less than one additional heavy vehicle an hour impacting the connecting sub-arterial roads.

As there are multiple directions in which vehicles may travel once leaving the site, the actual traffic generation on any particular section of road (and thus on the residences located along such a road) is even lower than indicated above.

The vehicle movements to and from the site represent a negligible change in noise generated along Quambone Road and the Castlereagh Highway.

Traffic volumes along the surrounding roads were not available to AE at the time of this assessment, thus we have considered this assessment qualitatively. Given the rural location, it is expected that the existing traffic along these roads produces a noise level below the allowable levels in Table 14. Where this is the case, no further assessment would be warranted.

Where this is not the case (i.e. where existing traffic along these roads produces noise above the levels in Table 14), the RNP allows a development to generate additional traffic as long as the increase in noise levels at receptors is no more than 2 dB. Given the very low traffic generated in the proposed expansion, the increase in traffic as a result of the expansion of the Subject Site would result in a negligible (< 1 dB) increase in noise at surrounding residences.

As such, AE expects that compliance with the RNP criteria is achieved in all instances.



7 OPERATIONAL ASSESSMENT

7.1 Existing Acoustic Environment

As no baseline monitoring has taken place for this assessment, the minimum applicable RBLs as designated by the NPfI were used. By using the minimum assumed rating background noise level, we ensure the most conservative criteria are used in assessment of the feedlot. The minimum assumed RBLs and project intrusiveness levels are designed to ensure the local amenity is protected as new developments are introduced.

7.2 Assessment criteria

The acoustic assessment has been completed in accordance with the procedure identified in the NPfI. The NPfI recognises that scientific literature has identified that both the increase in noise level above background levels (that is, intrusiveness of a source), as well as the absolute level of noise are important factors in how a community will respond to noise from industrial sources.

In response to this, the NPfI establishes two separate noise criteria to meet environmental noise objectives: one to account for intrusive noise and the other to protect the amenity of particular land uses. These two criteria are then used to determine project triggers levels against which the proposed development will be assessed. The project noise trigger level is a level that, if exceeded, would indicate a potential noise impact on the community, and so 'trigger' a management response.

The derivation of the two sets of criteria are presented below. For residential dwellings, the noise criteria are assessed at the most-affected point (i.e., highest noise level) on or within the property boundary. Where the property boundary is more than 30 metres from the house, then the criteria apply at the most-affected point within 30 m of the house.

7.2.1 Intrusiveness Noise Criteria

The project intrusiveness noise level is intended to protect against significant changes in noise levels as a result of industrial development. To achieve this, the NPfI describes intrusive noise as noise that exceeds background noise levels (as defined by the Rating Background Level or RBL) by more than 5 dB and is assessed using a $L_{Aeq, 15\text{-minute}}$ metric.

For this assessment the minimum rating background levels provided by the NPfI were used as shown below in Table 15

Table 15: Minimum assumed Rating Background Levels as prescribed by NPfI

Time of day	Minimum assumed rating background noise level (dB(A))	Minimum project intrusiveness noise levels ($L_{Aeq, 15\text{min}}$ dB(A))
Day (07:00-18:00)	35	35 + 5 = 40
Evening (18:00-22:00)	30	30 + 5 = 35
Night (22:00-07:00)	30	30 + 5 = 35



7.2.2 Amenity Criteria

The project amenity noise level seeks to protect against cumulative noise impacts from industry and maintain amenity for particular land uses. The recommended amenity noise level reflects the objective for total industrial noise at a receiver and are determined limits that are expected to protect against noise impacts such as speech interference, community annoyance, and some sleep disturbance. They are determined based on the zoning of the receiver. The project amenity noise level considers the objective for noise from a single industrial development and is calculated by subtracting 5 dB from the recommended amenity noise levels.

Table 16: NPfI Amenity Noise Levels

Type of Receiver	Indicative Noise Amenity Area	Time of Day	Recommended L_{Aeq} Noise Level (dB(A))	
			Total Industrial Noise	Project Specific
Residence	Rural	Day	50	45
		Evening	45	40
		Night	40	35

7.2.3 Project Noise Trigger Levels

The Project Noise Trigger Level (i.e., the noise criteria considered by the assessment) is the lower value of the project intrusiveness noise level and the project amenity level, after the conversion to $L_{Aeq, 15 \text{ min}}$ dB(A) equivalent level. Table 17 presents the standardised intrusiveness noise level and the project amenity level as derived by adding 3 dB(A) to each period of the day.

Table 17: Determining Project Trigger Level

Type of Receiver	Time of Day	Standardised $L_{Aeq, 15 \text{ min}}$ Noise Level (dB)		
		Intrusiveness Noise Level	Amenity Noise Level	Project Noise Trigger Levels
Rural Residence	Day	40	45 + 3 = 48	40
	Evening	35	40 + 3 = 43	35
	Night	35	35 + 3 = 38	35

When applying the project specific noise levels to existing industrial uses, the NPfI acknowledges that noise mitigation measures may be limited or costly. When determining the impact from existing industry, the NPfI recommends the project noise trigger levels should not be applied as mandatory noise limits. Instead, they should be used to assess noise impact and drive the process of assessing all feasible and reasonable control measures. The NPfI also identifies that for sites with limited mitigation measures available, the achievable noise limits can be above the project noise trigger levels.



7.2.4 Sleep Disturbance

NSW EPA have identified a screening assessment for sleep disturbance based on the night-time noise levels at a residential location. Where noise levels at a residential location exceed:

- $L_{Aeq, 15 \text{ min}}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is greater; and/or
- L_{AFmax} 52 dB(A) or the prevailing RBL plus 15 dB whichever is the greater, a detailed maximum noise level event assessment should be undertaken.

AE has conducted a screening assessment of potential maximum noise events occurring before 7 am, when staff arrivals occur. A car door slam has a sound power level of approximately L_{Amax} 90 dB. Applying this in the model and examining the closest receptor, The predicted noise levels at residential locations do not exceed 40 dB(A) $L_{Aeq, 15 \text{ min}}$, therefore a detailed sleep disturbance assessment is not required. Further, given the noise sources associated with the operation are during daylight hours, noise generation from the feedlot at night is minimal. As such, consideration of compliance against the L_{AFmax} sleep disturbance criteria is unwarranted.



8 NOISE MODELLING METHODOLOGY

8.1 Software

For the purposes of predicting impacts associated with operational noise emissions from the Subject Site on nearby sensitive receptors, noise modelling of the sources was completed using the proprietary software CadnaA (version 2024 build 203.5403) developed by DataKustik. CadnaA incorporates the influence of meteorology, terrain, ground type and air absorption in addition to source characteristics to predict noise impacts at receptor locations.

The model is utilised to assess the potential noise emissions from the Subject Site under a range of operating scenarios and meteorological conditions. The noise modelling also allows investigation of possible noise management solutions, in the event that non-compliance with the assessment criterion is predicted.

8.2 Meteorology

The NPfI presents guidelines for the consideration of meteorological effects on noise propagation, specifically, temperature inversions and/or gradient winds. The NPfI provides two options for assessing meteorological effects as detailed in Table 18.

Table 18: Meteorological Conditions

Meteorological Conditions	Meteorological Parameters
Standard conditions	Day/Evening/Night: stability categories A-D with wind speed up to 0.5 m/s at 10 m AGL ^b .
Noise enhancing conditions	Day/Evening: stability categories A-D with light winds (up to 3 m/s at 10 m AGL).
	Night: stability categories A-D with light winds (up to 3 m/s at 10 m AGL). And/or stability category F with light winds (up to 2 m/s at 10 m AGL).
<i>a)</i> Pasquill-Gifford Atmospheric Stability Class	
<i>b)</i> AGL: Above ground level	

8.3 Model Configuration

Table 19 summarises the model configuration used for the modelling.

Table 19: Model Configuration

Parameter	Approach
Standards	CONCAWE
Time Periods	Day (07:00 - 18:00 hours)
	Evening (18:00 - 22:00 hours)
	Night (22:00 - 07:00 hours)
Digital Terrain	LIDAR data at 5 m intervals.
Ground Absorption	Based on aerial mapping. Default set at G = 0.0. Grassy areas are set to be porous ground with G = 1.0.
Meteorology	Day and Evening: Stability class D at 3 m/s
	Night: Stability class F at 2 m/s
	Worst case wind direction (source to receptor)



8.4 Noise Sources

Table 20 and Table 21 provides a summary of the noise sources adopted for this assessment. Sound power levels for each source were obtained from AE's sound data base, published literature and manufacturer information. All data has been reviewed for annoying noise characteristics in accordance with Fact Sheet C of the NPfl, and relevant corrections are presented below.



Table 20: Sound Power Levels (10,000 Head Operational)

Activity	Noise Source	Qty	Height above Ground Level (m)	Sound Power Level (dB(A) (Excluding Corrections)		Corrections Applied (tonality, low frequency, impulsiveness)	Operating Hours	Acoustical Usage per hour (%)
				L _{Aeq}	L _{Amax}			
Variable Noise								
Vehicles	Cattle & Grain Trucks (slow moving) ^{a)}	-	1.5 m 2.5 m	Engine: 63 dB/m Exhaust: 53 dB/m	102	+ 5 dB(A) -	07:00 - 17:00	1/hour (day) 0/hour (eve) 0/hour (night)
	Light Vehicles	4	1 m	71 dB/m	92	-	06:00 - 17:00	4/hour (day) 0/hour (eve) 4/hour (night)
		4		71 dB/m	92			
		4		71 dB/m	92			
	Truck reverse Alarm ^{b)}	1	1	105	110	-	All hours	-
	Car door slam	1	2 m	-	94	-	All hours	-
Tractors (Grain/Manure delivery movements)	1	2 m	55 dB/m	98		07:00 – 17:00	1/hour (day)	
Operations	Bale chopper	1	2 m	98	108	+ 5 dB(A)	07:00 – 17:00	30%
	Cattle loading / unloading from trucks	1	3 m	97	107	+ 5 dB(A)	06:00 - 17:00	25%
<p><i>a) Modelled as two sources at heights of 1.5 m and 2.5 m to represent engine and exhaust noise respectively.</i></p> <p><i>b) Assumes operation for 15 seconds per truck movement. +5 dB tonality correction applied for L_{Aeq}.</i></p>								



Table 21: Sound Power Levels (30,000 Head Operational)

Activity	Noise Source	Qty	Height above Ground Level (m)	Sound Power Level (dB(A) (Excluding Corrections)		Corrections Applied (tonality, low frequency, impulsiveness)	Operating Hours	Acoustical Usage per hour (%)
				L _{Aeq}	L _{Amax}			
Variable Noise								
Vehicles	Cattle & Grain Trucks (slow moving) ^{a)}	-	1.5 m 2.5 m	Engine: 63 dB/m Exhaust: 53 dB/m	102	+ 5 dB(A) -	07:00 - 17:00	2/hour (day) 0/hour (eve) 0/hour (night) ¹⁾
	Light Vehicles	6	1 m	73 dB/m	92	-	06:00 - 17:00	6/hour (day) 0/hour (eve) 6/hour (night)
		6		73 dB/m	92			
		6		73 dB/m	92			
	Truck reverse Alarm ^{b)}	2	1	105	110	-	All hours	-
Car door slam	1	2 m	-	94	-	All hours	-	
	Tractors (Grain/Manure delivery movements)	1	2 m	55 dB/m	98		07:00 – 17:00	2/hour (day)
Operations	Bale chopper	1	2 m	98	108	+ 5 dB(A)	07:00 – 17:00	30%
	Cattle loading / unloading from trucks	1	3 m	97	107	+ 5 dB(A)	06:00 - 17:00	25%
<p><i>a) Modelled as two sources at heights of 1.5 m and 2.5 m to represent engine and exhaust noise respectively.</i></p> <p><i>b) Assumes operation for 15 seconds per truck movement. +5 dB tonality correction applied for L_{Aeq}.</i></p>								



8.5 Modelled Source Locations



Figure 4: Modelled Source Locations for Current Operations



Figure 5: Modelled Source Locations for Future Operations



9 PREDICTED NOISE LEVELS

9.1 Current Operational Activities

Table 22 provides the predicted noise for the current feedlot operations day (D) and night (N) periods. The feedlot does not operate during the evening thus an assessment during this period is not relevant. The results show that all receptors comply with the assessment criteria at all receptors.

Table 22: Predicted Receptor Noise Levels for Current Operational Activities

Receptor	Predicted Noise Levels (L _{Aeq, 15min} dB(A))			Criteria (D / E / N)	Comply (Y/N)
	Day	Evening	Night		
R1	<10	-	<10	40 / - / 35	Y / - / Y
R2	<10	-	<10	40 / - / 35	Y / - / Y
R3	<10	-	<10	40 / - / 35	Y / - / Y
R4	<10	-	<10	40 / - / 35	Y / - / Y
R5	<10	-	<10	40 / - / 35	Y / - / Y
R6	<10	-	<10	40 / - / 35	Y / - / Y
R7	<10	-	<10	40 / - / 35	Y / - / Y
R8	<10	-	<10	40 / - / 35	Y / - / Y
R9	19	-	<10	40 / - / 35	Y / - / Y
R11	<10	-	<10	40 / - / 35	Y / - / Y
R12	<10	-	<10	40 / - / 35	Y / - / Y
R13	<10	-	<10	40 / - / 35	Y / - / Y
R14	22	-	<10	40 / - / 35	Y / - / Y
R15	<10	-	<10	40 / - / 35	Y / - / Y
R16	<10	-	<10	40 / - / 35	Y / - / Y



9.2 Future Operations Predicted Noise Receptor Levels

Table 23 provides the predicted noise for the future feedlot operations day (D) and night (N) periods. The feedlot does not operate during the evening thus an assessment during this period is not relevant. The results show that all receptors comply with the assessment criteria at all receptors.

Table 23: Predicted Receptor Noise Levels for Future Operational Activities

Receptor	Predicted Noise Levels (L _{Aeq, 15min} dB(A))			Criteria (D / E / N)	Comply (Y/N)
	Day	Evening	Night		
R1	<10	-	<10	40 / - / 35	Y / - / Y
R2	<10	-	<10	40 / - / 35	Y / - / Y
R3	<10	-	<10	40 / - / 35	Y / - / Y
R4	<10	-	<10	40 / - / 35	Y / - / Y
R5	<10	-	<10	40 / - / 35	Y / - / Y
R6	<10	-	<10	40 / - / 35	Y / - / Y
R7	<10	-	<10	40 / - / 35	Y / - / Y
R8	<10	-	<10	40 / - / 35	Y / - / Y
R9	20	-	<10	40 / - / 35	Y / - / Y
R11	<10	-	<10	40 / - / 35	Y / - / Y
R12	<10	-	<10	40 / - / 35	Y / - / Y
R13	<10	-	<10	40 / - / 35	Y / - / Y
R14	21	-	<10	40 / - / 35	Y / - / Y
R15	<10	-	<10	40 / - / 35	Y / - / Y
R16	<10	-	<10	40 / - / 35	Y / - / Y



10 CONCLUSIONS

A noise impact assessment has been prepared for the proposed expansion of the feedlot operated by Rural Marketing Australia (RMA) at the Coonamble Feedlot. RMA, trading as Coonamble Feedlot, are proposing to expand their existing beef cattle feedlot at Coonamble. The existing feedlot is licensed to 10,000 Standard Cattle Units (SCU). RMA are seeking approval to expand their feedlot to carry up to 30,000 SCU.

This assessment investigated the current noise and future noise operations of the Coonamble Feedlot. The assessment has been guided by the minimum criteria as described in the noise policy for industry.

A noise impact assessment has been undertaken to confirm the suitability of the proposal in terms of acoustic amenity for nearby sensitive receptors. Specifically, the assessment has considered the potential for adverse impacts upon existing residential land uses as a result of noise emissions associated with the feedlot.

A detailed assessment of construction noise revealed that consideration of reasonable and feasible mitigation measures was warranted to minimise the impact of construction activities on surrounding residential receptors. Construction vibration was also reviewed, and no impacts are predicted.

Increases in on-road vehicle volumes as a result of the expansion have also been reviewed and the analysis suggests that the development will remain compliant with the limits dictated by the RNP. Additional impact from vehicle volumes generated by the proposed expansion can be considered a negligible increase of <1 dB(A).

Predictive noise modelling has been undertaken for the site to assess the potential impacts of noise emission from feedlot operations and traffic generation. The results of the predictive noise modelling have determined that compliance with the adopted criteria is expected to be achieved without any additional acoustic mitigation for the proposed expansion.

Based on the assessment conducted, compliance with the applicable criteria is expected to be achieved for the proposed expansion of the feedlot.



APPENDIX A: NOISE CONTOURS

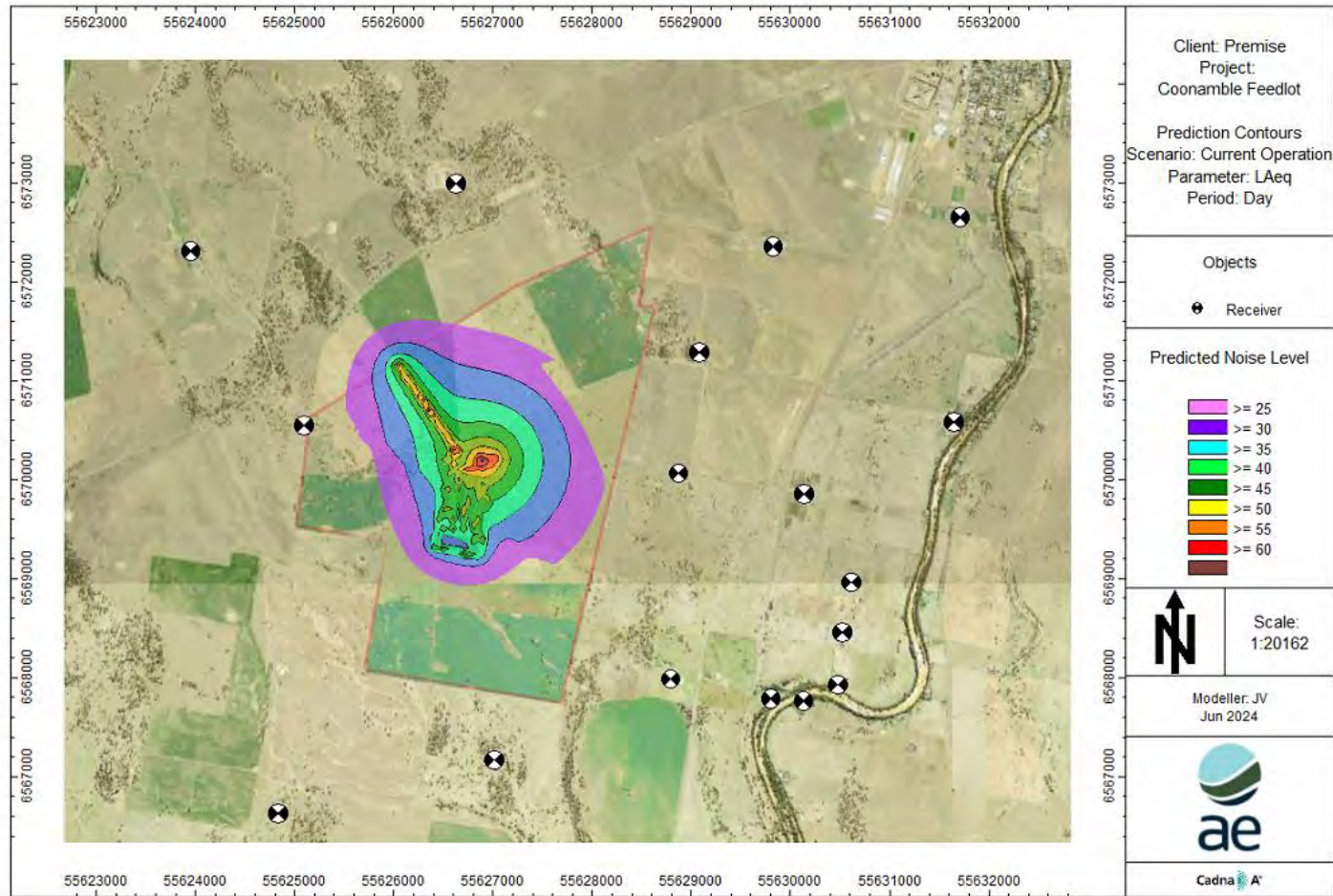


Figure 6: Appendix A: Noise Contours Current Operations (Day)

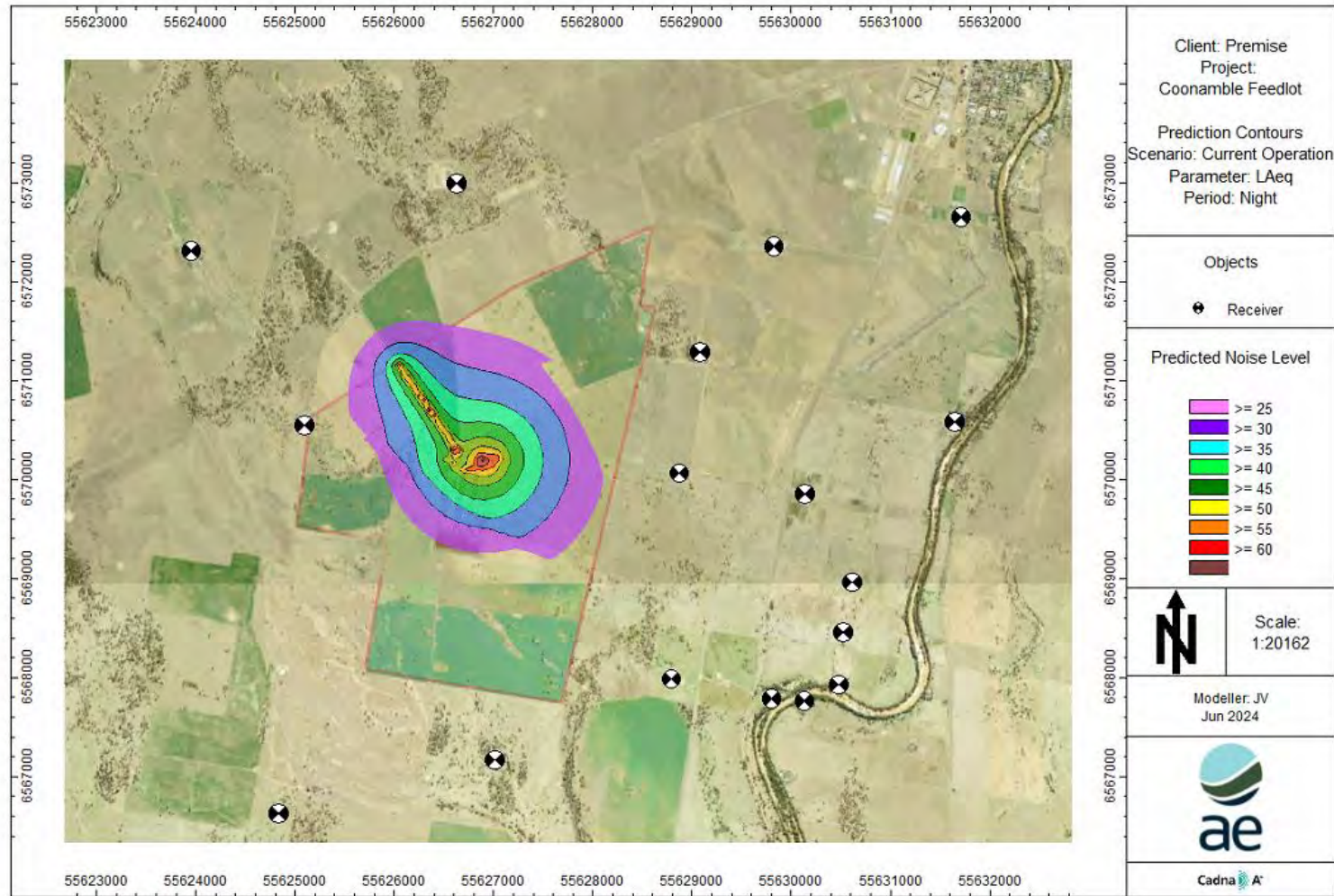


Figure 7: Appendix A: Noise Contours Current Operations (Night)

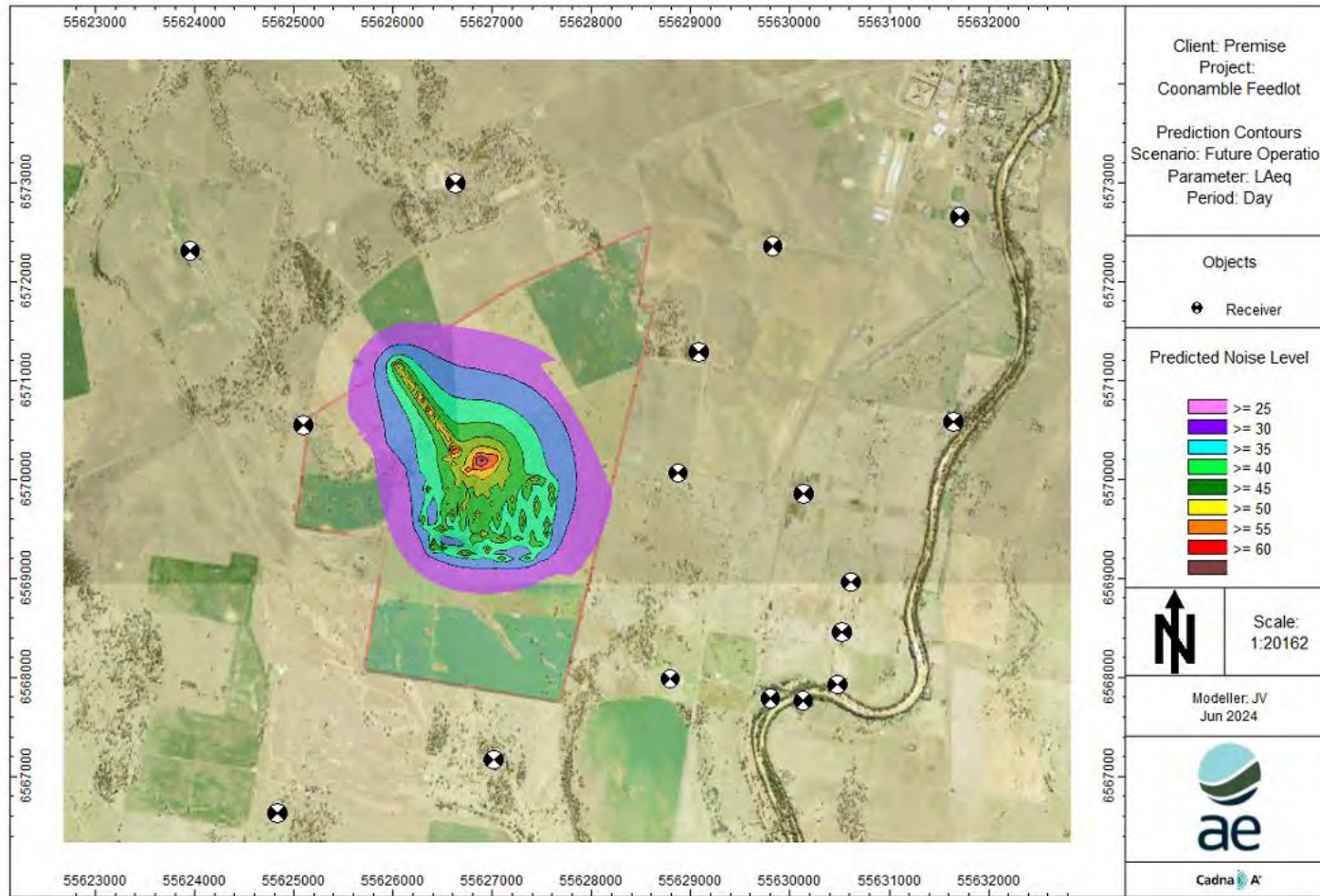


Figure 8: Appendix A: Noise Contours Future Operations (Day)

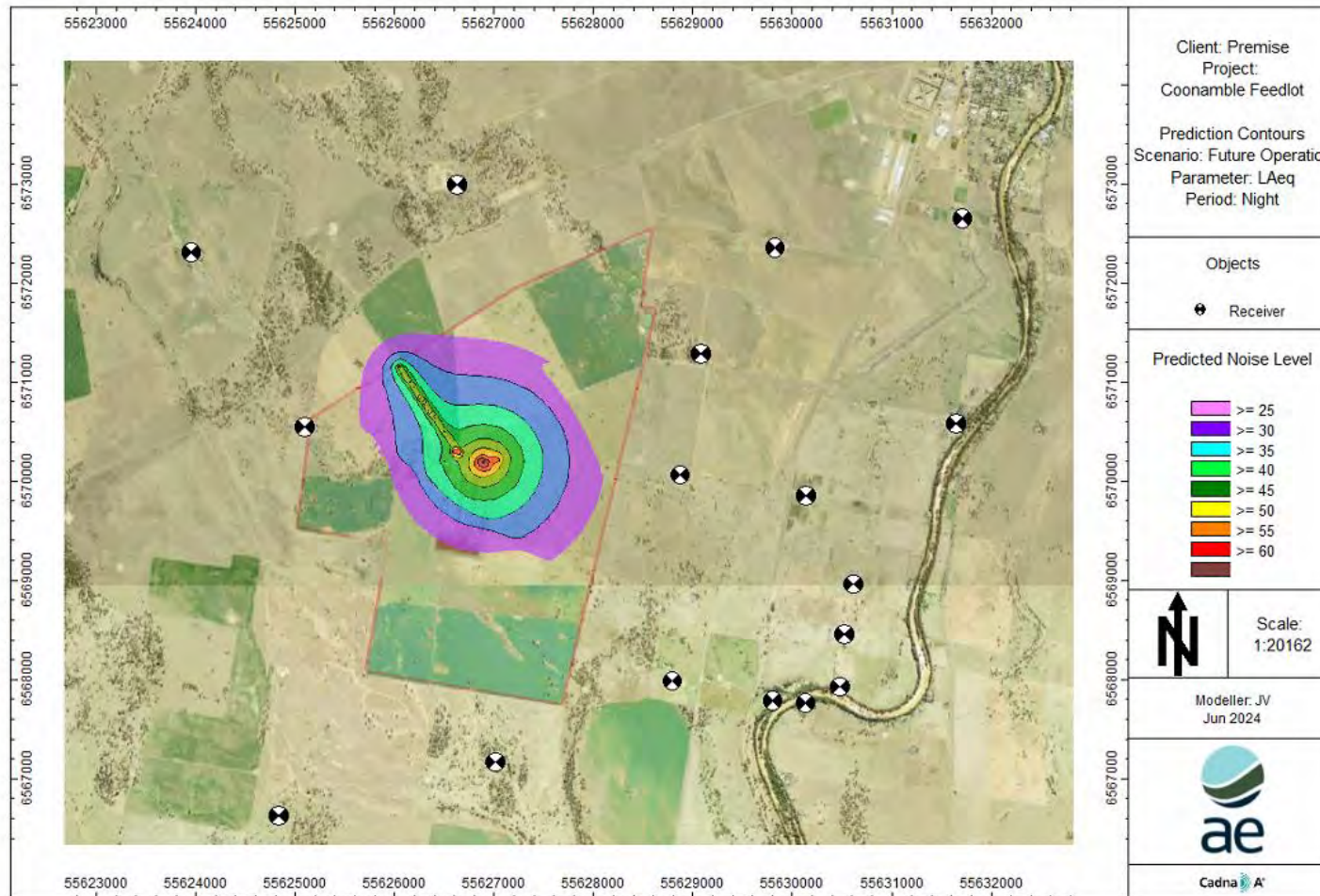


Figure 9: Appendix A: Noise Contours Future Operations (Night)



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RURAL MARKETING AUSTRALIA PTY LTD

Moonya Feedlot Expansion

ABORIGINAL HERITAGE DUE DILIGENCE ASSESSMENT

Report No: 222230_001

Rev: B

4 October 2024







RURAL MARKETING AUSTRALIA PTY LTD
 MOONYA FEEDLOT EXPANSION
 ABORIGINAL HERITAGE DUE DILIGENCE ASSESSMENT

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APPENDICES

APPENDIX A AHIMS Search Results

1. INTRODUCTION

Premise Australia Pty Ltd (Premise) have been engaged by Rural Marketing Australia Pty Ltd (trading as Coonamble Feedlot) to prepare an Environmental Impact Assessment (EIS) to support a State Significant Development Application (SSDA) for a proposed expansion of the 'Moonya Feedlot'. The feedlot is located at 701 Quambone Road, Coonamble NSW 2829 (encompassing Lots 113, 119, 121, 124 DP 754199). The proposed development involves the construction of additional feedlot pens and associated infrastructure, including an irrigation area, silage bunks, a holding pond and a sedimentation basin.

As part of the EIS, an Aboriginal Heritage Due Diligence Assessment (AHDDA) has been prepared to identify any potential impacts to Aboriginal cultural heritage as a result of the proposed feedlot expansion. The Planning Secretary's Environmental Assessment Requirements (SEARs) for the project were issued on 12 February 2024 (#1848). The SEARs specify that an EIS must be prepared including an assessment of Aboriginal cultural heritage.

The AHDDA will be prepared in accordance with the SEARs as well as the guideline prepared in 2010 by the Department of Climate Change and Water (DECCW, 2010) [formerly Office of Environment and Heritage (OEH) now Heritage NSW] *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. The aim of the guidelines is to assist individuals and organisations to exercise due diligence when carrying out activities that may harm Aboriginal objects. This assessment includes recommendations regarding Aboriginal heritage constraints for the proposed works.

1.1 Study Area and Site Locality

The site is located within the Coonamble Shire Local Government Area (LGA) in the Orana region of New South Wales (NSW). The Coonamble Shire LGA also includes the nearby towns of Gulargambone and Quambone with the Castlereagh Highway and Castlereagh River meandering north to south through Coonamble. Coonamble is approximately 250 kilometres (km) south of the Queensland border and 530 km northwest of Sydney, NSW.

The site is located at 701 Quambone Road, Coonamble NSW 2829, referred to as the 'Moonya Feedlot'. The site encompasses a 10,000 head cattle feedlot (with a Stock Unit Density of 15 m²/head) which has been in operation since 2007. The Moonya Feedlot currently contains 70 production pens and 15 rehabilitation pens, a sedimentation basin and holding pond, silage bunks, a freshwater dam, grain silos and associated sheds and an administration/site office building.

The land is predominately cleared of trees and encompasses green pastures and crops which are grazed by cattle. Individual trees are scattered across the site, however, appear in higher densities on land located to the northwest of the feedlot infrastructure. Moonya Feedlot is accessed via Quambone Road in the north with a sealed road meandering south towards the feedlot infrastructure. A residential dwelling is situated approximately 550 metres (m) northwest of the feedlot infrastructure, surrounded by planted vegetation.

The Castlereagh River is situated approximately 4.5 km east of the Moonya Feedlot while the Gidgenbar Watercourse is located approximately 1.8 km northwest. A hydro line is also located approximately 3.2 km

south and 3.6 km northeast of the development impact area. Four (4) farm dams are located across the Moonya Feedlot site as well as one (1) large freshwater dam situated to the north of the existing feedlot pens.

The development footprint area, also referred to as the 'study area' encompasses four (4) distinct areas including:

- > The proposed remediation feedlot pens, located to the east of the existing feedlot and rehabilitation pens;
- > The proposed effluent irrigation area, located further east of the proposed feedlot pens (on the eastern boundary of the site);
- > The proposed sediment and effluent pond and borrow pit, located south of the proposed feedlot pens and east of the existing effluent pond; and
- > The proposed silage bunks and handling 'exit facility' area, located to the north of the proposed feedlot pens, and east of the existing handling 'exit facility.'

The location of the proposed development is shown in **Figure 1**.

1.2 Authorship and Acknowledgements

This report was prepared by Tamera Rudd (Graduate Archaeologist, Premise). Management review was undertaken by Latisha Ryall (Archaeologist, Premise) and Daniel Drum (Environmental Team Leader, Premise).

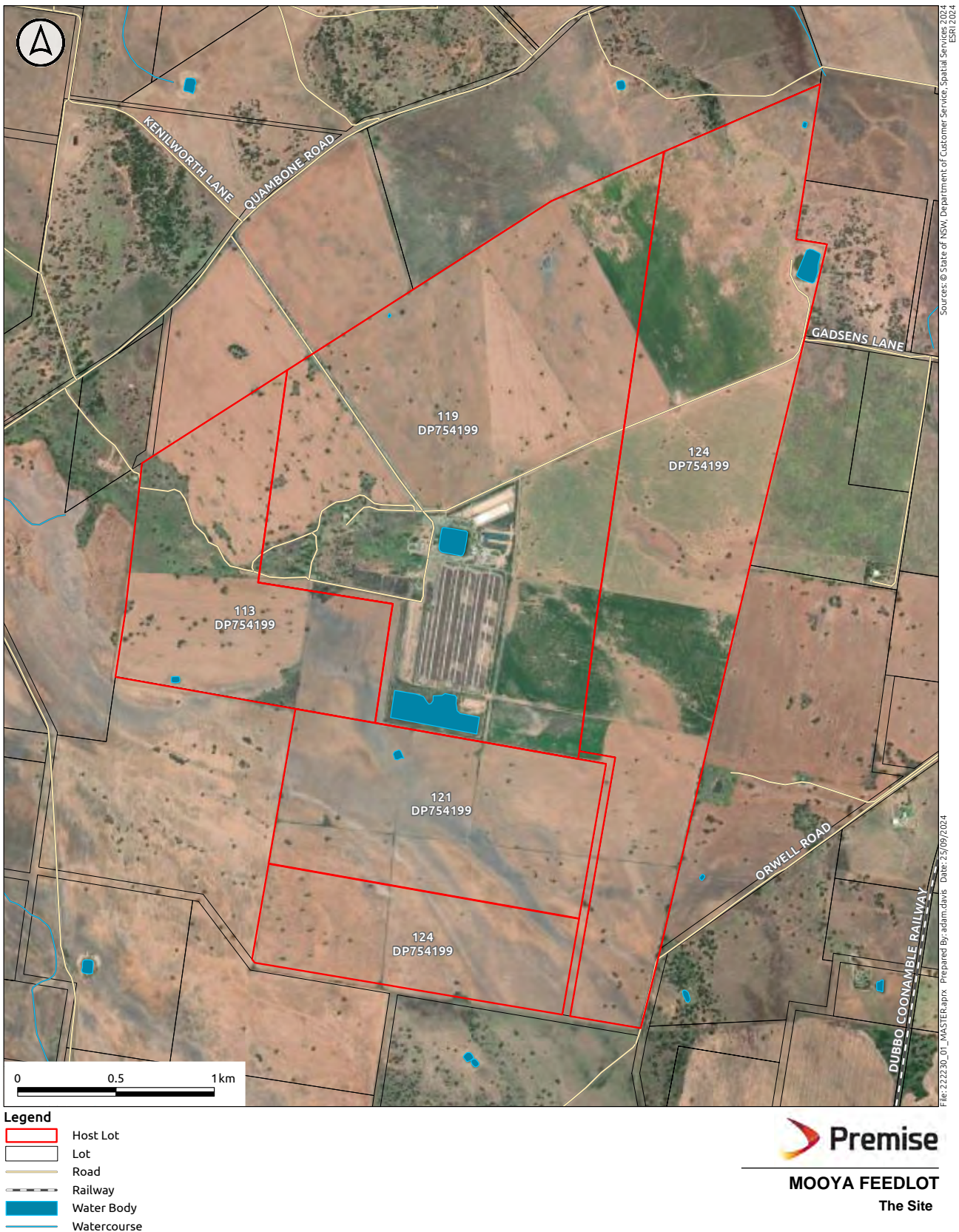
A site inspection was undertaken by Tamera Rudd on 9 May 2024.

Consultation with the Coonamble LALC occurred in September 2024.

1.3 Report Limitations

This report presents the results of an Aboriginal cultural heritage due diligence assessment only. No assessment of historic/European heritage is included.





Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
 EIRI 2024
 File: 222230_01_MASTER.aprx Prepared By: adam.davie Date: 25/09/2024

Figure 1

1.4 Proposed Works

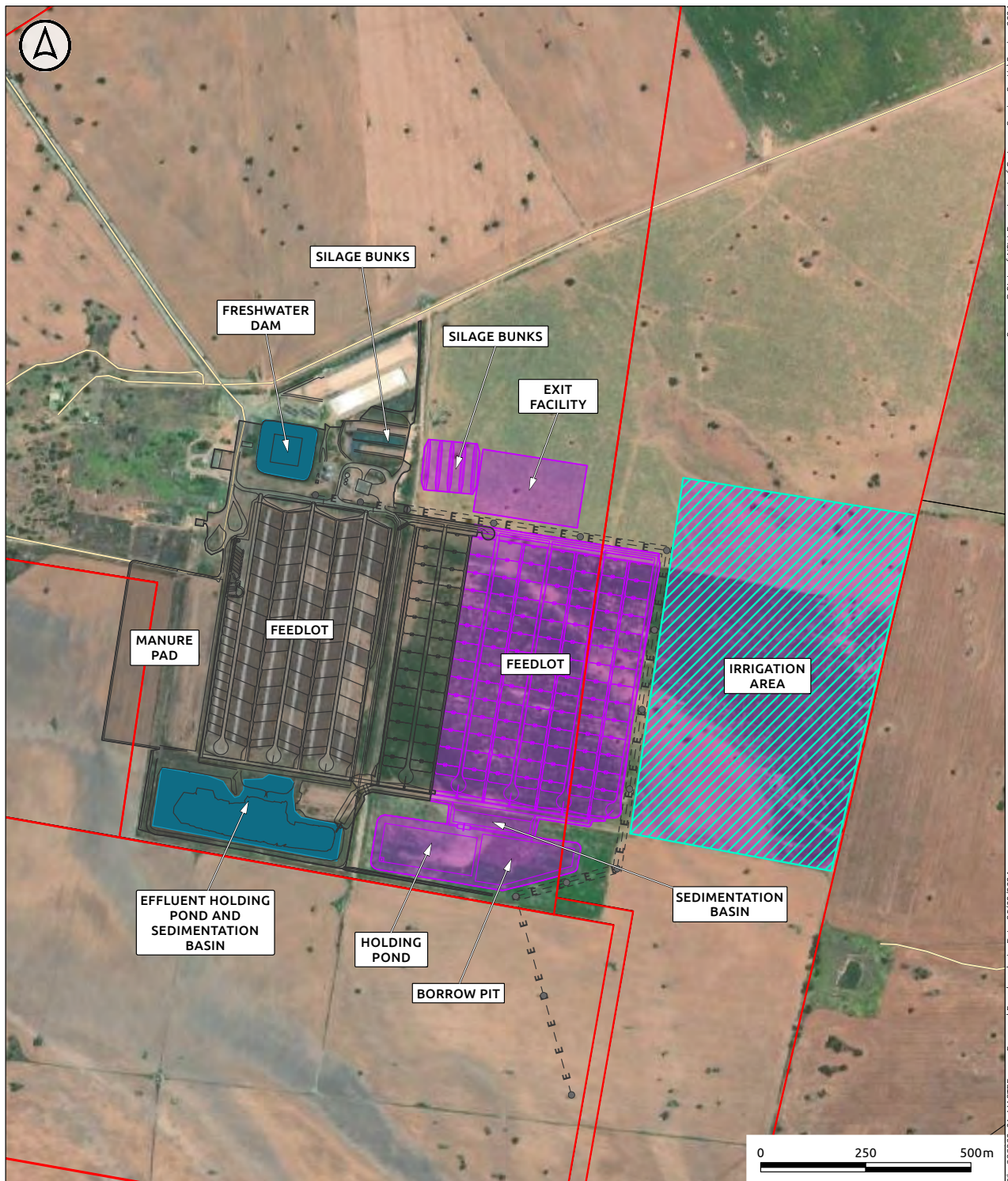
Rural Marketing Australia Pty Ltd propose to expand their existing Moonya Feedlot. The proposed alterations and additions include the construction of an additional 26 remediation pens east of the existing feedlot and rehabilitation pens. The development will involve the construction of an additional nine (9) rows of pens adjacent to the existing five (5) rows of feedlot pens.

An effluent irrigation area is also proposed to be located to the east of the additional remediation pens, comprising an area of approximately 45 hectares (ha). In addition, a sediment pond and effluent pond are proposed to be constructed south of the remediation pens, adjacent to the existing effluent and sediments ponds. Silage bunks and a handling 'exit facility' area is also proposed to be located to the north of the remediation pens.

The purpose of this expansion is to facilitate the ongoing repairs and upgrades to the existing feedlot facility when required without the need to de-stock. The proponent seeks to expand the capacity of the existing Moonya Feedlot from 10,000 head to an ultimate capacity of 30,000 head.

The proposed works and development impact area are identified in **Figure 2**.





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File: 222230_01_MASTER.aprx Prepared By: adam.davie Date: 25/09/2024

- Legend**
- Host Lot
 - Existing Development Footprint
 - Proposed Development Footprint
 - Proposed Irrigation Area
 - Lot
 - Road
 - Water Body



Figure 2

2. LEGISLATIVE CONTEXT

2.1 National Parks and Wildlife Act 1974

The National Parks & Wildlife Act 1974 (NPW Act) provides statutory protection for all Aboriginal 'objects' (consisting of any material evidence of the Aboriginal occupation of NSW) and for 'Aboriginal Places' (areas of cultural significance to the Aboriginal community).

Under Section 86 of the NPW Act, Aboriginal objects are afforded automatic statutory protection in NSW whereby it is an offence to:

'destroy, deface or damage the object or place, or.... move the object from the land on which it had been situated...'

The NPW Act defines an Aboriginal 'object' as:

'any deposit, object or material evidence (not being a handicraft for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.'

The Due Diligence Code sets out reasonable and practical steps to identify whether or not Aboriginal objects are, or are likely to be, present in an area. This code was introduced in October 2010 by the Department of Environment, Climate Change and Water (DECCW 2010), formerly OEH, now Heritage NSW. The aim of the guidelines is to assist individuals and organisations to exercise due diligence when carrying out activities that may harm Aboriginal objects.

A due diligence assessment should take reasonable and practicable steps to ascertain whether there is a likelihood that Aboriginal sites will be disturbed or impacted during the proposed development. If it is assessed that Aboriginal sites exist or have a likelihood of existing; within the development area and may be impacted by the proposed development, further archaeological investigations may be required. along with an Aboriginal Heritage Impact Permit (AHIP). If it is found to be unlikely that Aboriginal sites exist within the study area and the Due Diligence Assessment has been conducted in accordance with the *Due Diligence Code of Practice* (DECCW 2010), proposed work may proceed without an AHIP.

This due diligence assessment seeks to comply with the guidelines and regulations associated with the NPW Act, by assisting the proponent in meeting their obligations under the NPW Act.

2.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning & Assessment Act 1979* (EP&A Act) sets out the framework for the development application process. The EP&A Act has three main parts of direct relevance to Aboriginal cultural heritage. Namely, Part 3 which governs the preparation of planning instruments, Part 4 which relates to development assessment and consent process for local government (consent) authorities and Part 5



which relates to infrastructure and environmental impact assessment activity approvals by governing (determining) authorities. The proposed works will be assessed under Part 5.

2.3 Native Title Act 1994

The *Native Title Act 1994* was introduced to work in conjunction with the *Commonwealth Native Title Act 1993*. Native Title claims, registers and Indigenous Land Use Agreements (ILUAs) are administered under the Act. A search of the Native Title Register for the Coonamble Shire LGA was undertaken on 29 July 2024.

One (1) active native title claim was identified with the Coonamble LGA (Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan native title determination application NC2012/001). This claim was approved in April 2024, however, excludes the study area (refer **Section 4.1**).

Where a native title claim is registered on the Register of Native Title Claims (the Register), the native title claim group gains certain rights, including the right to negotiate. Where the future development of land is agreed between the native title claimants and other relevant parties, the parties may seek to apply for the relevant agreement to be registered as an ILUA.

2.4 Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) established Aboriginal Land Councils (at State and Local levels). These bodies have a statutory obligation under section 52 (4) of the ALR Act to:

- (a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and*
- (b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.*

The study area falls within the boundary of the Coonamble Local Aboriginal Land Council (LALC).

Consultation with the LALC has been conducted in accordance with the SEARs, and due to the Native Title claim on the land (as mentioned in **Section 2.3**).



3. BACKGROUND

The purpose of this section is to assist in the prediction of Aboriginal use of the landscape for resources and settlement, as well as the likely distribution of the material traces of Aboriginal groups.

3.1 Environmental Context and Landscape

Coonamble is located within the Central West subregion of the New South Wales Brigalow Belt South Bioregion, which extends from Dubbo to the mid-Queensland coast, totalling an area of 27,196,933 ha (NSW NPWS, 2003: 131). The landscapes of this bioregion are derived from basalt flows and quartz sandstone resulting in a variable soil and vegetation type across the region depending on the local rock type or sediment source.

The Brigalow Belt South Bioregion is characterised by a subhumid climate with hot summers and no dry season with a mean annual rainfall across the region sitting at 449-1015 mm (NSW NPWS, 2003: 131).

3.1.1 SOILS AND GEOLOGY

The NSW SEED online database identified that the Land and Soil Capability of the study area is Class 3 which is typically identified on sloping land, suitable for rotational cultivation and cropping. The SEED database has also identified that the study area is located within a red-brown earth (RBE) Australian Soil Classification Type and Greater Soils Group landscape. This was confirmed during the site inspection whereby a red-brown loam was spread across the entirety of the study area.

Coonamble is situated within the Surat Basin with the Coonamble and Gilgandra region consisting mostly of sandstone geological formations.

3.1.2 HYDROLOGY

There are seven major rivers flowing through the Brigalow Belt South Bioregion; the MacIntrye, Gwydir, Castlereagh, Goulburn, Namoi, Talbragar and Macquarie Rivers (NSW NPWS, 2003: 131). Each of these river catchments form part of the Murray Darling River System which was a primary resource for the Aboriginal community.

The Castlereagh River is situated approximately 4.5 km east of the study area, meandering north to south. The Castlereagh River is part of the Macquarie-Castlereagh catchment in the Murray Darlin Basin. The river is approximately 540 km long and rises west of Coonabarabran to Coonamble, continuing south and into its confluence at the Macquarie River. This river is unregulated with no dams or reservoirs having been built. No creeks or drainage channels appear within proximity to the study area on aerial imagery, aside from the Gidgenbar Watercourse (which is 66.7 km in length) which is located approximately 1.8 km northwest.

Areas of past Aboriginal occupation are typically located within close proximity to watercourses. Due to the distance of the Castlereagh River and the Gidgenbar Watercourse from the study area, long term Aboriginal occupation is not considered likely to have occurred on site.



3.1.3 VEGETATION

The Brigalow Belt South Bioregion comprises various plant communities including narrow-leaved ironbark, white cypress pine and white box, commonly situated on hills and slopes (NSW NPWS, 2003: 132). River red gum and river oak (*Casuarina cunninghamina*) are typically located along water sources such as the Macquarie River.

The site has been predominately cleared of trees during initial colonisation of the area by Europeans to facilitate pastoral land use. The existing study area comprises green pastures and grain crops (introduced exotic vegetation) with a scatter of isolated, native mature trees, predominately the White-box (*Eucalyptus albens*) species.

3.2 Land Use

The Moonya Feedlot has been utilised for agricultural activities including stock grazing and cropping since its development in 2007. The operation of the feedlot has resulted in extensive ground disturbance across the land through not only the development and construction of the feedlot and electricity transmission infrastructure, but through the cropping of pastures and grazing of the 10,000 head of cattle.

Historical aerial imagery has indicated that the study area and the surrounding landscape has previously been utilised for agricultural purposes including cropping and grazing, prior to the establishment of the Moonya Feedlot. Cropping activities appear to have occurred on the site since at least 1985 with imagery dating to 1992 (refer **Figure 3**) suggesting extensive tree clearing. Notwithstanding, consultation with the manager of the feedlot has confirmed that the property has been cropped since the 1960s.

Figure 3 – Historical Aerial Imagery 1992



3.3 Aboriginal Histories of the Locality

Aboriginal communities are based largely on varying language groups rather than the geographical boundaries of an area. It is likely that these boundaries in pre-European Aboriginal society were fluid and often intersected into different towns or regions. The Wailwan Aboriginal people/s are associated with the Coonamble area, although other Aboriginal language groups were likely to have also existed within the region.

The Wailwan nation extends from the south of Brewarrina to Walgett, along Marra Creek and land between the Castlereagh, Macquarie and Marra Rivers (Mathews, 2007: 167). Archaeological evidence suggests that Aboriginal people/s have lived on the land to the east of Coonamble for up to 25,000 years and in the Warrumbungle Ranges (located approximately 100 km southeast of the study area) for up to 17,000 years. Radiocarbon dating of archaeological materials from the Macquarie Marshes (located 90 km northwest of the study area) also indicates that Aboriginal peoples have lived on those lands for at least 30,000 years (Christison, 2010: 10). Overall, it is possible that Aboriginal people/s occupied the land now referred to as Coonamble, for at least 30,000 years prior to the European settlement of Australia. Coonamble also forms part of the Murray Darling region which contains some of the oldest known Aboriginal sites in Australia, including the human remains which were discovered at Lake Mungo, dating back to approximately 40,000 years ago (Heritage Insight Pty Ltd, 2012: ii). Moreover, this evidence suggest that the Aboriginal community have occupied the lands within the Murray Darling region for at least 40,000 years.

Aboriginal society focused on small familiar groups with immediate family members making shelter, sourcing food and performed daily rituals within their campsite. The movements of these small groups was based largely on seasonal food gathering and availability. The Castlereagh River and its creeks would have provided a natural resource for the local Wailwan people/s for fishing. The land beyond the river was used as a hunting ground with campsites occupying land along the banks of the Castlereagh River. The Coonamble Waterhole (located in Gulargambone approximately 40 km south of Coonamble) was also an abundant natural resource for the Aboriginal people/s of this region for thousands of years (Christison, 2010: 36).

Young Aboriginal people learn the lore (law) of their community through special ceremonies. Different members of the community gain knowledge in different areas (for example Men's Business and Women's Business) with information withheld from the other group(s) due to their sacred nature and symbolism (Miller, 1999: 9). Initiation ceremonies were known as 'Burbung' to the Wailwan, Wongaibon and Wiradjuri people/s (Mathews, 2007: 173). The Wailwan peoples believed (alongside a number of other Aboriginal Nations) in the supreme creator 'Baiaimai' who looked after the spirits of the deceased. Ceremonies were held in honour of Baiaimai at 'bora grounds' near the main Aboriginal campsite of the region, with Baiaimai's son 'Daramulan' also represented and acknowledged in ceremony (Miller, 1999: 11).

3.3.1 POST-CONTACT

European explorer John Oxley passed through Mount Harris and Mount Bullaway (south of Coonamble) in 1818 where he encountered a small group of Aboriginal people/s occupying land along the Macquarie River cooking on fires and digging roots from the ground (Christison, 2009: 11). European squatters settled in the



region from the 1830s and dispossessed the land from the local Aboriginal community. European settlers used the areas along river corridors as pastoral land holdings (particularly grazing), pushing Aboriginal people into marginal lands and away from their traditional occupation sites and sources of food.

Punitive expeditions were led against the Aboriginal people/s across the region in 1837 and again in 1838 where a brief battle resulted in the death of approximately 50 Aboriginal people (Christison, 2009: 11). These expeditions continued in 1845 along the Macquarie River where a group of Wailwan men were hunted for their implication in attacks on European properties resulting in the massacre of 10-12 of these Wailwan men (Christison, 2010: 12). Alongside the massacres, dispossession of their lands and natural resources, the Aboriginal population also dropped as a result of the introduction of foreign diseases. Smallpox in particular, ravaged the region as early as the 1790s, introduced through the traditional trading routes of the Aboriginal community. A second smallpox epidemic broke out in the 1830s, further decimating the Aboriginal people/s (Christison, 2009: 11).

The Coonamble Waterhole was one of the essential natural resources for the local Aboriginal community. However, the development of the town by European settlers in the 19th century was focused on this site, further dispossessing it from the Aboriginal people/s (Christison, 2010: 36). Some Aboriginal people/s were forced to live on pastoral runs working as shepherds, general hands, or as servants, following the loss of their land and sources of food and shelter. Despite the loss of their lands and their working arrangements of European stations, the Aboriginal community still took place in lengthy ceremonies as their tribal lore dictated (Miller, 1999:9). European settlers were allowed to photograph the men's ceremonial ground in the Wailwan country prior to the 1930s, which has allowed for an understanding of these ceremonies today (refer Sharing a Wailwan Story, Powerhouse Museum). Research undertaken by Miller in 1999 for the Powerhouse Museum, identified that photographs of ceremonies also include Aboriginal people/s of neighbouring nations, including the Wiradjuri and the Gamilaraay people. These ceremonies ceased however, in the 1930s when the Wailwan people/s were forced off their traditional, ceremonial lands and into the Brewarrina Mission, where their ceremonial life and language was discouraged by European settlers.

'Tin Town' (also referred to as The Island) was an Aboriginal reserve located on the edge of the town, which was utilised as a place of residence and gathering of the local Aboriginal people/s during from the early 1900s until 1978 (Christison, 2010: 37). This settlement was outside the control of the Aboriginal Protection Board and was a settlement which Aboriginal people/s often retreated to escape the control of European managers. Tin Town comprised of makeshift huts or gunyahs which were made of sheets of corrugated iron, wood, bark and leaves. Evidently, Aboriginal people/s were mistreated by the European settlers whether they were living on missions, reserves or stations (Rutherford, 2019: i).

Today, the Wailwan people/s across NSW maintain a strong connection to their heritage, although, only a few words of their language has survived.

3.4 Previous Archaeological Assessments

A limited number of Aboriginal archaeological assessments have been undertaken in the Coonamble region. This included investigations across the central western region of NSW which did not begin until the 1980s and does not encompass the Coonamble landscape.



In 2000 and 2002, Purcell undertook a series of assessments in the Pilliga and Goonoo State Forests located approximately 80 km to the northeast of the study area. During this assessment, 47 Aboriginal sites were discovered in the Pilliga Forest and 106 in the Goonoo State Forest. These sites were more frequently identified on alluvium landforms such as swamps, creeks and ponds which were surrounded by floodplains or terraces. Similarly, 91.5% of these Aboriginal sites were identified within 200 to 300 m of a water source (OzArk 2019: 8).

In 2012, NSW Archaeology Pty Ltd prepared an Aboriginal cultural heritage assessment for land located in the town of Nyngan (approximately 160 km southwest of the study area). The site was not located within proximity to a watercourse (the Bogan River) and no Aboriginal objects were identified during the site inspection. The most common previously recorded site type identified across the region, however, was stone artefacts and culturally modified trees (Dibden, 2012: 11).

In 2016, OzArk prepared a predictive model for Aboriginal site location within the Travelling Stock Reserves across the Central West Local Land Services area. The formulated predictive model indicates that a high number of sites are situated on slopes, a higher density of objects were seen in channels and floodplains, alluvial plains have the third highest density of site types while relatively small number of sites were recorded in uplands and in plateaus. Overall, the most sensitive landscape type in this region is channels and floodplains, soon followed by slope landscapes (OzArk, 2019: 9).

In 2019, OzArk undertook an Aboriginal Due Diligence Assessment for the proposed Ralston hard rock quarry, located approximately 45 km southeast of the study area. A review of the AHIMS database identified 103 previously recorded Aboriginal sites located within 25 km including artefact scatters, open sites, isolated finds, PADs, rock shelters, burials and most frequently, culturally modified trees. The site had been subject to extensive ground disturbance, earthworks and vegetation clearing. However, a site inspection identified one (1) additional Aboriginal site characterised as an artefact scatter, including over 100 stone artefacts. Material types included silcrete, mudstone, quartz and petrified wood as well as one broken basalt ground-edge axe. It was recommended that this newly recorded Aboriginal site be avoided during the proposed development (OzArk, 2019: 15).

3.5 Archaeological Potential

Previous archaeological assessment suggests that areas of Aboriginal sensitivity are located within close proximity to watercourses (particularly channels and floodplains) and in or within proximity to caves and along mountain ranges. It is important to note, that Aboriginal sites are likely to also exist in other locations or landforms across the region and that the lack of archaeological investigations in these areas has impacted predictive modelling.

Archaeological predictive modelling for the study area based off landform features is summarised below in **Table 1**.



Table 1 – Predictive Modelling

Artefact type	Likelihood of existing within the study area
Modified trees	<p>Culturally modified trees can exist anywhere in a landscape where mature trees and vegetation have been preserved. These sites are particularly common close to water sources such as the Castlereagh River.</p> <p>The site is likely to contain culturally modified trees in the southeastern extent of the study area. However, remaining trees on site do not appear on aerial imagery (refer Figure 3) suggesting that they are not likely to contain Aboriginal cultural modification.</p>
Artefacts (scattered or isolated)	<p>Artefacts such as stone tools, are commonly identified in areas of occupation. Areas of occupation have a strong correlation with their proximity to watercourses and shelter, particularly floodplains and channels within the Coonamble region.</p> <p>There is a low likelihood of artefacts being identified within the study area due to heavy ground disturbance caused by the development of the feedlot, cattle grazing and regular cropping across the area and due to its proximity to a watercourse.</p>
Burials	<p>Aboriginal burial sites can be found anywhere across the landscape, however, are most commonly identified in sandy deposits, in caves, or, in the hollow of a tree. These landscape features are not characteristics of the site, and it is therefore unlikely that burial sites exist at the site. Moreover, the level of ground disturbance across the site indicates that burials will not be present.</p>
Middens	<p>Middens are commonly found along the banks and terraces of rivers or creeks. As there are no watercourses within the study area, it is unlikely that a midden will be identified.</p>
Grinding grooves	<p>Grinding grooves occur on stones most commonly found amongst sandstone outcroppings located immediately next to a water source. As there are no water sources or outcropping located within the study area, it is unlikely that grinding grooves will be present.</p>







4. PREVIOUSLY RECORDED ABORIGINAL SITES OR PLACES

The locations and details of Aboriginal sites are considered culturally sensitive information. It is recommended that this information, including the AHIMS data, is removed from this report if it is to enter the public domain.

NSW Heritage (formerly OEH) maintains the Aboriginal Heritage Information Management System (AHIMS) database, a register of Aboriginal archaeological sites that have been recorded in New South Wales. The AHIMS search provides an archaeological context for the area and identifies whether any previously recorded Aboriginal sites are located within or near the study area.

A basic search of the AHIMS database of the study area with an approximate buffer area of 3 km was undertaken on 15 April 2024 (Client Service ID: 883433). The parameters of the search were as follows:

GDA 1994	MGA 55H
	
	
Number of Sites	4

Four (4) Aboriginal sites are recorded as being located within 3 km of the study area. No Aboriginal places were identified. Previously recorded Aboriginal sites or places are shown in **Figure 4**.

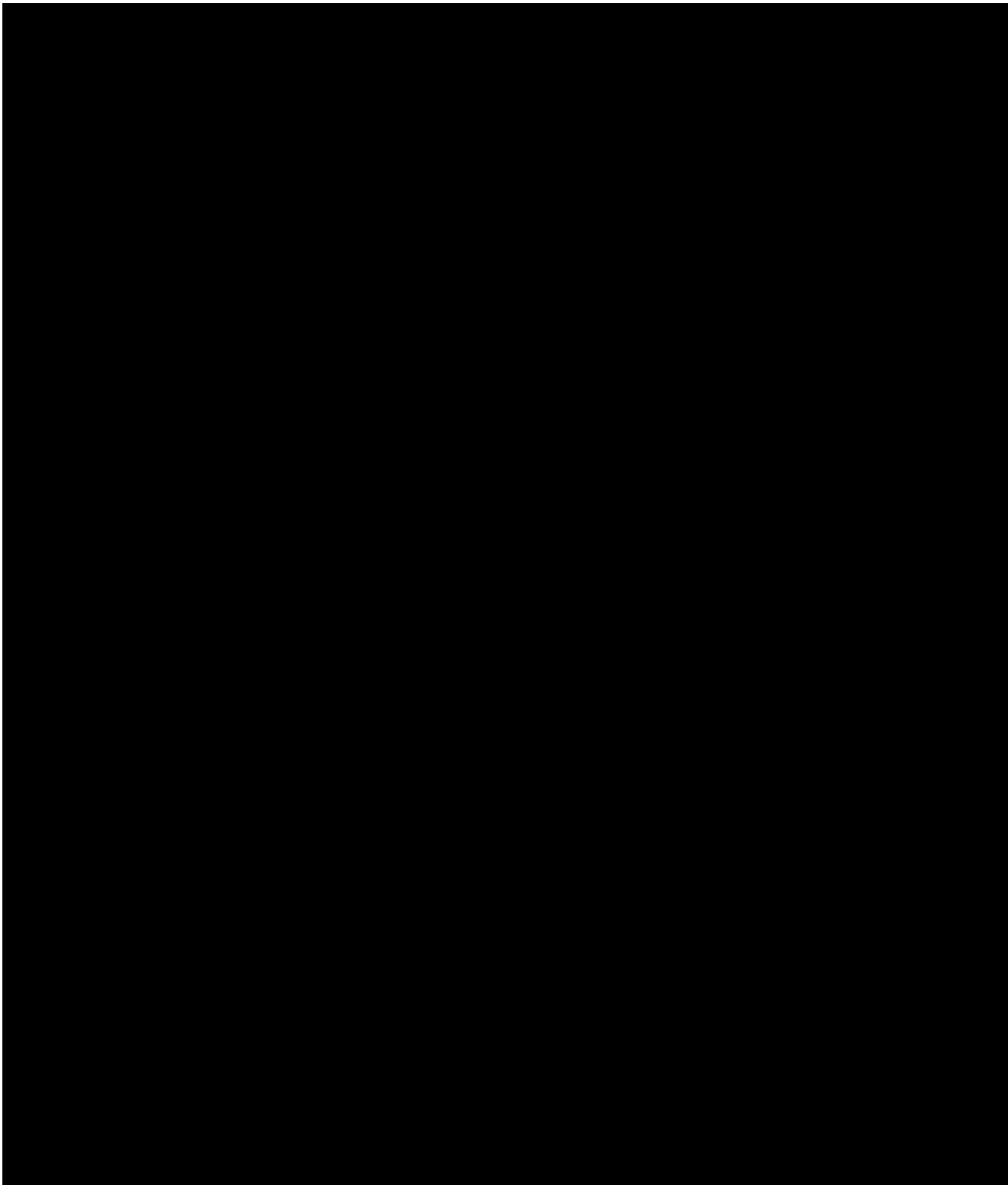
An extensive search of the AHIMS database identified that these four (4) Aboriginal sites are characterised as culturally modified trees and are situated in a woodland area along Quambone Road (approximately 3 km northwest of the study area).

The nature and location of registered sites reflects past Aboriginal occupation of the land; however, the sites are also influenced by historical land-use, and the nature and extent of previous archaeological investigations. Although Aboriginal occupation covered the whole of the landscape, the availability of fresh water, and associated resources, was a significant factor in repeated and long-term occupation of specific areas within the landscape.

A copy of the AHIMS search results are provided in **Appendix A**.



ESRI 2024



Legend










-  Host Lot
-  Existing Development Footprint
-  Proposed Development Footprint
-  Lot
-  Road
-  Railway
-  Water Body
-  Watercourse
-  Recorded Aboriginal Heritage Sites



Figure 4

4.1 National Native Title Tribunal

A search of the National Native Title Tribunal (NNTT) and Native Title Vision (NTV) online database was undertaken on 29 July 2024 for the Coonamble Shire LGA to ascertain if any Native Title claims, determinations or registrations were associated with the study area.

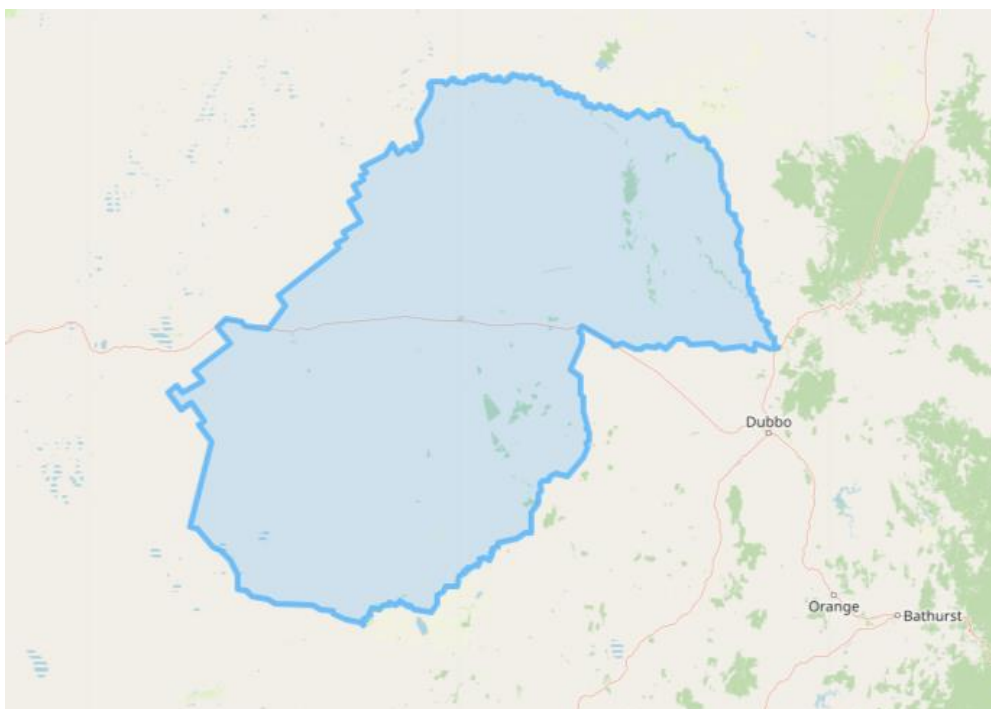
One (1) native title claim was identified. This claim was registered on 12/04/2012 and covers land and waters of approximately 95,045.48 square kilometres in New South Wales, encompassing an area roughly from Ivanhoe to just south of Bourke to Coonamble and Nyngan, including the study area (refer **Figure 5** for Native Title claim area). The Native Title Claim is listed below:

- > NC2012/001 Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan People native title determination application

A Geospatial Search for the site has identified that the land parcels are classified as 'freehold tenure'.

It has been assessed that the study area is not included within the abovementioned title claim due to the land being of 'freehold tenure' as identified through a Geospatial Search of the area.

Figure 5 – NC2012/001 Native Title Claim



5. SITE INSPECTION

A site inspection was undertaken by Tamera Rudd (Graduate Archaeologist, Premise) on 9 May 2024 to identify the prevalence of any Aboriginal sites or objects located within the Moonya Feedlot at 701 Quambone Road, Coonamble NSW 2829. The site inspection included pedestrian and vehicle survey across the proposed development area (identified in **Figure 2**).

The site was accessed from the northwest via Quambone Road with an approximate 1.9 km vehicle access road meandering south towards the Moonya Feedlot office building, a freshwater dam, sheds, feedlot pens and other associated feedlot infrastructure, surrounded by pastures. Other areas identified included existing silage bunks, a manure pad, a holding pond and sedimentation basin. Excluding the large freshwater dam located adjacent to the existing feedlot pens, four (4) farm dams are located across the Moonya Feedlot site, with cement water troughs also located in each paddock.

Upon arrival, crop dusting was occurring across the site, with focus across the pasture where the remediation pens are proposed (refer **Figure 2**). Once crop dusting had been completed, a survey was conducted across this area. This area is characterised as a pasture, with dense vegetation and nil to low level of ground visibility (refer **Figure 8** and **Figure 9**). Where soils were observed, they did not contain any raw materials or Aboriginal cultural heritage objects. This area contained two (2) White-box (*Eucalyptus albens*) trees which were inspected and contained no signs of cultural scarring (refer **Figure 11**). Moreover, this paddock has been historically cropped, ploughed and grazed which has resulted in high level of ground disturbance. Similarly, the construction of electricity infrastructure has further disturbed the land. It is not considered likely that Aboriginal objects are present in this area nor is it likely that the proposed development of the feedlot pens will impact any Aboriginal culturally modified trees.

A survey was also conducted across the proposed irrigation area, the silage bunk and handling exit facility areas as well as the proposed sediment and effluent ponds area. The effluent irrigation area was also identified as a dense pasture with nil to low ground visibility. Areas of erosion appeared along fence lines and at the base of trees, however, no Aboriginal objects were identified. Two (2) of the trees located to the northeast extent of the proposed irrigation area contained naturally scarring, likely caused from the tearing/falling of a tree branch(s) (refer **Figure 12** and **Figure 13**).

The proposed holding pond is situated to the south of the proposed remediation pens and is also characterised as dense pastures with nil to low ground visibility. No trees exist on this land.

The silage bunks and exit facility area are proposed to be located on land which had recently been cropped at the time of the site inspection. Increased visibility was observed in this location. Some quartz was identified within this area, however, did not show signs of cultural modification nor did the scatter of isolated trees located within this paddock. This paddock has been cropped prior to the development of the feedlot in 2007 and has further been disturbed through cattle grazing and the construction of electrical transmission infrastructure, water troughs and tanks and fencing.

Soil type across the study area remained consistent, described as a red-brown to brown loam with a sandy strip of soil located towards the eastern extent of the proposed feedlot pen area. Little to no raw materials



were identified across the study area. Some quartz, basalt and a black metal appear across the site, primarily in areas of erosion such as near water troughs and are introduced to the site (as informed by the feedlot Manager during site survey) (refer **Figure 18**). The study area (and surrounding Coonamble landscape) is a flat terrain with the terrain rising slightly to the east of the proposed feedlot pens area (just west of the sandy strip of soil). The study area has been predominately cleared however, isolated trees are scattered across the study area, none of which showed signs of Aboriginal cultural scarring.

The existing access point for the Moonya Feedlot on Quambone Road was also assessed for potential future road widening activities. Ground visibility here was nil due to dense vegetation (refer **Figure 7**). Due to the previous ground disturbance which has occurred here from the construction of Quambone Road, the driveway as well as the overall construction of the Moonya Feedlot (which likely required heavy vehicle access to the site), it is not considered likely that Aboriginal objects are present, nor will they be harmed by potential road widening activities.

Overall, the presence of Aboriginal objects or sites within the study area is not considered likely. This has been confirmed via a desktop assessment which identified the area is not located within close proximity to a watercourse or other sensitive landforms, as well as through a visual inspection of the area, which did not identify any Aboriginal objects. Therefore, the proposed development is not likely to result in adverse impacts to items of Aboriginal cultural heritage or to cultural heritage values.

The study area is shown in **Figure 6** to **Figure 19**.

Figure 6 – Access to Moonya Feedlot



Figure 7 – Ground coverage: Quambone Road access



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Figure 8 – Proposed feedlot pen development area



Figure 9 – Ground visibility: feedlot pen area



Figure 10 – Erosion area: proposed feedlot pen area



Figure 11 – Isolated trees: proposed feedlot pen area



Figure 12 – Proposed Irrigation Area: natural scar



Figure 13 – Natural scar/tearing



Figure 14 – View west towards proposed silage bunks



Figure 15 – Ground coverage: silage bunks area



Figure 16 – View northeast to proposed feedlot pens



Figure 17 – Proposed effluent/sediment ponds



Figure 18 – Raw materials identified



Figure 19 – View northwest to existing feedlot pens



5.1 Previously Identified Sites

Four (4) previously recorded Aboriginal culturally modified trees are located approximately 3 km northwest of the study area (refer Section 4). These sites are not located within the development impact area and will therefore not be impacted by the proposed development.



5.2 Archaeological Sensitivity and Impacts

This due diligence assessment provides a preliminary assessment of archaeological potential, to determine if there are or are likely to be Aboriginal objects in the study area.

When assessing the study area for Aboriginal sensitivity it is essential to determine whether the site contains landscape features that indicate the likely existence of Aboriginal objects. Examples of such landscape features are rock shelters, sand dunes, waterways, waterholes, and wetlands. On assessing the site, considerations must be made if your proposed activity is:

- > within 200 m of waters, or
- > located within a sand dune system, or
- > located on a ridge top, ridge line or headland, or
- > located within 200 m below or above a cliff face, or
- > within 20 m of or in a cave, rock shelter, or a cave mouth, and
- > is on land that is not disturbed.

Archaeological sensitivity is closely related to the levels of ground disturbance. However, other factors are also considered when assessing archaeological potential as mentioned above, such as whether artefacts were located on the surface, and whether the area is within a sensitive landform unit according to the predictive statements.

Section Sec 7.5 (4) of the *Due Diligence Code of Practice* (DECCW 2010) defines disturbed land as:

For the purposes of this clause, land is disturbed if it is has been the subject of human activity that has changed the lands surface, being changes that remain clear and observable.

This includes land disturbed via:

(a) soil ploughing,

(b) construction of rural infrastructure (such as dams and fences),

(c) construction of roads, trails and tracks (including fire trails and tracks and walking tracks),

(d) clearing of vegetation,

(e) construction of buildings and the erection of other structures,

(f) construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure),

(g) substantial grazing involving the construction of rural infrastructure,

(h) construction of earthworks associated with anything referred to in paragraphs (a)-(g).



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The study area is characterised as being 'disturbed land' as per the above definition. The landscape has previously been disturbed through the construction of the existing Moonya Feedlot and aligns with the Section 7.5 (4g) definition of lands disturbed by human activity for the purposes of rural infrastructure and substantial grazing. As proposed works are to take place on land which has been disturbed, the due diligence process has assessed that no further investigations are required (as per Section 7.5 of the *Due Diligence Code of Practice*) and works may proceed with caution.

If Aboriginal objects are identified during the activity, works must cease, and Heritage NSW must be notified.

Notwithstanding the above, appropriate mitigation measures should be implemented to ensure impacts to existing and potential Aboriginal objects or areas of sensitivity, does not occur (refer **Section 7**).

6. CONSULTATION

In line with SEARs issued for the proposed development, consultation with the Coonamble Local Aboriginal Land Council (LALC) has been undertaken.

This report was provided to the LALC on 26 September 2024 for review and feedback. The report was presented to the NSW LALC Board during a meeting held between the 7th and 11th October.

No feedback was received.



7. DUE DILIGENCE PROCESS

The results of this Due Diligence Assessment are summarised below in **Table 2**. The table contains a response to the questions included in the *Due Diligence Code of Practice* (DECCW 2010) which are intended to assist in determining whether or not a proposed activity may result in harm to Aboriginal objects that are protected under the *National Parks and Wildlife Act 1974*.

Table 2 – Response to the Due Diligence Code of Practice Questions

Due Diligence Code of Practice Questions	Comments
(1) Will the activity disturb the ground surface or any culturally modified trees?	The proposed activity will disturb the ground surface through the construction of the feedlot pens and associated infrastructure. The ground surface is also likely to be disrupted by the presence of construction vehicles across the site. The ground surface has however, been previously disturbed through historic agricultural activities and through the construction of the existing Moonya Feedlot. No Aboriginal culturally modified trees have been identified within the study area.
(2a) Are there any relevant confirmed site records or other associated landscape feature information on AHIMS?	There are four (4) previously recorded Aboriginal sites located approximately 3 km northwest of the Moonya Feedlot, however, no Aboriginal sites were identified within the study area. There is no associated landscape feature information recorded on AHIMS for the study area.
(2b) Are there any other sources of information of which a person is already aware?	No. The registered Native Title Claim NC2012/001 excludes the study area
(2c) Are there any landscape features that are likely to indicate the presence of Aboriginal objects?	The landscape is characterised as a flat terrain and is not located within close proximity to a water source, with the closest watercourse situated approximately 2 km northwest. The study area is therefore, not considered to contain any sensitive landform features which may indicate the presence of Aboriginal objects. This was confirmed during the visual site inspection.
(3) Can harm to Aboriginal objects listed on AHIMS or identified by other source of information and/or can the carrying out of the activity at the relevant landscape features be avoided?	No previously recorded AHIMS sites are recorded in the study area. No additional Aboriginal sites or objects were identified during a site inspection, therefore, the proposed development will not harm any items of Aboriginal cultural heritage. Previously recorded Aboriginal sites located to the northwest of the study area will not be impacted by the proposed development.



Due Diligence Code of Practice Questions	Comments
(4) Does a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely?	This AHDDA has included both a desktop and visual assessment of the study area. This assessment has concluded that no previously recorded Aboriginal sites are located within the study area, nor are they likely to exist.

8. CONCLUSION AND RECOMMENDATIONS

Rural Marketing Australia Pty Ltd (trading as Coonamble Feedlot) are proposing to expand the Moonya Feedlot located at 701 Quambone Road, Coonamble NSW, including the construction of new feedlot pens with an irrigation area, holding pond and sedimentation basin and additional silage bunks to accommodate these new feedlot pens.

A desktop assessment has identified that no previously recorded Aboriginal sites are located within the study area. A site inspection did not identify any newly recorded Aboriginal objects or areas of archaeological sensitivity. Moreover, the development is proposed across land which has been previously disturbed through historic agricultural activities since at least 1985, as well as the construction and ongoing operation of the Moonya Feedlot since 2007. The closest watercourse to the site is approximately 2 km northwest and the site has been predominately cleared of mature trees. The construction of the feedlot and associated infrastructure as well as the consistent cropping of pastures and grazing of 10,000 cattle has resulted in a high level of ground disturbance across the land.

This assessment has determined that items of Aboriginal cultural heritage value are not likely to exist within the development area nor are the previously recorded Aboriginal sites located approximately 3 km northwest, likely to be impacted by the proposed development.

In accordance with the OEH due diligence guidelines, this assessment has not identified Aboriginal objects, or areas of archaeological sensitivity, within the study area. No further Aboriginal archaeological assessment is recommended and the works may proceed.

The following recommendations are made:

- > The proposed development should remain within the proposed footprint. If future works are proposed outside of this area, additional Aboriginal cultural heritage assessments may be required.
- > If a suspected Aboriginal object(s) is identified during the proposed activity, works should cease and an Aboriginal heritage consultant should be advised to assess the unexpected find and recommend if further investigations or permits are required.



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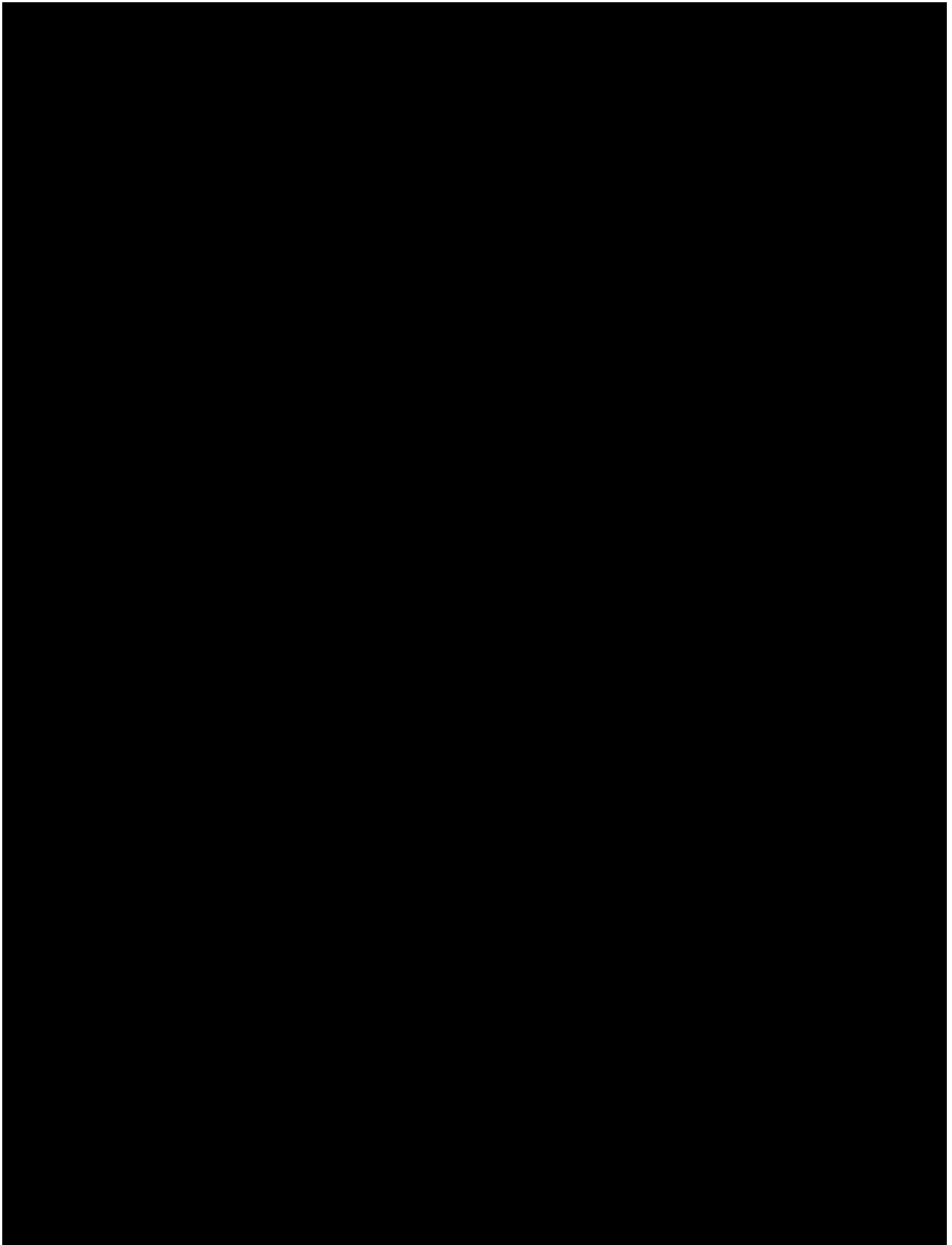
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APPENDIX A

AHIMS Searches

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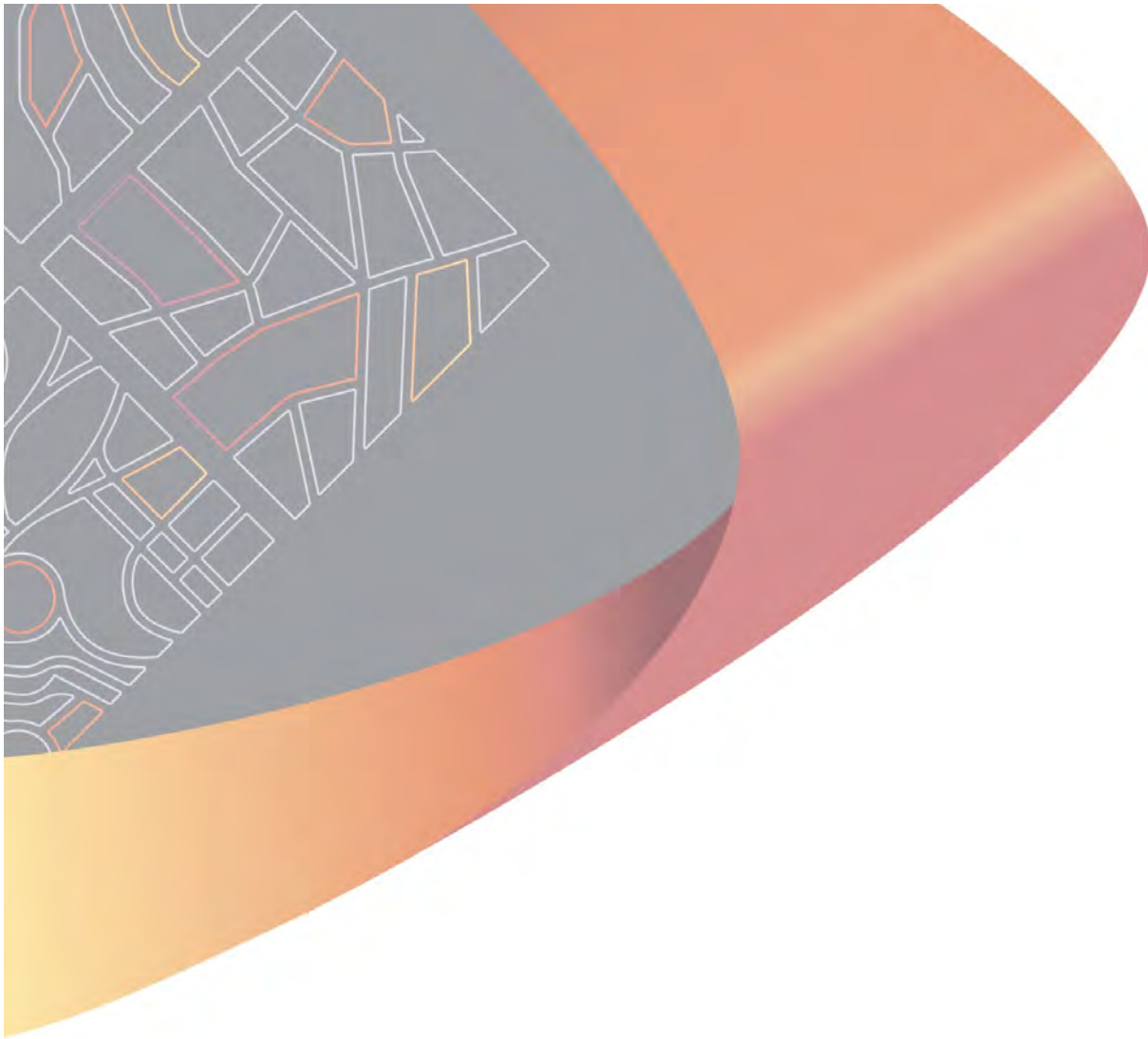


If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(https://www.legislation.nsw.gov.au/gazette\)](https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.





RURAL MARKETING AUSTRALIA PTY LTD

Moonya Feedlot Expansion

VISUAL IMPACT ASSESSMENT

Report No: 222230

Rev: B

30 September 2024





RURAL MARKETING AUSTRALIA PTY LTD
 MOONYA FEEDLOT EXPANSION
 VISUAL IMPACT ASSESSMENT

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LANDSCAPE CHARACTER AND VISUAL IMPACTS

1. INTRODUCTION

1.1 Purpose of this report

This Visual Impact Assessment (VIA) has been prepared by Premise Australia Pty Ltd (Premise) on behalf of Rural Marketing Australia Pty Ltd (RMA). The purpose of the VIA is to assess the visual impacts related to the proposed expansion and upgrades at Moonya Feedlot in Coonamble.

The Secretary's Environmental Assessment Requirements (SEARs) for the proposal were issued by the NSW Department of Planning and Environment (DPE) on 12 February 2024 (Error! Reference source not found.). For Visual Impacts, the SEARs include:

"Visual- including an impact assessment at private receptors and public vantage points"

To address these requirements, this report includes:

- > An assessment of the impact to views from surrounding private residences (Section 4.4).
- > An assessment of the impact to views from the public domain (including road corridors) (Section 4.4).

The aim of this report is to assess the visual impact of the proposal and address the SEARs in relation to visual impact.

1.2 Proposal overview

RMA seeks to expand the capacity of the existing Moonya Feedlot from 10,000 head to a capacity of 30,000 head.

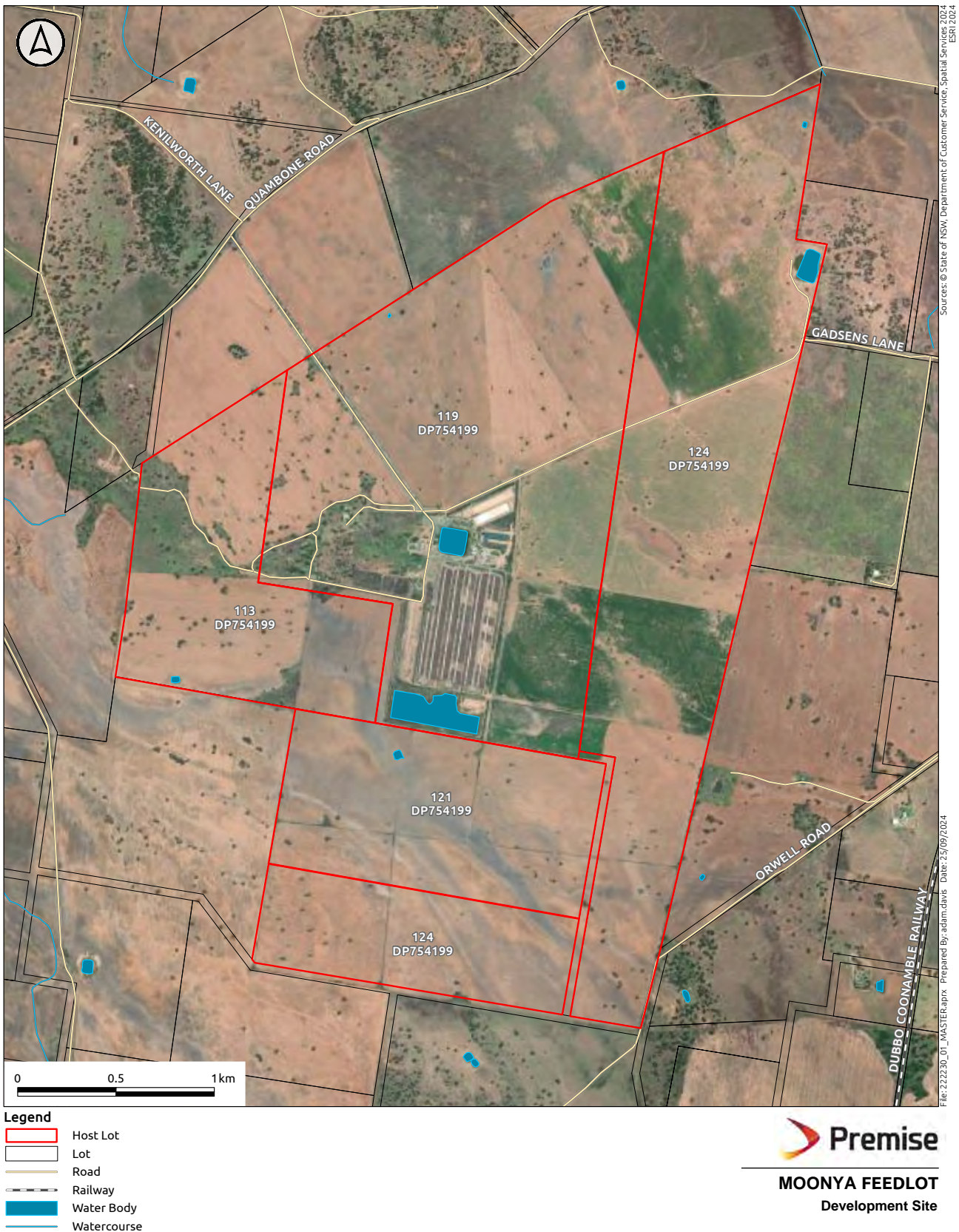
The key elements of the proposed expansion include additional feedlot pens and a cattle handling facility.

Other ancillary components of the proposed expansion include stock lanes and feed alleys, drains and ponds and vehicle access.

The proposed expansion also includes a manure management system to effectively manage the collection, treatment and reuse of the liquids, organic matter and nutrients contained in the manure from the feedlot. Manure includes both the liquid and solids fractions of manure (moist) and urine.

The proposed works and development impact area are identified in **Figure 1**. The proposed works drawings are provided in **Appendix B**.





Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
 EIRI 2024
 File: 222230_01_MASTER.aprx Prepared By: adam.davie Date: 25/09/2024

Figure 1

1.3 Report structure

- > **Section 1- Introduction:** provides background of the purpose of the report and the proposal.
- > **Section 2- Methodology:** describes the guidelines and methodology used to perform the assessment.
- > **Section 3- Existing Environment:** provides an overview of the legislative context and the existing environment of the study area and surrounding locality.
- > **Section 4- Visual Impact Assessment:** supplies an assessment of impacts to visual amenity from the proposal.
- > **Section 6- Mitigation Measures:** recommends mitigation measures to minimise the impact of the proposal on the visual amenity of the surrounding landscape.
- > **Section 7- Conclusion:** presents a summary of the findings of the VIA.



2. METHODOLOGY

2.1 Guidance for visual impact assessment

There are no specific legislative requirements for the methodology of a visual assessment of agricultural facilities in New South Wales. For general visual impact assessment, this report refers to the guidance offered by:

- > *Guidelines for Landscape Character and Visual Impact Assessment* (Transport for New South Wales, 2020).
- > *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (Landscape Institute and Institute of Environmental Management & Assessment, 2013).

The methodology used for assessing the visual impact of the proposal has been described in **Section 2.2** of this report.

2.2 Visual impact assessment

The following sections detail the methodology used to assess the visual impact of the proposed development.

2.2.1 LEGISLATIVE REVIEW

A review of key planning documentation, policies and procedures was performed to identify any requirements in relation to visual and scenic amenity within the study area. The aim of the review was to identify legislation, policy and procedures that would apply to the visual impact of the proposed development.

2.2.2 DESKTOP ANALYSIS

A preliminary desktop analysis was performed at the commencement of the visual impact assessment project. Desktop analysis included:

- > Project proposal documents including detailed design and scoping report.
- > Legislative context and SEARs review.
- > NSW mapping services including eSpade, SEED and ePlanning Spatial viewer.
- > Google Earth and Google Street View.

A preliminary assessment of the landscape and visual environment was undertaken to inform pre-fieldwork mapping and the field assessment.

2.2.3 VISUAL ENVELOPE MAP (VEM)

A visual envelope map (VEM) was created based on *Guidelines for Landscape Character and Visual Impact Assessment* (Transport for New South Wales, 2020). The VEM refers to the likely visual catchment of the proposed development in relation to existing landform and was determined by assessing visibility of the



feedlot shade structures to the surrounding land using a Digital Elevation Model (DEM) obtained from New South Wales Spatial Services. The proposed shade structures are 6.75 metres (m) in height and the maximum fill of the earthworks is 3 m along the northern edge of the development. Therefore, a maximum height of 10 m was chosen as the target for this analysis being the highest and most visible feature of the development (R.L. 194).

The VEM analysis does not account for any screening effects of infrastructure, buildings or vegetation. It also does not account for the impact of distance. The VEM represents the worst-case scenario of potential visual impact.

2.2.4 VIEWPOINT SELECTION

Representative viewpoints were selected within the visual catchment within 2 kilometres of the development. This included residential buildings, commercial buildings, roads and public spaces. Private receiver points obtained from New South Wales Spatial Services were mapped within 2 kilometres of the development and accurately positioned over dwellings and commercial premises visible in the latest available aerial imagery. Representative viewpoints were selected on the nearest publicly accessible point where private viewpoints could not be accessed, including residences along private driveways.

2.2.5 FIELD ASSESSMENT

Following the visibility catchment mapping, a field assessment was undertaken on 9 May 2024 to assess the impact of the development on the visual landscape from surrounding viewpoints. The field assessment was conducted in the following manner:

- > Locations with the potential for a line of sight to the proposed development were identified from the results of the desktop analysis and visual catchment map.
- > Potential viewpoints in these areas were identified based on visual observations from adjacent publicly accessible land.
- > Photographs were taken from the potential viewpoints in the direction of the proposed development.
- > Consideration was given to the distance of the proposed development from the viewpoints and the magnitude of change from the existing environment.

2.2.6 IMPACT ASSESSMENT STEPS

Visual impacts of the proposal were assessed using the visual impact matrix contained in *Guidelines for Landscape Character and Visual Impact Assessment* (Transport for New South Wales, 2020). The visual impact rating matrix combines the visual sensitivity of the view/viewer and the magnitude of change to the view that will result from the proposal to provide a rating of the visual impact.

An assessment of each view has been undertaken in the following steps:

- > Describe the existing view;
- > Identify the sensitivity of the viewer (refer to **Table 1**);
- > Identify the magnitude of change created by the proposal (refer to **Table 2**); and



> Combine these characteristics to assign a level of visual impact (refer to **Table 3**).

2.2.6.1 Visual sensitivity

Visual sensitivity combines the qualities and nature of the view and the receiver. The sensitivity of a view is determined by the importance of the view, its existing scenic qualities and the presence of other structures within the view. For example, a pristine natural environment would be highly sensitive to a change of nature if a man-made structure was erected as opposed to a developed industrial environment.

The sensitivity of a receiver is determined by number of viewers, duration of the view and the activity taking place. Locations where the view would be seen for a longer duration, where there are a high number of viewers and where the visual amenity is important to viewers would have high levels of visual sensitivity.

Any views recognised by local, state or federal planning regulations would have an increased level of visual sensitivity.

Table 1 describes the sensitivity levels that have been used for this assessment.

Table 1 – Visual sensitivity levels

Visual sensitivity	Description
High	Heavily experienced views including residential properties with long viewing periods and minimal screening within close proximity to the proposed development. Views which are iconic a region or have high visual amenity and value with the community. Any designated viewpoint recognised by local, state or federal planning regulations.
Moderate	Views experienced by a moderate number of people where the view may not be a key focus. This includes outdoor workers, recreational users or occupants of residential properties which may be partially screened and are not in close proximity to the development. These may be a gateway view, view from an identified scenic route and/or large numbers of road or rail users, views from a recreational area, and or/ views to important visual features.
Low	Views experienced by a small number of receptors for a short amount of time. Views may be screened by vegetation or structures or may not be identified as highly valuable by the local community. These may be views from local roads which are viewed for short time periods by vehicle users or views experienced by indoor activities at schools, workplaces or similar.
Negligible	Views where screening vegetation or structures obstruct the majority of the views or viewing times are short, for example road users, train passengers or transport routes that pass by the study area where the views are considerably screened.



2.2.6.2 Magnitude of change

Magnitude of change refers to the physical scale of the proposed development, how distant it is and the contrast to the existing environment. Magnitude also considers the cumulative impact of the proposed development in consideration with past, current and known likely future activity.

A low magnitude of change occurs if the proposed development is highly consistent with the existing environment in relation to its size, scale, form and alignment. A high magnitude of change would occur if the development contrasts strongly to the existing environment.

Table 2 describes the magnitude of change levels that have been used for this assessment.

Table 2 – Magnitude levels

Magnitude	Description
High	A substantial or obvious change that contrasts significantly with the character and amenity of the existing view.
Moderate	A somewhat prominent change to the existing view due to partial loss of or change to elements that influence the character of the view.
Low	A minor loss or alteration of the view which is not visually prominent or is relatively visually compatible with the existing character of the view.
Negligible	A change which is not visible, or the development is compatible with the character of the view and is not visually prominent.

2.2.6.3 Assigning impact levels

The visual impact level has been assessed by combining the sensitivity and magnitude according to the matrix in Table 3. This matrix is based on the 'Landscape character and visual impact rating matrix' contained in the *Guidance note EIA-N04 Guidelines for Landscape Character and Visual Impact Assessment* (Figure 7, p.12, TfNSW, 2020).



Table 3 – Visual Impact Levels

	High sensitivity	Moderate sensitivity	Low sensitivity	Negligible sensitivity
High magnitude of change	High adverse	High - moderate adverse	Moderate adverse	Negligible
Moderate magnitude of change	High - moderate adverse	Moderate adverse	Moderate – low adverse	Negligible
Low magnitude of change	Moderate adverse	Moderate – low adverse	Low adverse	Negligible
Negligible magnitude of change	Negligible	Negligible	Negligible	Negligible



3. EXISTING ENVIRONMENT

3.1 Legislation and policy review

3.1.1 COONAMBLE LOCAL ENVIRONMENTAL PLAN 2011

The study area is located in the Coonamble Shire Local Government Area (LGA) and is subject to the Coonamble Local Environmental Plan 2011 (Coonamble LEP). Relevant aims of the Coonamble LEP include:

- > To encourage sustainable economic growth and development within Coonamble,
- > To encourage and provide opportunities for local employment growth and the retention of population in Coonamble,
- > To encourage the retention of productive rural land for agriculture,
- > To identify, protect, conserve and enhance Coonamble's natural assets.

3.1.1.1 Zoning

The study area is located within and surrounded by RU1-Primary Production zoned land (refer to **Figure 2**). Objectives of the RU1-Primary Production zoning under the Coonamble LEP include:

- > To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- > To encourage diversity in primary industry enterprises and systems appropriate for the area.
- > To minimise the fragmentation and alienation of resource lands.
- > To minimise conflict between land uses within this zone and land uses within adjoining zones.

3.1.1.2 Relevant provisions

Planning provisions from the Coonamble LEP that are relevant to scenic values, amenity and views in relation to the proposed development are listed below:

- > **5.10 Heritage conservation-** the objectives of this clause are as follows:
 - a) to conserve the environmental heritage of Coonamble,
 - b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views.

Site visit confirmed that there are no views to the development site from any of the heritage items listed under the Schedule 5: Part 1 of the Coonamble LEP.

No other relevant provisions were identified from the Coonamble LEP.



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3.1.2 COONAMBLE DEVELOPMENT CONTROL PLAN

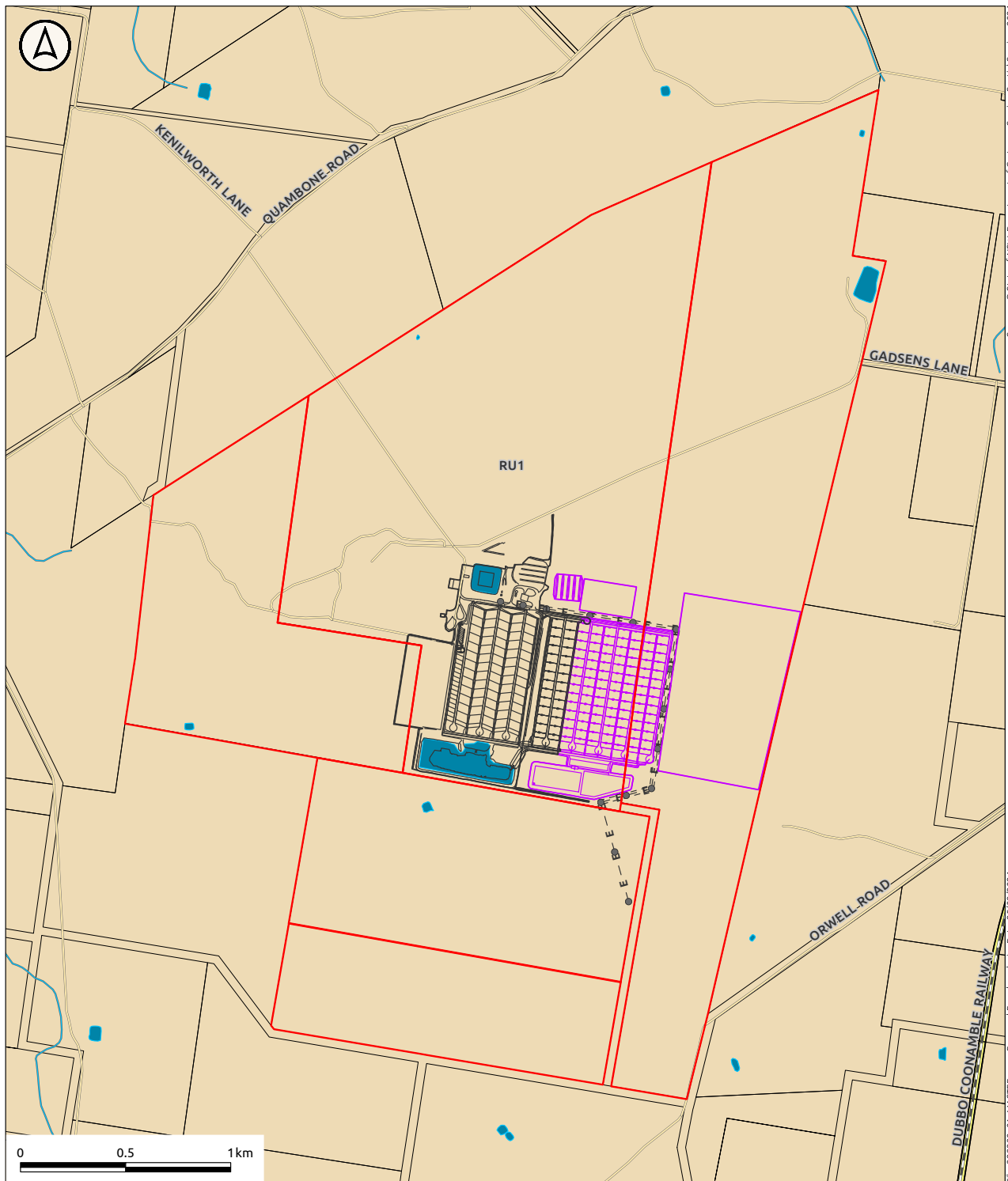
The study area is located in the Coonamble Shire Local Government Area (LGA) and is subject to the Coonamble Development Control Plans (DCP). The DCP supports the Coonamble LEP and provides additional objective and development controls.

Whilst there are DCPs available for small cattle feedlots under 1000 head and other industrial developments, there is no DCP relevant to the proposed development as a large-scale feedlot.

3.1.3 OTHER RELEVANT POLICY

A review of the Coonamble Shire Council Policies, Plans and Strategies websites did not identify any other policies or plans with relevance to amenity, views or scenic qualities in relation to the proposed development.





Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
 EPR1 2024
 File: 222230_01_MASTER.aprx Prepared By: adam.dave Date: 23/09/2024

Legend	
 Host Lot	Land Zoning (LZN)
 Existing Development	 RU1
 Proposed Development	 SP2
 Lot	
 Road	
 Railway	
 Water Body	
 Watercourse	

Premise
MOONYA FEEDLOT
 Land Zoning

Figure 2

3.2 The study area

The study area refers to the entirety of the site at 701 Quambone Road, Coonamble NSW 2829 (Lot 113 DP 754199) as identified in **Figure 1**. Moonya Feedlot is accessed via Quambone Road in the north with a sealed road meandering south towards the feedlot infrastructure. The proposed development will be set back approximately 2km south of Quambone Road and 2km west of Back Gular Road. The land is predominately cleared of trees and is dominated by pasture and cropping land. Individual paddock trees are scattered across the site and trees appear in higher proximity on land located to the northwest of the feedlot infrastructure. A residential dwelling is situated approximately 550m northwest of the feedlot infrastructure, surrounded by planted vegetation.

The development will be located directly adjacent to the current feedlot. The feedlot infrastructure currently visible on site includes silos, pens, shade structures, grain bags, silage bunkers, grain augers, sheds, fencing, roads, and dams. Four (4) farm dams are located across the Moonya Feedlot site as well as one (1) large freshwater dam situated to the north of the existing feedlot pens.

Figure 3 – Visual character of the study area



3.3 The locality

The site is located within the Coonamble Shire Local Government Area (LGA) in the Orana region of New South Wales (NSW). The Coonamble Shire LGA also includes the nearby towns of Gulargambone and Quambone with the Castlereagh Highway and Castlereagh River meandering north to south through Coonamble. Coonamble is approximately 250km south of the Queensland border and 530km northwest of Sydney, NSW.

The development site is located off Quambone Road, approximately 7km southwest of the centre of Coonamble. The locality is dominated by agricultural industries including sheep and cattle production, a significant horse industry, and cropping and freighting operations. Coonamble is typically characterised by a semi-arid landscape. It features vast plains, sparse vegetation, and occasional shrubbery. The terrain is often flat or gently undulating, with dry conditions prevailing for much of the year.

The Castlereagh River is situated approximately 4.5km east of the Moonya Feedlot while the Gidgenbar Watercourse is located approximately 1.8km northwest. The Coonamble Railway Line is situated approximately 2.5km to the east of the site and is used primarily for agricultural freight. Infrastructure associated with the agricultural industry is present throughout the locality and includes irrigation infrastructure, grain storage, stock yards, sheds and silos.

Figure 4 – Visual character of the locality



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4. VISUAL IMPACT ASSESSMENT

4.1 Views assessed

Sensitive visual receptors and viewpoints were identified by the visual envelope mapping and the site visit. The receptors with potential views of the proposed development which were assessed using a combination of desktop research and site visit included:

- > Road users utilising Quambone Road which is located north of the project site;
- > Road users utilising Back Gular Road which is located east of the project site;
- > Road users utilising Castlereagh Highway which is located east of the project site;
- > Train passengers travelling by train between Coonamble and Combara train station to the east of the project site;
- > Commercial buildings along Back Gular Road to the east of the site including Qube Agri, GrainCorp Coonamble, and Coonamble Airport;
- > Four private dwellings to the east of the project site;
- > One private dwelling to the south of the project site; and,
- > One private dwelling to the west of the project site.

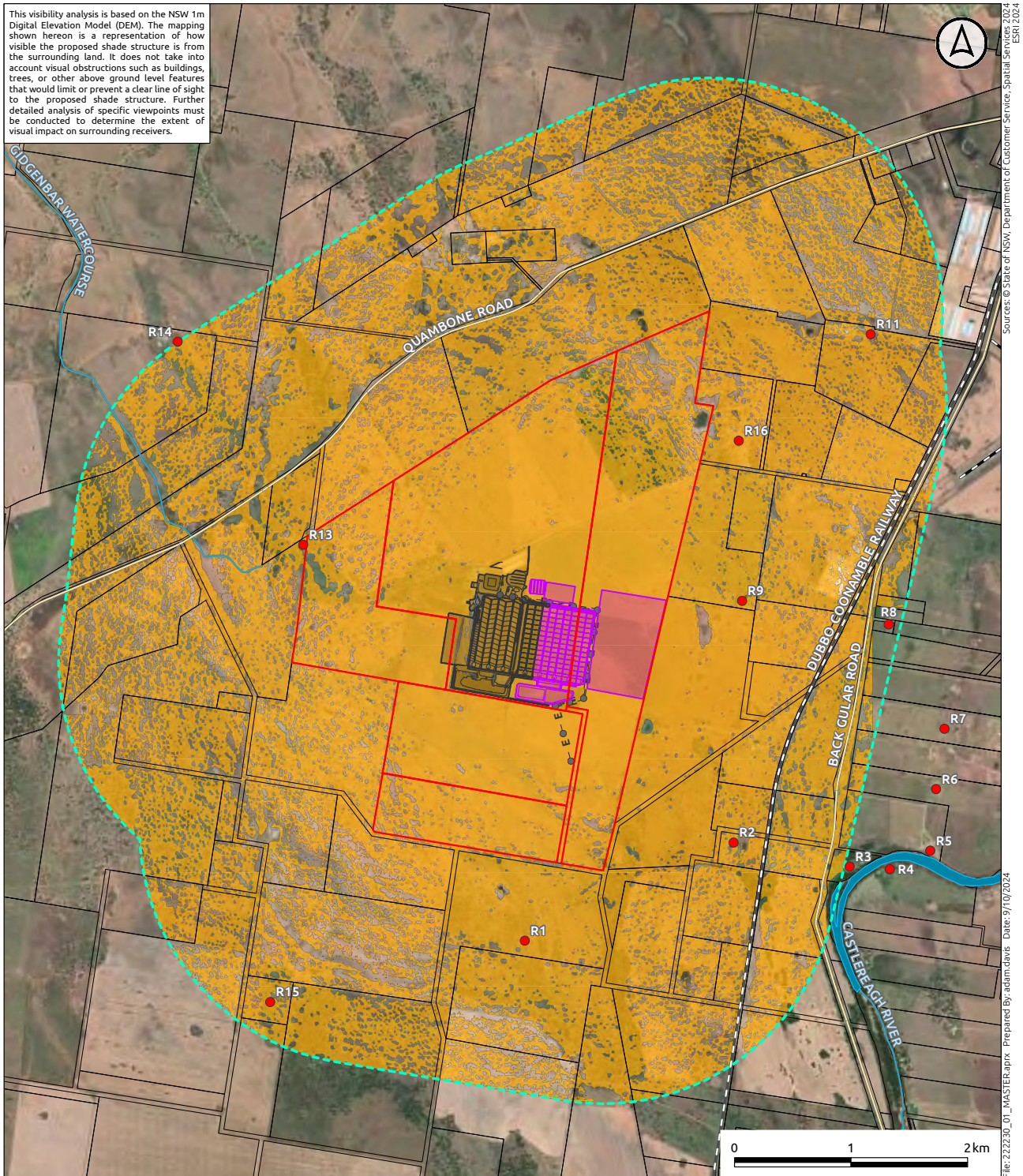
4.2 Assessment steps

An assessment of each view has been undertaken in the following steps according to the *Guidelines for Landscape Character and Visual Impact Assessment* (TfNSW 2020):

- > Describe the existing view;
- > Determine the viewer's sensitivity;
- > Determine the magnitude of change; and
- > Assess these factors together to assign a visual impact rating.

Further detail of these assessment steps is included in **Section 2.2** of this report.





This visibility analysis is based on the NSW 1m Digital Elevation Model (DEM). The mapping shown hereon is a representation of how visible the proposed shade structure is from the surrounding land. It does not take into account visual obstructions such as buildings, trees, or other above ground level features that would limit or prevent a clear line of sight to the proposed shade structure. Further detailed analysis of specific viewpoints must be conducted to determine the extent of visual impact on surrounding receivers.

Sources: © State of NSW, Department of Customer Service, Spatial Services 2024
ESRI 2024
File: 222230_01_MASTER.aprx Prepared By: adam.davie Date: 9/10/2024

- Legend**
- Host Lot
 - 2 km Buffer
 - Existing Development Footprint
 - Proposed Development Footprint
 - Lot
 - Major Road
 - Railway
 - Runway
 - Major Water Body
 - Major Watercourse
 - Area With Visibility to Netpro Structure
 - Receptors



Figure 5

4.3 Viewpoint locations

Table 4 –Private Receptors and Public Vantage Points

Receiver	Location	Relative location	Comment	Impact Rating
Public Vantage Points				
Road users	Quambone Road	North of project site	The development is likely to be visible to road users travelling along Quambone Road due to the flat topography of the land and lack of screening vegetation.	Assessed in Section 4.4.1
Road users	Back Gular Road	East of project site	The development is likely to be visible to road users travelling along Back Gular Road due to the flat topography of the land and lack of screening vegetation.	Assessed in Section 4.4.2
Road users	Castlereagh Highway	East of project site	The development is unlikely to be visible to road users travelling along Castlereagh highway due to vegetation along Castlereagh River.	Nil
Train operators	Trainline between Coonamble and Combara train station	East of project site	The development may be visible from the trainline between Coonamble and Combara train station due to flat topography and lack of screening vegetation. However, as Coonamble railway line has not carried passenger traffic since the 1970's and the development would only be experienced as a fleeting view by freight train operators, this visual impact is considered minimal has been considered as part of the representative view from Back Gular Road.	Low



Receiver	Location	Relative location	Comment	Impact Rating
Aircraft operators	Coonamble Airport	3.8km east of project site	The development is likely to be visible to aircraft flying into and out of Coonamble Airport. However, as there has been no regular passenger transport to Coonamble Airport since 2008 and the development would only be experienced occasionally as a fleeting view by aircraft operators, this visual impact is considered minimal has not been assessed further as part of this report.	Low
Private Receptors				
Qube Agri and GrainCorp Coonamble	Along Back Gular Road	East of the project site	The development may be visible from commercial buildings along Back Gular Road including Qube Agri and GrainCorp Coonamble due to flat topography and lack of screening vegetation. Both businesses are involved in the storage, freight and logistics of grain and agricultural products. As these receptors are ancillary to agriculture, it is considered that the visual impact of the proposed development would be consistent with the nature of these receptors.	Low
R1	701 Quambone Road Coonamble	800m northwest of the development (associated receiver)	The development is likely to be visible to this receptor as they are within close proximity. However, this dwelling is associated with the feedlot and is not required to be assessed for visual impact.	N/A



Receiver	Location	Relative location	Comment	Impact Rating
R2	817 Quambone Road, Coonamble	2.1km west of the project site	The development is unlikely to be visible to these receptors due to remnant native vegetation between the dwelling and the development. These receptors are private property without public access and vegetation was identified by assessment of aerial mapping.	Negligible
R3	240 Back Gular Road, Coonamble	3.3km northeast of project site	The development is unlikely to be visible to these receptors due to remnant native vegetation between the dwelling and the development. These receptors are private property without public access and vegetation was identified by assessment of aerial mapping.	Negligible
R4	121 Gadsens Lane Coonamble	1.5km east of project site	The development is unlikely to be visible to these receptors due to screening vegetation planted around the property. These receptors are private property without public access and vegetation was identified by assessment of aerial mapping.	Negligible
R5	1081 Orwell Road, Coonamble	1.6km east of project site	The development is unlikely to be visible to these receptors due to remnant native vegetation between the dwelling and the development. These receptors are private property without public access and vegetation was identified by assessment of aerial mapping.	Negligible



Receiver	Location	Relative location	Comment	Impact Rating
R6	700 Back Gular Road, Coonamble	1.8km southeast of project site	The development is unlikely to be visible to these receptors due to remnant native vegetation between the dwelling and the development. These receptors are private property without public access and vegetation was identified by assessment of aerial mapping.	Negligible
R7	304 Orwell Road Coonamble	2.2km south of the project site	The development is unlikely to be visible to these receptors due to remnant native vegetation between the dwelling and the development. These receptors are private property without public access and vegetation was identified by assessment of aerial mapping.	Negligible

4.4 Assessment of viewpoints

Viewpoints from public vantage points were selected based on locations detailed above that are likely to have a view of the proposed development. An assessment of visual impact is summarised below.

These representative views are:

- > Viewpoint 1: view south from Quambone Road
- > Viewpoint 2: view west from Back Gular Road



4.4.1 VIEWPOINT 1: SOUTH FROM QUAMBONE ROAD

Figure 6 – Viewpoint South from Quambone Road



4.4.1.1 Existing Conditions

This section of Quambone Road includes two marked bitumen lanes for cars with fenced grazing and cropping on the south side of the road and patches of remnant native vegetation on the northern side of the road.

There are few established native trees within this view, however the majority of this view is dominated by cropped paddocks.

The current Moonya Feedlot facilities are visible to the south of this viewpoint, filtered partly by existing established trees.

4.4.1.2 Sensitivity

The view would be experienced by a relatively small number of residents and visitors travelling along Quambone Road. This includes residents of Coonamble, Quambone and the surrounding area travelling between each town and workers of facilities along Quambone Road including the feedlot and the rubbish depot. Several mature trees which screen the feedlot from the road would be retained, offering some screening. The proposal to construct agricultural infrastructure is consistent with the other agricultural infrastructure already existing within the view. This view is of **low visual sensitivity**.

4.4.1.3 Magnitude of change during construction

Earthworks and construction to build the feedlot may be visible from this viewpoint. Overall, there is **moderate magnitude of change** to this view during earthworks and construction, which is of low sensitivity, and a **moderate-low adverse** visual impact during construction.

4.4.1.4 Magnitude of change during operation

After construction of the feedlot, the feedlot roofs may be visible to road users traveling along Quambone Road. Partial screening will be offered by vegetation between the road and the development. The character of the feedlot would be consistent with the current agricultural facilities within the existing landscape.

Overall, there would be a **moderate magnitude of change** during operation and a **moderate-low visual impact** from this location. The impact would be experienced in a fleeting view, is consistent with the existing farming landscape and would not materially impact the experience of travelling along Quambone Road.



4.4.2 VIEWPOINT 2: WEST FROM BACK GULAR ROAD

Figure 7 – Viewpoint West from Back Gular Road



4.4.2.1 Existing Conditions

This section of Back Gular Road includes two unmarked bitumen lanes for cars and runs parallel to the railway line. Back Gular Road connects Coonamble to the township of Gular, however the main thoroughfare between the two towns is via Castlereagh Highway.

Coonamble Airport, Qube Agri and Graincorp Coonamble are situated to the immediate east and west of the road. There are several houses along private driveways and laneways off Back Gular Road.

There is existing agricultural infrastructure to the east of the road, which is owned by Qube Agri, Graincorp Coonamble and Rail NSW. Silos, grain bags, grain augers, sheds, railways and machinery including tractors and grain freight trains can be seen from this location. There is a disused orchard with an existing site shed visible to the west of the road.

The majority of the landscape along Back Gular is dominated by fenced cropping or grazing paddocks.

4.4.2.2 Sensitivity

The view would be experienced by a relatively small number of residents and visitors travelling along Back Gular Road. This includes residents of Back Gular Road and the associated lanes along the road and workers of the facilities along the road including Coonamble Airport, Qube Agri and Graincorp Coonamble. The proposal to construct agricultural infrastructure is consistent with the other agricultural infrastructure already existing within the view. This view is of **low sensitivity**.

4.4.2.3 Magnitude of change during construction

Earthworks and construction to build the feedlot may be distantly visible from some sections of Back Gular Road. Overall, there is **moderate magnitude of change** to this view during earthworks and construction, which is of low sensitivity, and a **moderate-low adverse** visual impact during construction.

4.4.2.4 Magnitude of change during operation

After construction of the feedlot, the proposed shed may be distantly visible from some sections of Back Gular Road. Partial screening is offered by scattered paddock trees between the road and the site. The character of the feedlot infrastructure would be consistent with the current agricultural facilities within the existing landscape.

Overall, there would be a **low magnitude of change** during operation and a **low visual impact** from this location. The impact would be experienced in a fleeting view, is consistent with the existing farming landscape and would not materially impact the experience of travelling along Back Gular Road.



4.5 Summary of visual impacts

Site investigations confirmed that there would be two locations in the public domain from which the project would be visible. These mostly include the views from Quambone and Back Gular Road, which would be experienced as fleeting views by road users.

All private dwellings within the analysis were considered unlikely to have views of the proposed development due to screening vegetation between the dwellings and the development, identified by aerial mapping.

Commercial buildings, including Qube Agri and GrainCorp Coonamble may have a view of the development due to flat topography and lack of screening vegetation. As these receptors are ancillary to agriculture, it is considered that the visual impact of the proposed development would be consistent with the nature of these receptors.

Train and aircraft operators associated with the trainline between Coonamble and Combara train station and Coonamble airport may experience a fleeting view of the development while travelling near the site. However, there are no regular passenger transport services this trainline or airport and the view is likely to only be experienced by a small number of operators.

Table 5 – Summary of Viewpoint Assessment

Viewpoint number and location	Sensitivity	Construction		Operation	
		Magnitude	Visual Impact	Magnitude	Visual Impact
Viewpoint 1: South from Quambone Road	Low	Moderate	Moderate-low	Moderate	Moderate-low
Viewpoint 2: view west from Back Gular Road	Low	Moderate	Moderate-low	Low	Low
Qube Agri and GrainCorp Coonamble	Low	Moderate	Moderate-low	Low	Low
Trainline between Coonamble and Combara train station	Low	Moderate	Moderate-low	Low	Low



5. MITIGATION MEASURES

5.1 How potential impacts have been avoided/minimised

The co-location of the project adjacent to the existing feedlot facilities has minimised the visual impact relative to a greenfield development.

The development has also been set back from the boundaries of the site, minimising the visual impact to residents and visitors travelling across surrounding areas.

The proposal includes retention and establishment of native vegetation which is consistent with the character of the site.

5.2 Proposed additional mitigation measures

The application of good practice during construction and operation of the project would further minimise impacts. The following mitigation measures should be considered to further reduce the potential visual impacts identified in this assessment.

Table 6 – Mitigation Measures

ID	Identified Mitigation Measure	Timing
LV1	Opportunities for the retention and protection of existing trees within the development site would be identified during detailed construction planning, where practicable.	Detailed design
LV2	Temporary and permanent access will be designed to minimise vegetation removal, changes to landform and visual impacts.	Detailed design
LV3	Lighting at the construction compound would be designed and operated in accordance with AS4282-2019 Control of the obtrusive effects of outdoor lighting.	Detailed design operation
LV4	The Tree Protection Zone (as defined in AS4970-2009 Protection of Trees on Development Sites) of retained trees within or immediately adjacent to the disturbance area will be protected through the restriction of construction activities (refer section 4.2 of AS4970-2009), to minimise the impact of the works on the long-term health of these trees.	Pre-construction



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6. CONCLUSION

This visual impact assessment has been prepared for the proposed upgrades and expansion at Moonya Feedlot in Coonamble. The proposal was in the concept design phase at the time of writing and is subject to change.

The proposed upgrades and expansion at Moonya Feedlot will be set back approximately 2km south of Quambone Road and 2km west of Back Gular Road. The proposed upgrades will be predominantly screened from private and public view by distance and existing remnant vegetation.

The study area is dominated by rural use land and agricultural infrastructure. Existing agricultural infrastructure within the study area includes silos, grain bags, grain augers, sheds, railways and machinery including tractors and grain freight trains. The proposed feedlot upgrade and expansion is considered to be consistent with the existing character of the surrounding environment.

Mitigation measures contained in this report should be considered to further reduce the risk of potential visual impacts identified by this assessment.

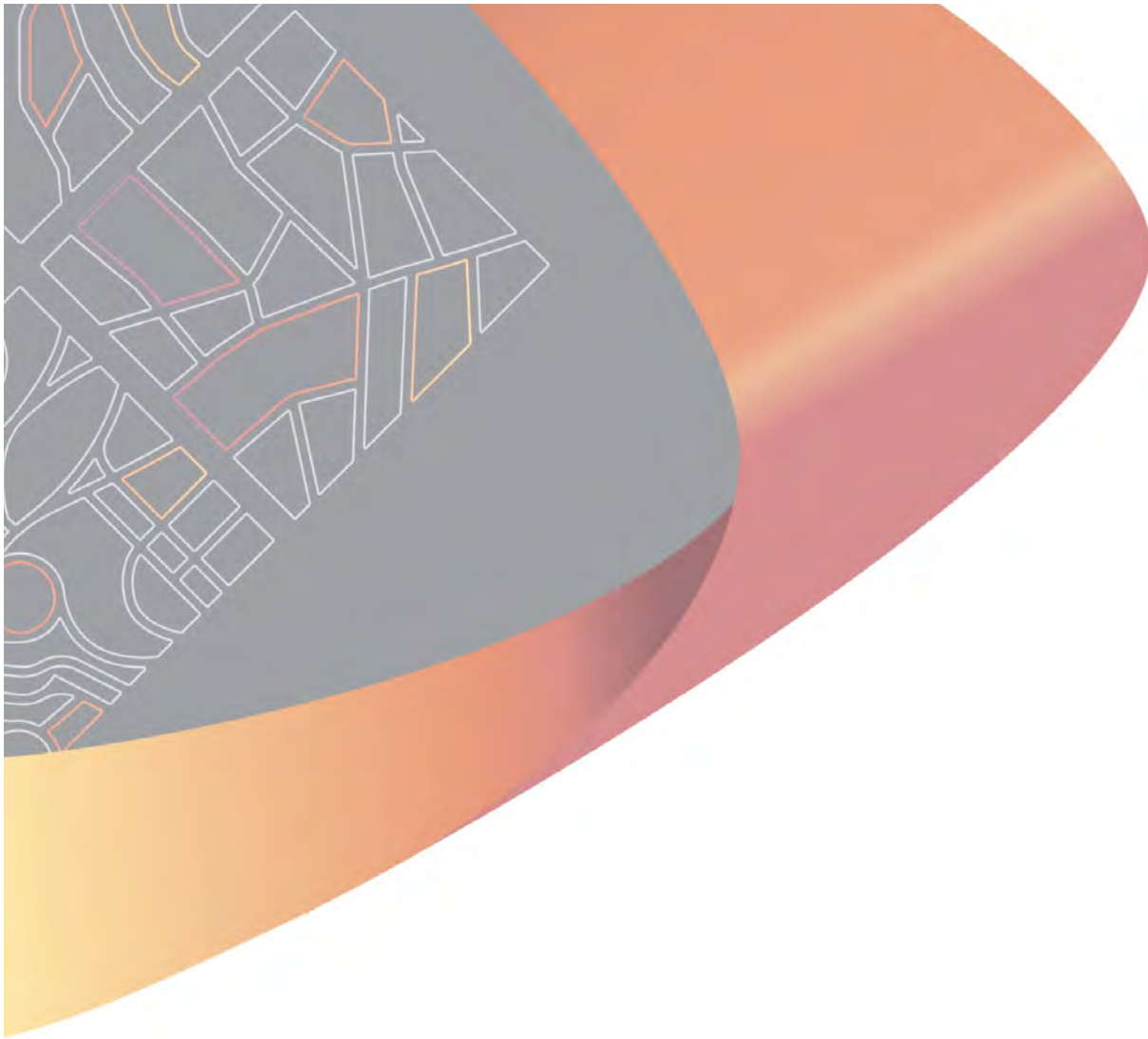




Appendix A

Project Drawings

1/1





RURAL MARKETING AUSTRALIA PTY LTD

Moonya Feedlot Expansion

FLOOD IMPACT ASSESSMENT

Job No: 222230_Hyd_001

Rev: C

22 October 2024



Premise



RURAL MARKETING AUSTRALIA PTY LTD
 MOONYA FEEDLOT EXPANSION
 FLOOD IMPACT ASSESSMENT

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ABBREVIATIONS

Abbreviation	Definition
AEP	Annual Exceedance Probability: The probability of a flood occurring in any year expressed as a percentage
ARR	Australian Rainfall and Runoff: National guideline document, data and software suite for the estimation of design flood characteristics in Australia
DEM	Digital Elevation Model
LiDAR	Light Detection and Ranging: Remote light sensing to measure ranges and provide topographic data
m AHD	Metres, Australian Height Datum: Elevation from the Australian Height Datum reference
TUFLOW	Two-Dimensional Unsteady Flow Model: A suite of advanced 1D/2D/3D computer simulation software for flooding, urban drainage, coastal hydraulics, sediment transport, and water quality
IFD	Intensity–Frequency–Duration: Design rainfall data from ARR
BOM	Bureau of Meteorology
WBNM	Watershed Bounded Network Model: Event based hydrologic model for calculating flood hydrographs
SES	NSW State Emergency Service

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EXECUTIVE SUMMARY

Rural Marketing Australia Pty Ltd is proposing to expand their existing beef cattle feedlot near Coonamble from 10,000 to 30,000 head. This report provides a flood impact assessment for the proposed expansion.

The assessment used the hydraulic flood model developed for the *West Coonamble Floodplain Risk Management Study and Plan* (Jacobs, 2021) and examined flooding patterns around the existing and proposed feedlot expansion area.

Findings from the assessment are summarised below:

- > Changes to local catchment runoff would not impact on major flood patterns around the feedlot.
- > The hydraulic model developed for the *West Coonamble Floodplain Risk Management Study and Plan* (Jacobs, 2021) could be used with some adjusted parameters to adequately represent flooding patterns around Moonya Feedlot. This was confirmed through matching observed levels for the 2010 flood.
- > The proposed feedlot expansion (and existing feedlot) can be protected from 1% AEP flooding by raising the existing levee. This meets the environmental performance criteria contained in the *National Beef Cattle Feedlot Environmental Code of Practice* (Meat & Livestock Australia Limited, 2012b) to minimise adverse impact on surface waters.
- > The mitigated scenario (i.e. raising and extending the feedlot levee), shows an average afflux of 0.032 m, mainly within the development lot boundaries. Offsite changes show an average afflux of 0.02 (20 mm) and maximum afflux of 0.09 m (90 mm).
- > 1% AEP flood levels to the north-west of the development, and across Quambone Road, are reduced by 0.025 to 0.05 m (25 mm to 50 mm).
- > Increases in peak flood velocity are limited to less than 0.25 m/s around the south-western corner of the levee with some very minor changes of less than 0.05 m/s observed offsite. Peak flood velocity is shown to reduce in areas upstream of the feedlot levee and to the north-west across Quambone Road.
- > There would be negligible change in flood patterns at the nearest offsite residence south of the feedlot (flood depth change of 6 mm, no change in velocity and no change in flood hazard).

It is concluded from this assessment that:

- > The proposed feedlot expansion can be undertaken and can incorporate measures to minimise surface water impact; and
- > The proposed levee would not have a significant detrimental impact on flood levels and peak velocity outside of the property boundary during a 1% AEP flood.

1. INTRODUCTION

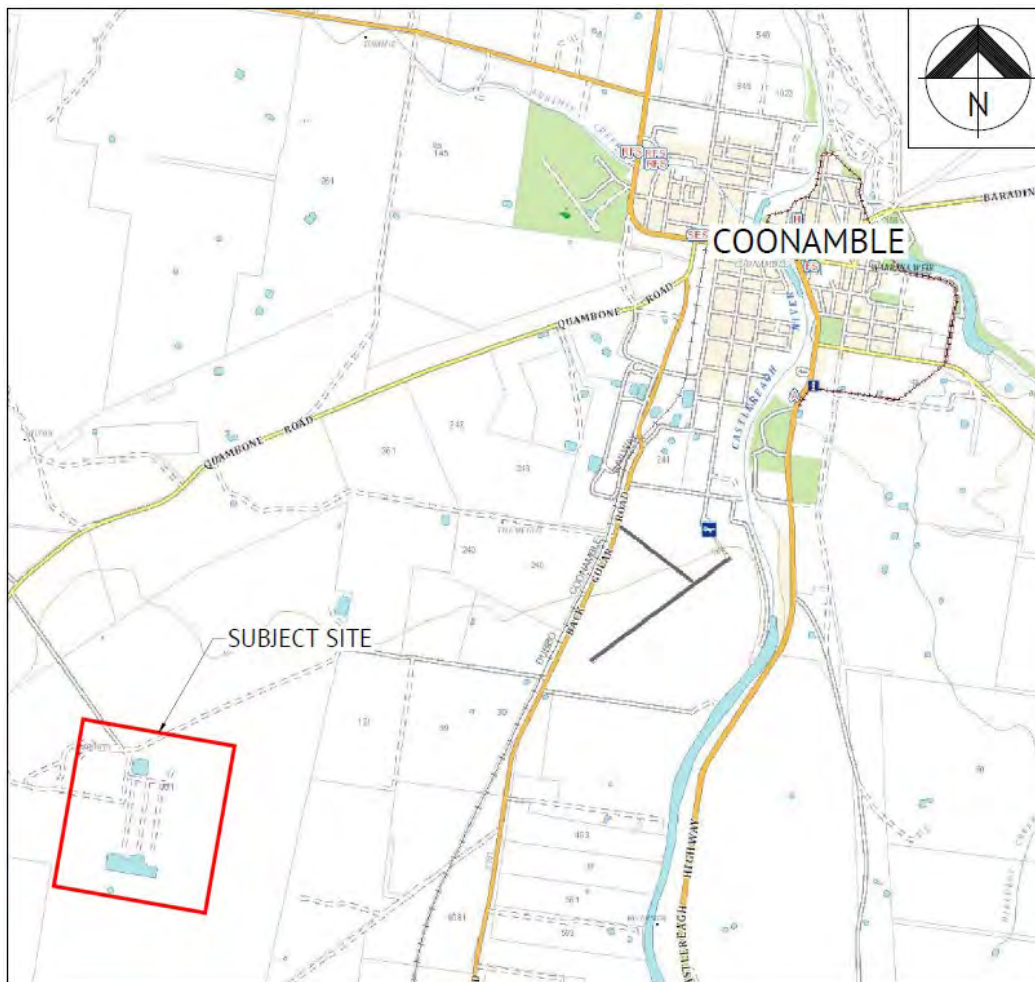
1.1 Background

Rural Marketing Australia Pty Ltd (RMA) is proposing to expand their existing beef cattle feedlot near Coonamble. The existing feedlot is approved and licensed to carry up to 10,000 head. RMA is seeking approval to expand the feedlot with the construction of additional pens on the eastern side of the existing facility. This expansion would increase the feedlot capacity to 30,000 head.

The feedlot was established in the early 2000s under Development Consent 14/97. **Figure 1** shows Moonya Feedlot location.

This flood impact assessment examines flooding patterns around the existing feedlot and proposed feedlot expansion area using a hydraulic flood model developed for the *West Coonamble Floodplain Risk Management Study and Plan* (Jacobs, 2021).

Figure 1 – Moonya feedlot location



1.2 Report Intent

The operators are committed to providing a co-ordinated approach to avoid, reduce, and control the potential environmental impacts associated with its activities, products, and services. The purpose of this report is to respond to the Planning Secretary's Environmental Assessment Requirements (SEAR) and support the State Significant Development (SSD) application for the proposed expansion of Moonya Feedlot. It provides a documented assessment of flood impacts and associated mitigation measures.

1.3 Scope

The Flood Impact Assessment included the following scope:

- > Define flooding objectives for the proposed development.
- > Review of the 2021 hydraulic model (Jacobs, 2021) to ensure it adequately represents flooding patterns around the feedlot.
- > Use the hydraulic model to assess flooding patterns for the 2010 flood and adjust model parameters to match observations as required.
- > Check local catchment hydrology to investigate if it would impact on flooding patterns;
- > Run the adjusted hydraulic model for a 1% Annual Exceedance Probability (AEP) flood without the proposed development as the existing case (Pre-development).
- > Update and run the hydraulic model to incorporate the proposed development (Post-development).
- > Update and run the hydraulic model with proposed mitigation measures (Mitigated Scenario).
- > Prepare mapping for the pre-development, developed and mitigated scenarios for the 1%AEP flood and report on flood pattern changes.

1.4 Relevant Guidelines

Relevant guidelines used in this assessment are:

- > The *National Guidelines for Beef Cattle Feedlots* (Meat & Livestock Australia Limited, 2012a) (the Feedlot Guideline);
- > The *National Beef Cattle Feedlot Environmental Code of Practice* (Meat & Livestock Australia Limited, 2012b);
- > Flood Impact and Risk Assessment – Guide LU01, Department of Planning and Environment, 2022;
- > Australian Rainfall and Runoff (ARR2019) - Geoscience Australia (2019); and
- > Coonamble Shire Council, Development Control Plans.

1.5 Limitations

This report has been prepared for RMA to examine flooding impacts around the proposed feedlot expansion. The results may not be applicable beyond this scope. For this reason, any other third parties are not authorised to utilise this report without further input and advice from Premise.

Premise has relied on the information as outlined in this report.

2. PROPOSED FACILITY

2.1 Existing Operations

Moonya Feedlot (10,000 head) is located approximately five (5) kilometres (km) south-west of Coonamble (refer to **Figure 1**). The site and associated farming activities are located at 701 Quambone Road. The feedlot operates under Environment Protection Licence 12467 (EPL 12467) which includes Lot 113 DP 754199, Lot 119 DP 754199, Lot 121 DP 754199, and Lot 124 DP 754199, as shown in **Figure 2**. The existing feedlot is located on Lot 119 DP 754199.

Runoff from the controlled drainage area (CDA) of the existing feedlot is managed through two sediment basins and a holding pond. Site runoff is irrigated from the holding pond.

The existing feedlot has a flood levee along the southern and part of the western boundary around the existing holding pond.

2.2 Proposed Development

The proposed development would expand the feedlot capacity to 30,000 head. It would include (refer to **Figure 3**):

- > Additional pens located on the eastern side of the existing feedlot pens;
- > A sedimentation basin and holding pond to manage runoff from the expanded feedlot area;
- > Additional silage bunks; and
- > A cattle handling facility.

All surface water runoff from the existing and proposed feedlot area is managed through sedimentation basins and holdings ponds and would be irrigated across adjacent cropping areas.

Figure 2 – Property description

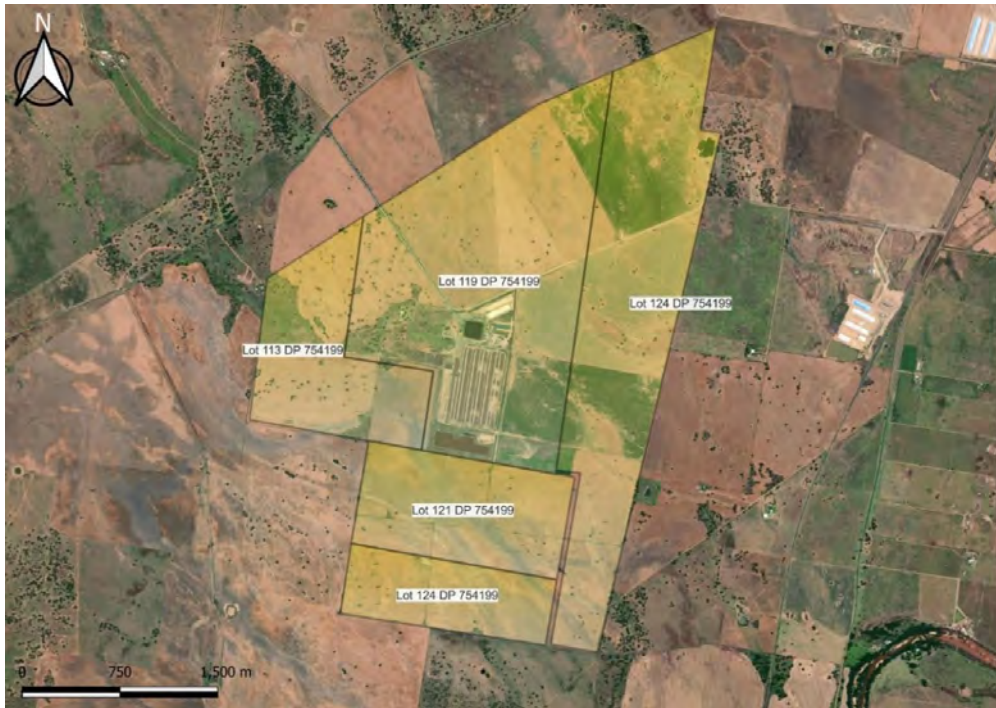
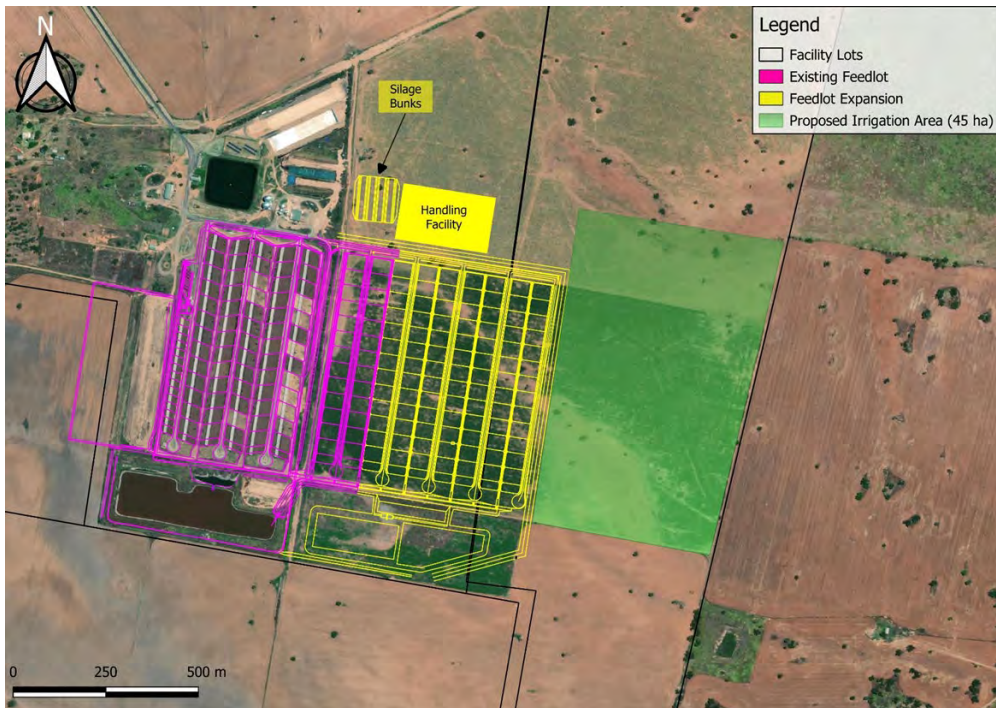


Figure 3 – Proposed feedlot expansion



3. FLOOD IMPACT ASSESSMENT

3.1 Environmental Performance

The *National Beef Cattle Feedlot Environmental Code of Practice* (Meat & Livestock Australia Limited, 2012b) provide the flooding performance measure and actions listed in **Table 1** to minimise adverse impact on surface waters.

Table 1 – Flooding performance measure to minimise surface water impact (MLA, 2012b)

Performance measure	Actions
The feedlot complex is not located in a flood prone area unless adequate safeguards are incorporated.	Either: <ul style="list-style-type: none"> The feedlot complex is sited above the height of a 100-year average recurrence interval (Q₁₀₀) flood¹. or <ul style="list-style-type: none"> Where permitted, the feedlot complex is protected from such flood by appropriately designed levees or similar structures.

The existing feedlot has a flood levee along the southern and part of the western boundary around the existing holding pond. The ability of this levee to prevent flooding of the feedlot in a 1% AEP flood was examined as part of this flood impact assessment.

3.2 Methodology

3.2.1 DATA COLLECTION AND REVIEW

Data used in the preparation of this report and information about the site was gathered from the following sources:

- > *West Coonamble Floodplain Risk Management Study and Plan* (Jacobs, 2021), downloaded from NSW Flood Data Portal (SES);
- > Rainfall data and 2016 IFD data from Bureau of Meteorology (BOM) website;
- > Catchment loss parameters, and 2016 Ensemble temporal pattern data obtained from ARR Datahub website;
- > TUFLOW model build files (Jacobs, 2021);
- > 5m Aerial LiDAR sourced from Geosciences Australia (Elvis Elevation and Depth Data);
- > 1m DEM across the feedlot area constructed from survey data and design plans; and
- > Satellite images from Google Earth and aerial Imagery by NSW Spatial Services Six Maps; and
- > RMA observations of the 2010 flood and actions resulting from that flood.

¹ A 100-year average recurrence interval flood is equivalent to a 1% AEP flood.

3.2.2 HYDROLOGY

Inflow hydrographs used in the *West Coonamble Floodplain Risk Management Study and Plan* (Jacobs, 2021) were used in the hydraulic model.

A check of the local catchment hydrology (at the feedlot site) was undertaken to identify if changes to the local catchment would impact on flooding or peak flows. A hydrologic WBNM model was setup for the feedlot site. This covered a catchment area of approximately 90 ha including the existing and proposed feedlot areas (pens, roads, sheds, and buildings). The impervious area measured as 8.6% and 17.2% of the catchment for existing and developed cases respectively.

Initial and continuing loss parameters and design rainfall data were selected in accordance with the approaches described in ARR2019.

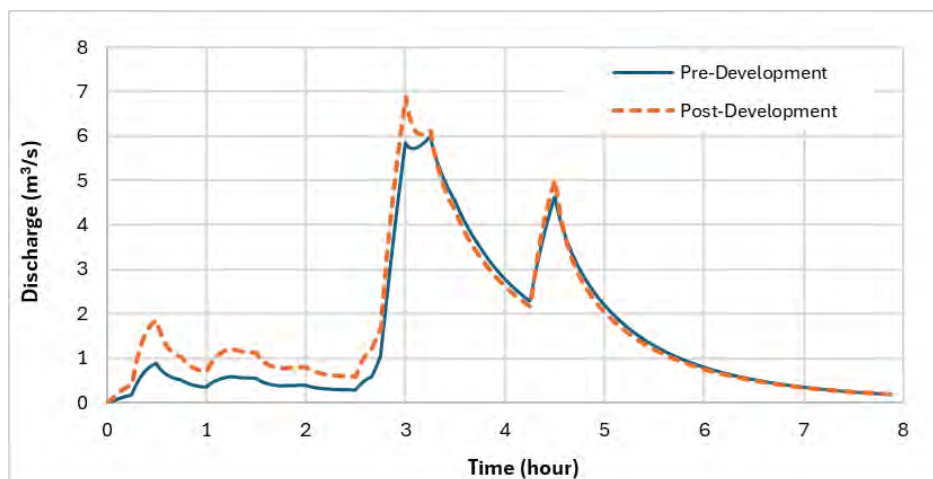
The model was run for a wide range of rainfall duration and ten temporal patterns for the 1%AEP design storms to determine the critical storm duration. The 1% AEP storm hydrograph for pre- and post-development are provided in **Figure 4**.

The analysis indicated that the post development peak runoff could be up to 15% higher due to the additional hardstand area in the catchment. However, this will not impact on local flooding patterns due to the following:

- > All site runoff is collected in the controlled drainage area surface water management system (sediment basins and holding ponds) and does not discharge from the local catchment;
- > Flooding around the feedlot is generated from flooding in the Castlereagh River with design flood hydrographs showing a time to peak of 40 to 50 hours. Local runoff would not occur with the peak in river flooding.

This assessment confirmed that there is no need to include local catchment runoff in the flood impact assessment.

Figure 4 – % AEP site hydrographs for pre- and post-development scenarios (D: 4.5 hr, TP: 2333)



3.2.3 HYDRAULIC MODEL

3.2.3.1 Model Description

The hydraulic flood model developed for the *West Coonamble Floodplain Risk Management Study and Plan* (Jacobs, 2021) was used for this study. The hydraulic model extent area is shown in **Figure 5**.

The model domain extends approximately 40 km upstream and 5 km downstream of Coonamble, covering a total surface area of approximately 529 km². The model extent covers the subject area (Moonya Feedlot).

A 1D network represents the Castlereagh River, Warrena Creek and Eurimie Creek. Major road and rail culverts and bridges are represented in the model and obstructions to flow acting as hydraulic controls, including Coonamble Levee, railway and all major roads, were represented as 2D objects (Jacobs, 2021).

The 2021 hydraulic model used LiDAR data sets of 1 m and 5 m spatial resolution across areas closer to Coonamble, with the topography of the floodplain represented using 20 m rectangular grids.

Hydraulic roughness values were assigned according to the Local Environmental Plan (LEP) zoning and ground cover (Jacobs, 2021).

Inflow hydrographs for the Castlereagh River, Warrena Creek and Magometon Creek were applied in as the inflow boundary condition and twelve (12) slope boundaries were defined with slopes varying between 0.001 m/m and 0.0025 m/m at the downstream boundaries. Coincident inflows for the 1%AEP flood were adopted as a combination of 1% AEP for the Castlereagh River and 5% AEP for Warrena Creek and Magometon Creek (Jacobs, 2021) (refer to **Figure 6**).

Jacobs (2021) reported that a comparison the hydraulic model results with observed flood levels for the December 2007 flood showed a good agreement between observed and modelled flood levels along the Castlereagh River and a reasonable agreement between observed and modelled flood levels along Warrena Creek (Jacobs, 2021).

3.2.3.2 Validation of the Model Based on 2010 Flood

Observations from the 2010 flood were used to confirm if the hydraulic model adequately represented flooding around the feedlot.

Key observations for the 2010 flood are:

- > The 2010 flood just overtopped a levee at the feedlot. The levee was subsequently raised by 0.5-1.0 m. The levee now has a level of 183.0 to 183.3 mAHD. This indicates the 2010 flood reached a level of around 182.0 to 182.3 mAHD at the feedlot;
- > The river level at the Coonamble town gauge for the 2010 flood was 180.39 mAHD (Jacobs, 2021); and
- > A river gauging station at Gungalman (about 68 km downstream of Coonamble) recorded a peak flow of 755 m³/s for the 2010 flood.

Figure 7 shows the 2010 flood hydrograph recorded at the gauging station Castlereagh River at Gungalman (#420020) located downstream of the study area. This flood is estimated to be a 10%AEP event based on flood data provided in Jacobs (2021).

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Figure 5 –TUFLOW model extent and upstream and downstream boundaries

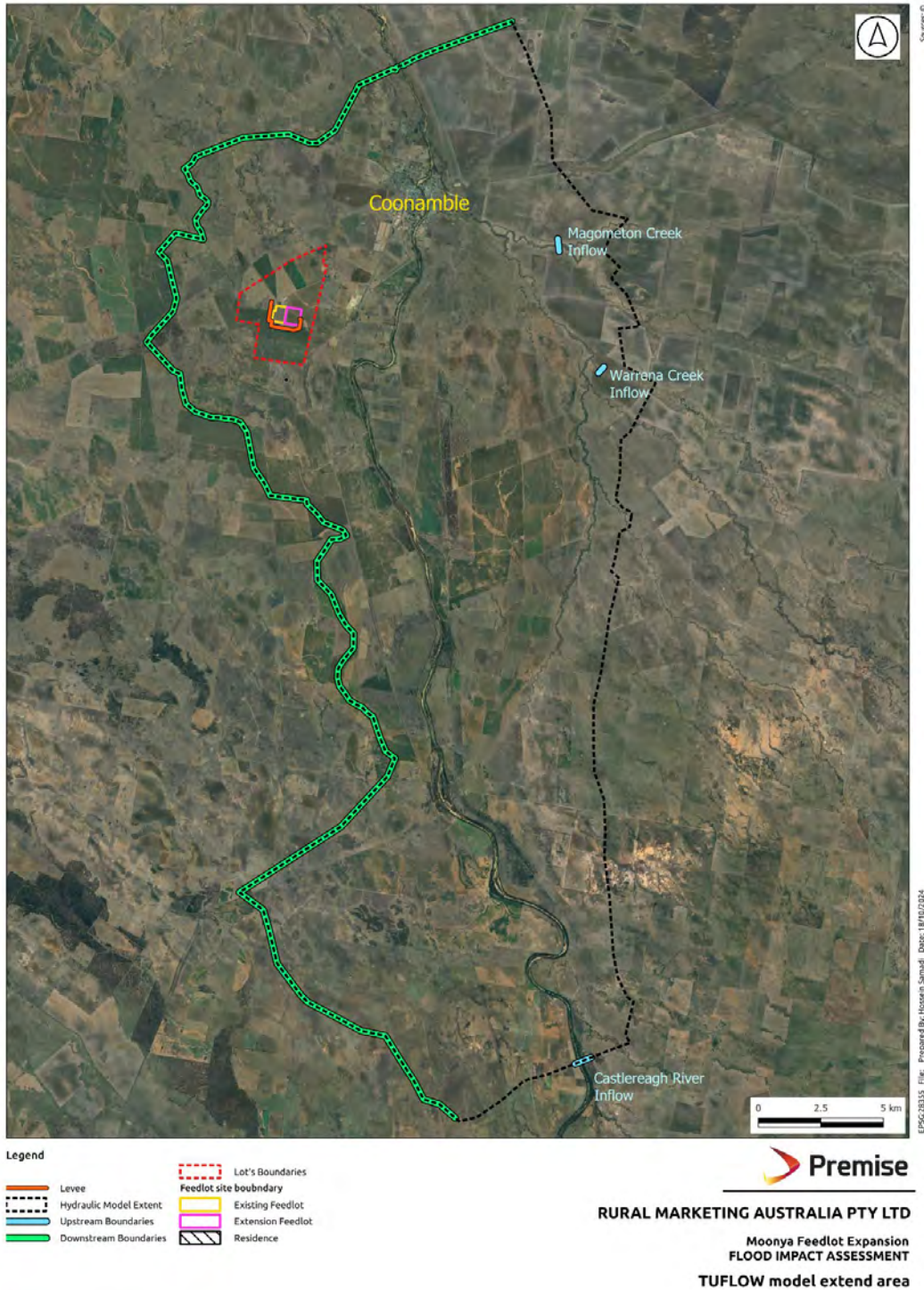


Figure 6 – Inflow hydrographs at the model upstream boundaries

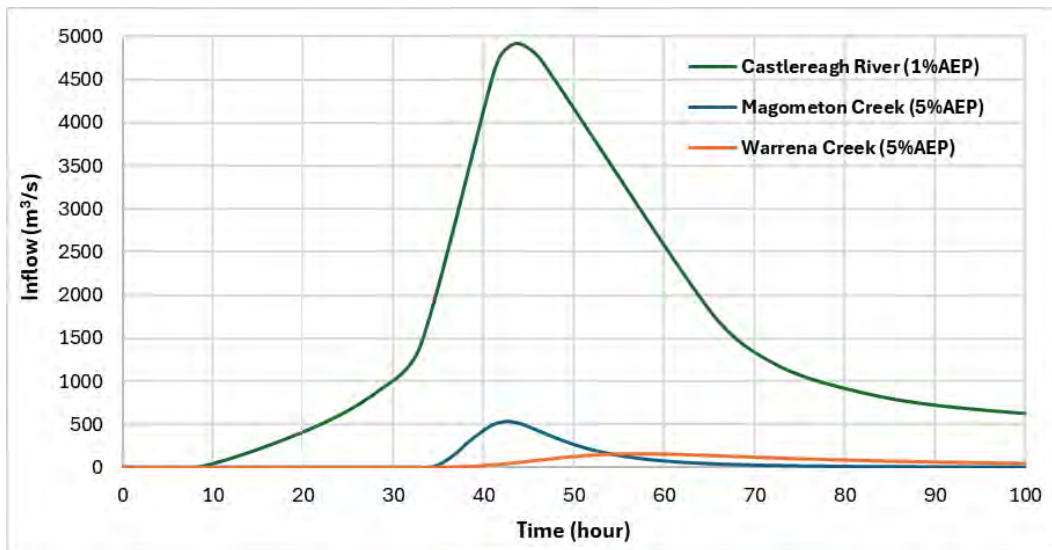
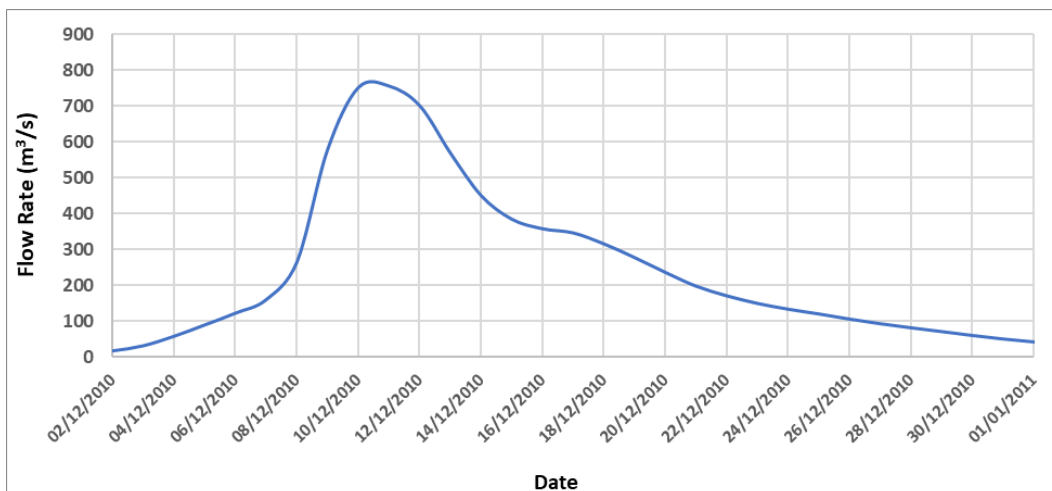


Figure 7 – 2010 flood hydrograph recorded at Castlereagh River at Gungahman (#420020)



There is no flood hydrograph available for the 2010 flood. Flow was estimated using the 1% AEP flood hydrograph which was scaled to match the observed peak downstream of Coonamble. A scaling factor of 15% was found to provide results consistent with the observed level at the town gauge and the observed level at the feedlot.

After comparing peak flood levels at the Coonamble Gauge and observation at the existing feedlot levee, the roughness of the Castlereagh River was adjusted by increasing the Manning's coefficient value by 10% in the area upstream of the subject site to better align the model results and recorded levels.

The estimated 2010 flood pattern is shown in **Figure 8**. The model shows a breakout around 16 km south of Coonamble which causes flood water to head to the northwest and past the feedlot.

The modelled flood levels from this assessment are:

- > Town gauge – 180.40 m AHD (good compared to the observed 180.39 m AHD).
- > Feedlot – 182 – 182.40 m AHD (good compared to the observations of 182.0 to 182.3 m AHD at the feedlot).

It was concluded from this assessment that the hydraulic model adequately represents flooding patterns around Moonyya Feedlot. The adjusted model used to estimate the 2010 flood was then used to model a 1% AEP flood.

Figure 8 – Modelled 2010 flood pattern



3.2.3.3 TUFLOW Model Revisions

Moonya Feedlot is located in the northwest of the 2021 hydraulic model boundary. The following model adjustments were made to assess flooding patterns around the feedlot:

- > Incorporated local survey topographic data to the model;
- > Incorporated updated land use map to the model within the study area;
- > Refined the floodplain model cell size from 20 m to 10 m;
- > Used TUFLOW 2020-10-AA rather than the previous TUFLOW 2017-09-AC version; and
- > Adjusted Castlereagh roughness based on the 2010 flood.

Other configurations of the 2021 hydraulic model were not changed.

3.3 Model Results

The hydraulic model was used for the following scenarios:

- > **Pre-development scenario** – includes the existing Moonya Feedlot and levee.
- > **Post-development scenario** – includes the proposed Moonya Feedlot and associated infrastructure.
- > **Mitigated scenario** – includes a raised levee to protect the feedlot from flooding in a 1% AEP flood.

3.3.1 PRE-DEVELOPMENT FLOOD CONDITIONS

Pre-development flood conditions were simulated for the 1% AEP flood to determine extent of flooding, depth of flow, and flow velocity. The maximum flood depth, velocity, and level maps and the hazard maps are provided in **Appendix A**.

Results of the modelling indicates that the existing feedlot is impacted by the 1% AEP flood, with slow moving floodwater pooling on the eastern side of the existing feedlot.

3.3.2 POST-DEVELOPMENT FLOOD CONDITIONS

Post-development flood conditions were simulated for the 1% AEP flood to determine extent of flooding, depth of flow, and flow velocity. The maximum flood depth, velocity, and level maps and the hazard maps are provided in **Appendix B**.

Results show that without any increase in the existing levee height, about 49% of the proposed development is inundated with an average depth of 0.9 m and average velocity of 0.12 m/s.

3.3.3 MITIGATED SCENARIO FLOOD CONDITIONS

Mitigated post-development flood conditions were simulated for the 1% AEP flood to determine extent of flooding, depth of flow, and flow velocity. The maximum flood depth, velocity, and level maps and the hazard maps are provided in **Appendix C**.

Results show that the feedlot can be protected from 1% AEP flooding with a raised and extended levee bank. The levee would need to be raised to 184.6 mAHD at the south-east end and to 183.2 mAHD at the north-west end.

3.3.4 FLOOD PATTERN CHANGES

Flood level change (afflux) for the 1%AEP flood is provided in **Figure 9** and **Figure 10** for the mitigated scenario versus pre-development. Changes in flood velocity are shown on **Figure 11** and **Figure 12**.

The mitigated scenario (i.e. raising and extending the feedlot levee), shows an average afflux of 0.032 m, mainly within the development lot boundaries. Offsite changes show an average and maximum afflux of 0.02 and 0.09 m (20 mm to 90 mm), respectively.

1% AEP flood levels to the north-west of the development, and across Quambone Road, are reduced by 0.025 to 0.05 m (25 mm to 50 mm).

Increases in peak flood velocity are limited to less than 0.25 m/s around the south-western corner of the levee with some very minor changes of less than 0.05 m/s observed offsite.

Peak flood velocity is shown to reduce in areas upstream of the feedlot levee and to the north-west across Quambone Road.

The nearest offsite residence is located to the south of the feedlot (at coordinate of -31.0224462°N and 148.330706°E). Key flooding metrics at this location are summarised in **Table 2**. These results show negligible changes at this location.

Table 2 – Flood pattern changes at offsite residence

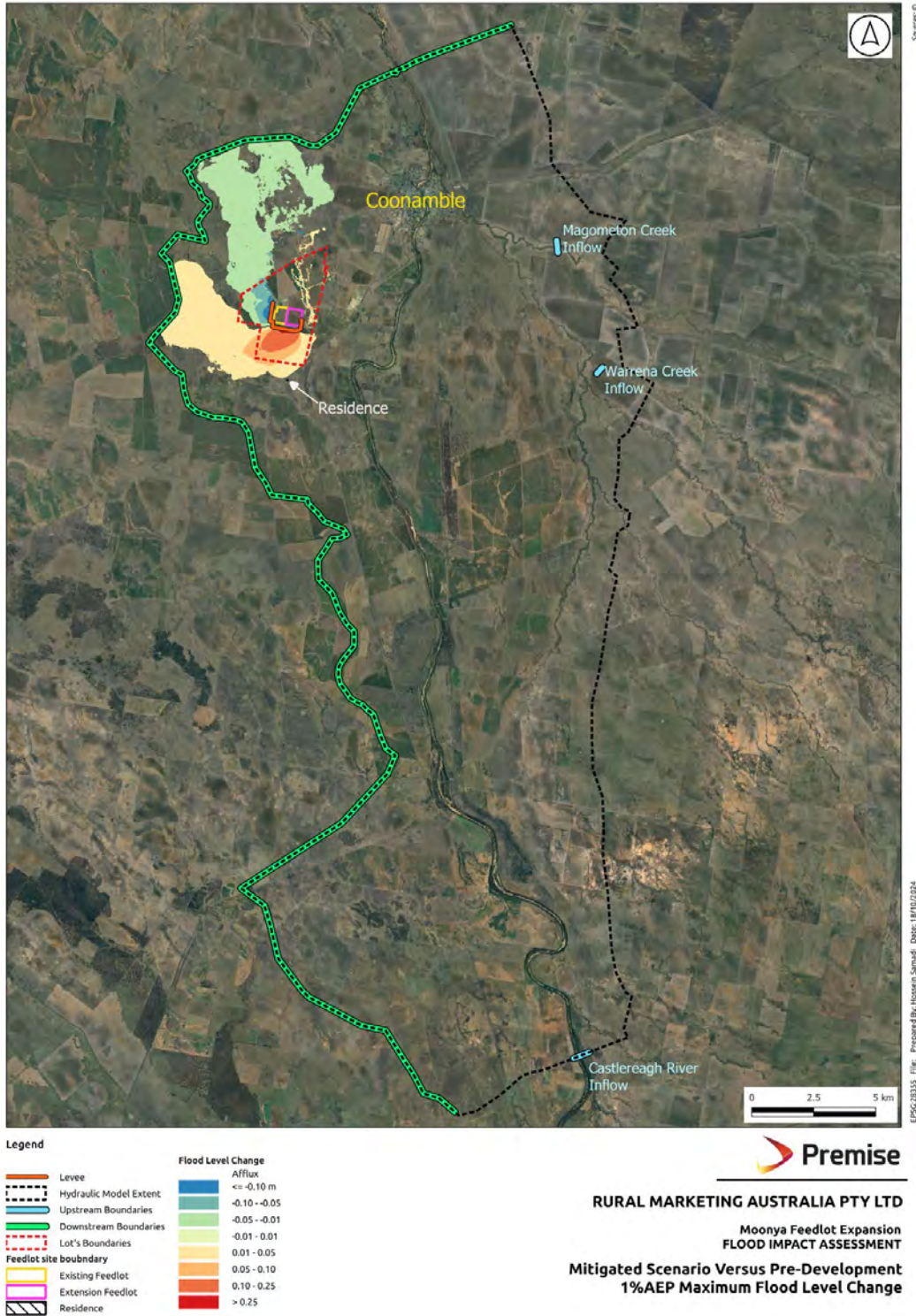
Measure	Pre-development	Mitigated scenario (with raised levee)
Peak flood depth (d), m	0.611	0.617
Peak flood velocity (V), m/s	0.369	0.369
Flood hazard (dxV), m ² /s	0.225	0.228



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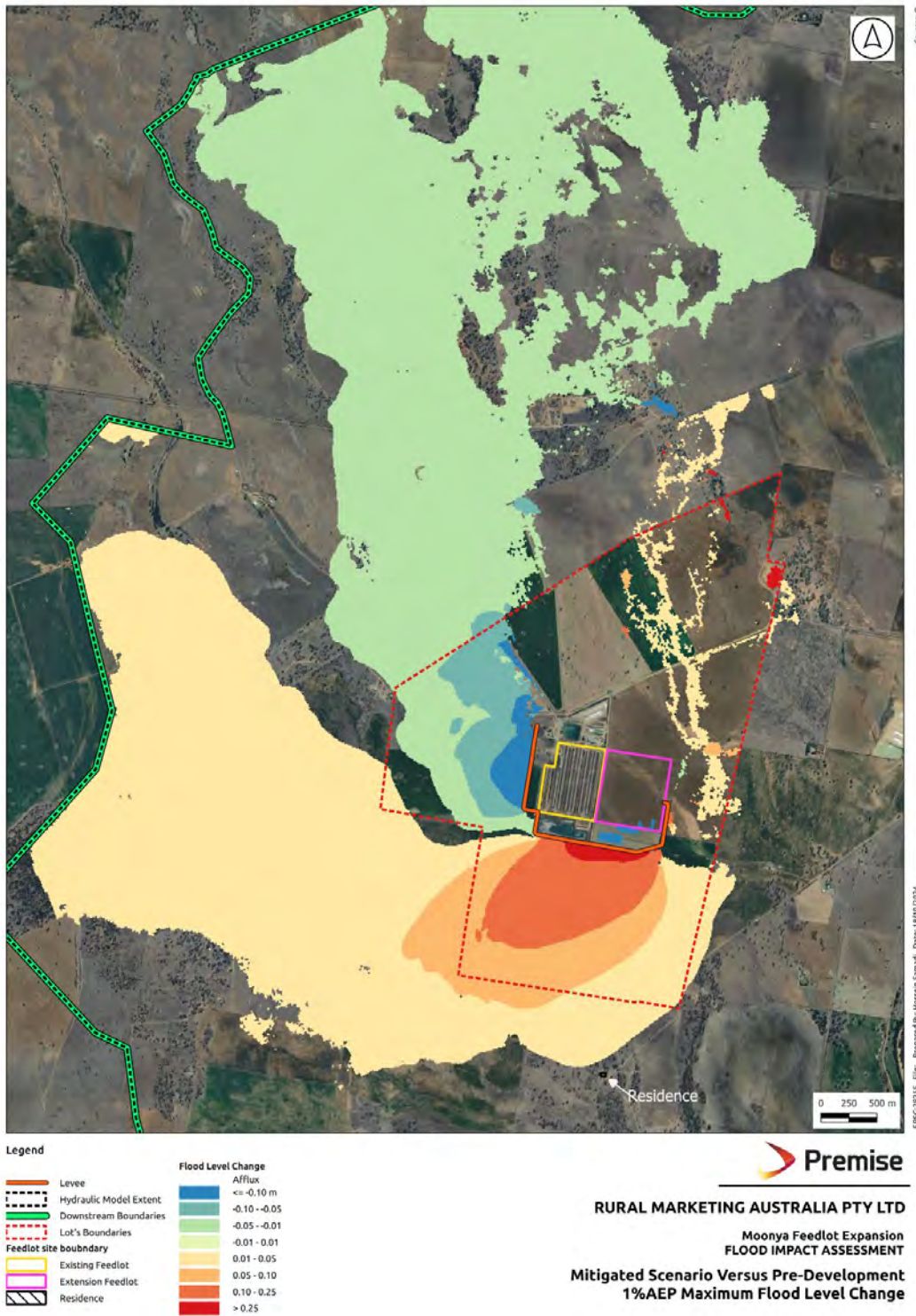
Figure 9 – 1%AEP flood level change (afflux) for mitigated scenario versus pre-development (within model extent)



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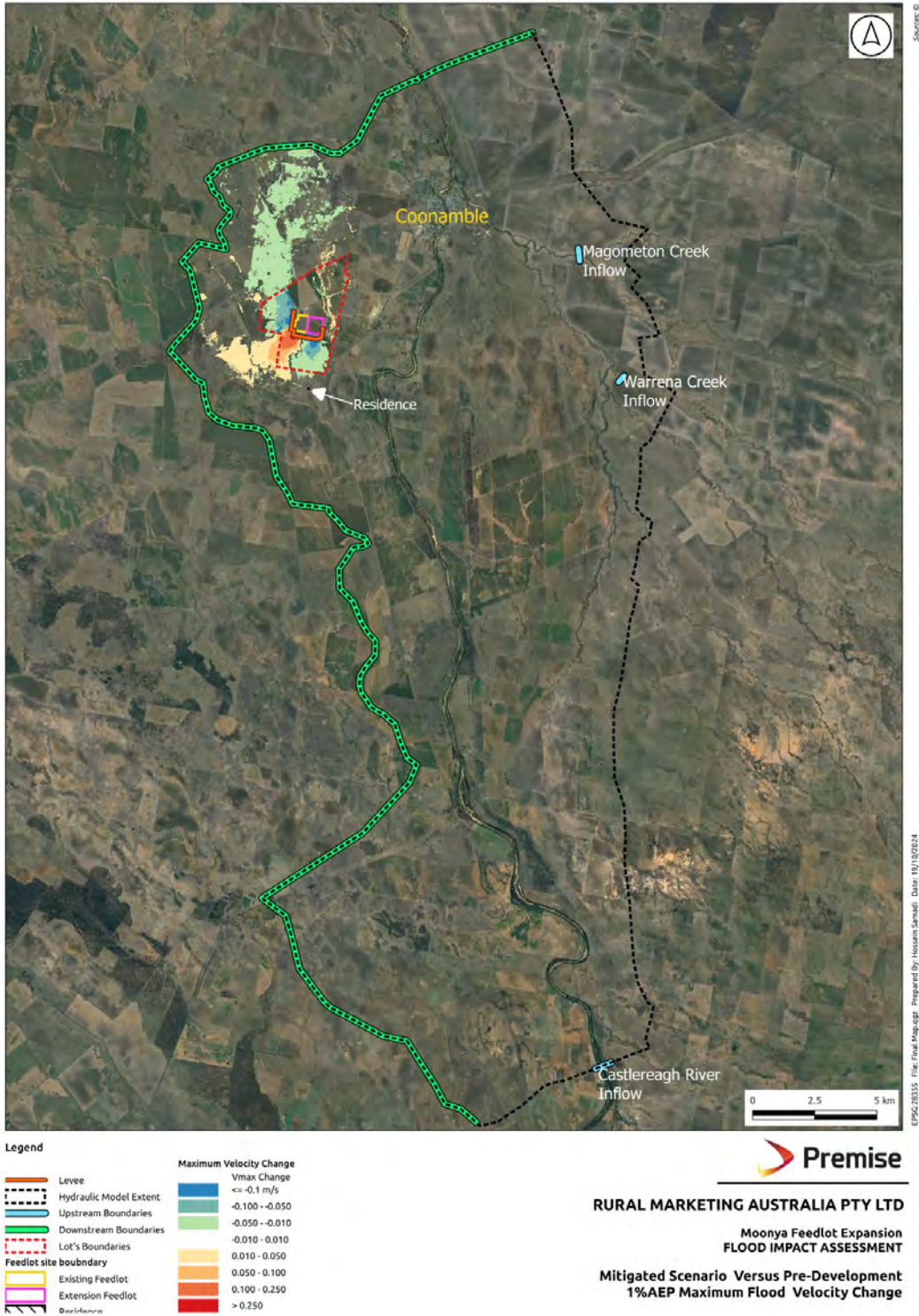
Figure 10 – 1%AEP flood level change (afflux) for mitigated scenario versus pre-development (within subject area)



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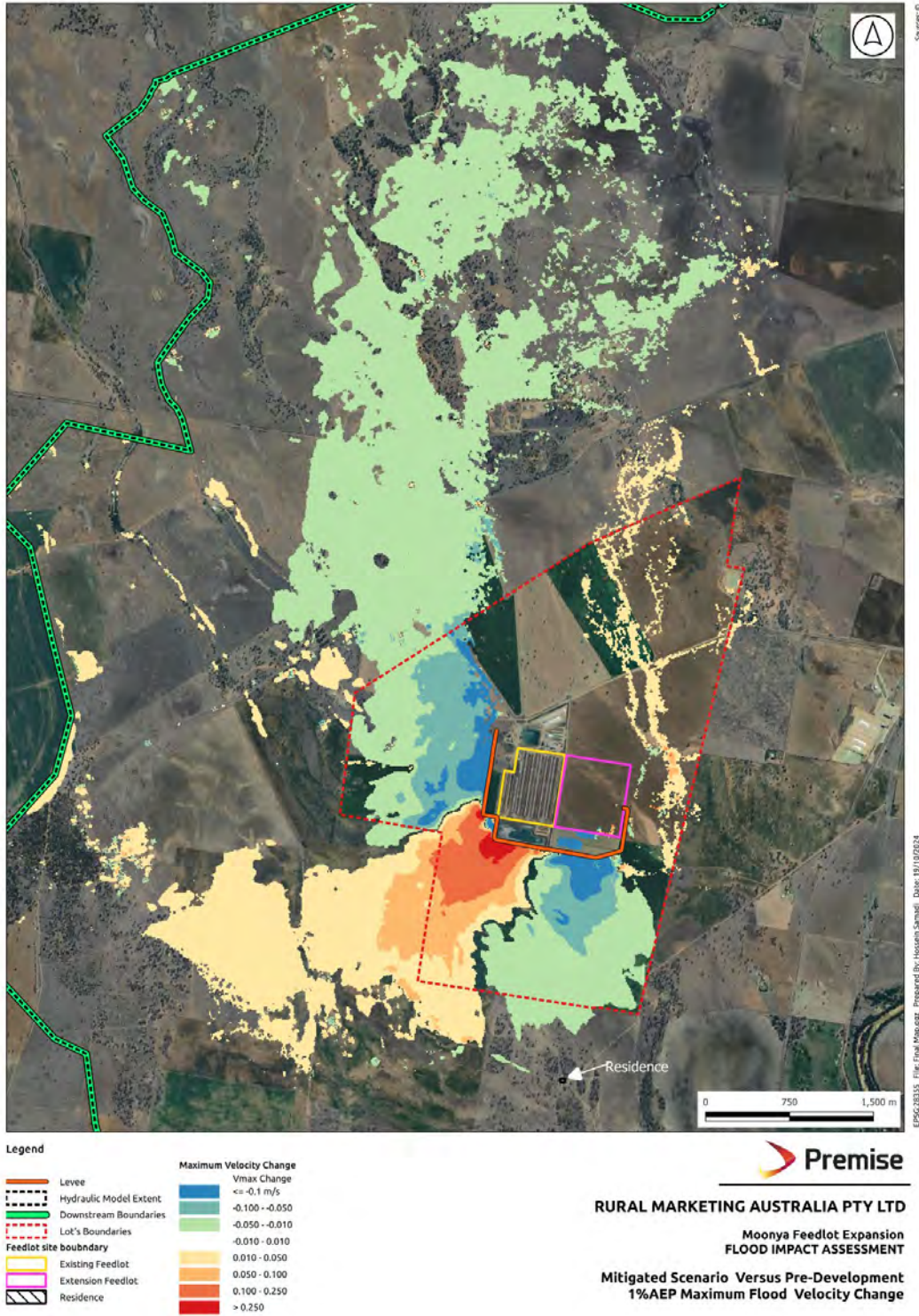
Figure 11 – 1%AEP flood velocity change for mitigated scenario versus pre-development (within model extent)



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Figure 12 – 1%AEP flood velocity change for mitigated scenario versus pre-development (within subject area)



4. CONCLUSION

This flood impact assessment examines flooding patterns around the existing Moonya Feedlot and proposed feedlot expansion area. Findings from the assessment are summarised below:

- > Changes to local catchment runoff would not impact on major flood patterns around the feedlot.
- > The hydraulic model developed for the *West Coonamble Floodplain Risk Management Study and Plan* (Jacobs, 2021) could be used with some adjusted parameters to adequately represent flooding patterns around Moonya Feedlot. This was confirmed through matching observed levels for the 2010 flood.
- > The proposed feedlot expansion (and existing feedlot) can be protected from 1% AEP flooding by raising the existing levee. This meets the environmental performance criteria contained in the *National Beef Cattle Feedlot Environmental Code of Practice* (Meat & Livestock Australia Limited, 2012b) to minimise adverse impact on surface waters.
- > The mitigated scenario (i.e. raising and extending the feedlot levee), shows an average afflux of 0.032 m, mainly within the development lot boundaries. Offsite changes show an average afflux of 0.02 (20 mm) and maximum afflux of 0.09 m (90 mm).
- > 1% AEP flood levels to the north-west of the development, and across Quambone Road, are reduced by 0.025 to 0.05 m (25 mm to 50 mm).
- > Increases in peak flood velocity are limited to less than 0.25 m/s around the south-western corner of the levee with some very minor changes of less than 0.05 m/s observed offsite. Peak flood velocity is shown to reduce in areas upstream of the feedlot levee and to the north-west across Quambone Road.
- > There would be negligible change in flood patterns at the nearest offsite residence south of the feedlot (flood depth change of 6 mm, no change in velocity and no change in flood hazard).

It is concluded from this assessment that:

- > The proposed feedlot expansion can be undertaken and can incorporate measures to minimise surface water impact; and
- > The proposed levee would not have a significant detrimental impact on flood levels and peak velocity outside of the property boundary during a 1% AEP flood.

5. REFERENCES

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2. Australian Institute for Disaster Resilience (AIDR) 2017b, Australian Disaster Resilience Guideline 7-3: Flood hazard, Australian Institute for Disaster Resilience, East Melbourne.
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11. Meat & Livestock Australia Limited, 2012b, National Beef Cattle Feedlot Environmental Code of Practice.
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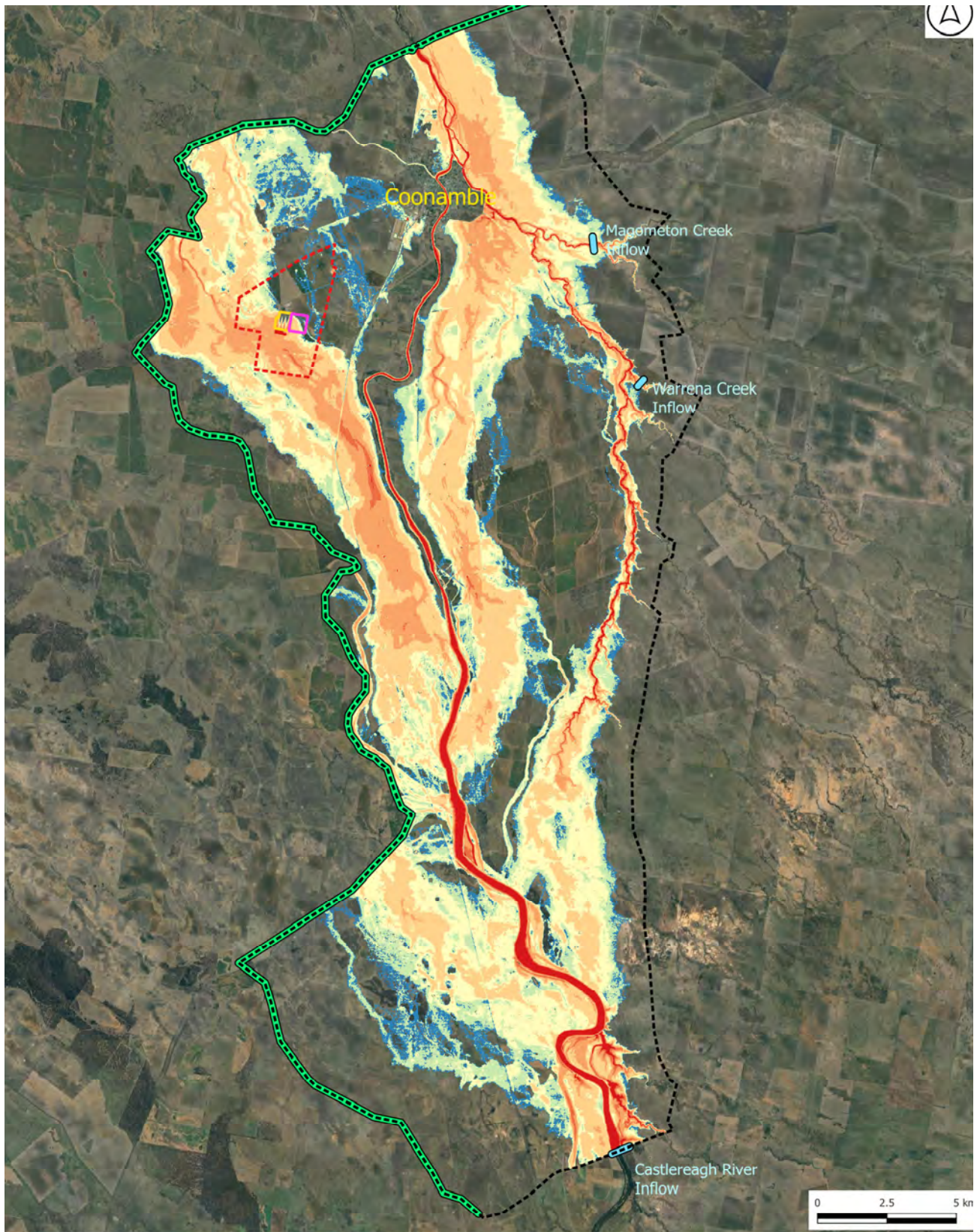
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Appendix A

Pre-Development Flood Maps



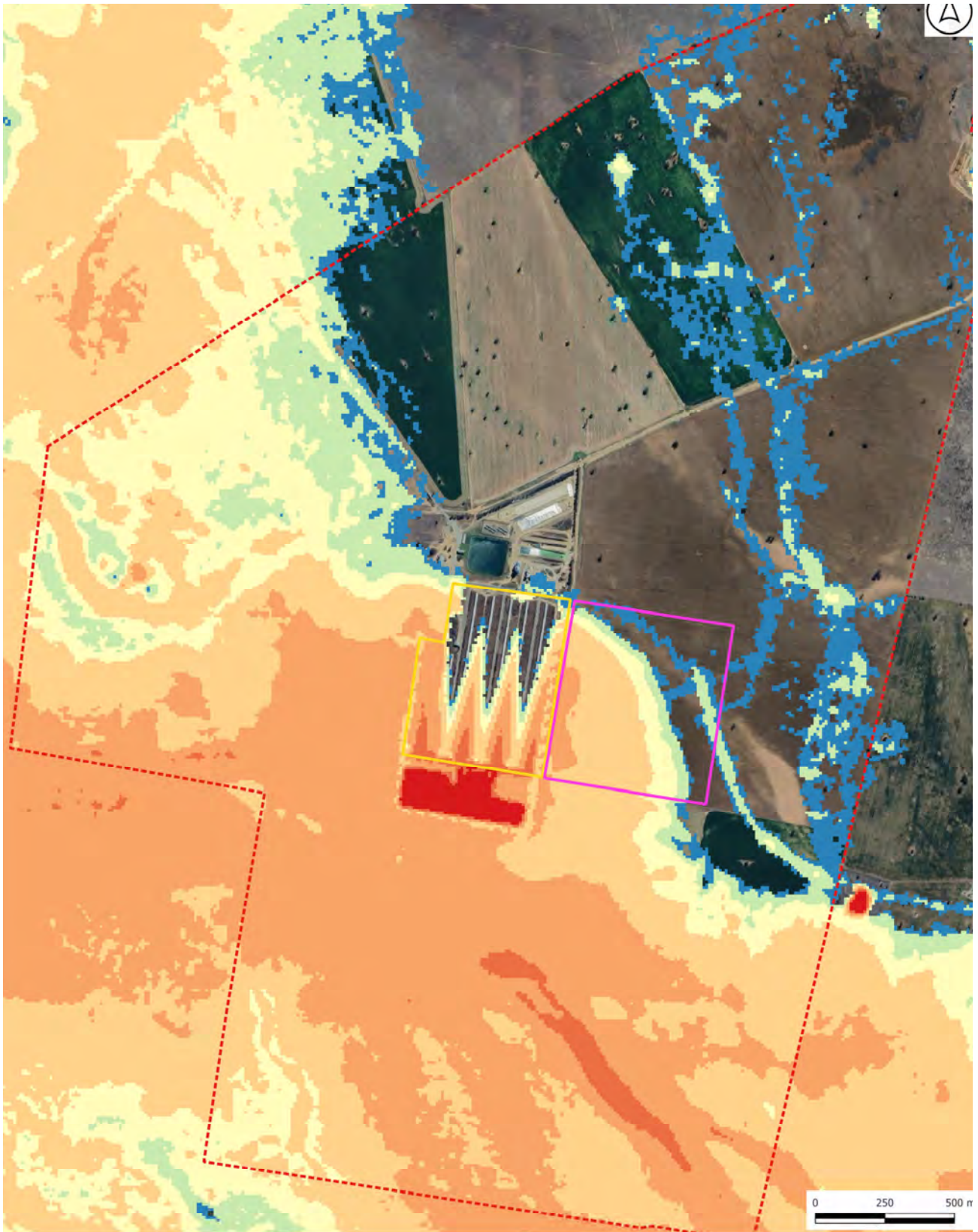


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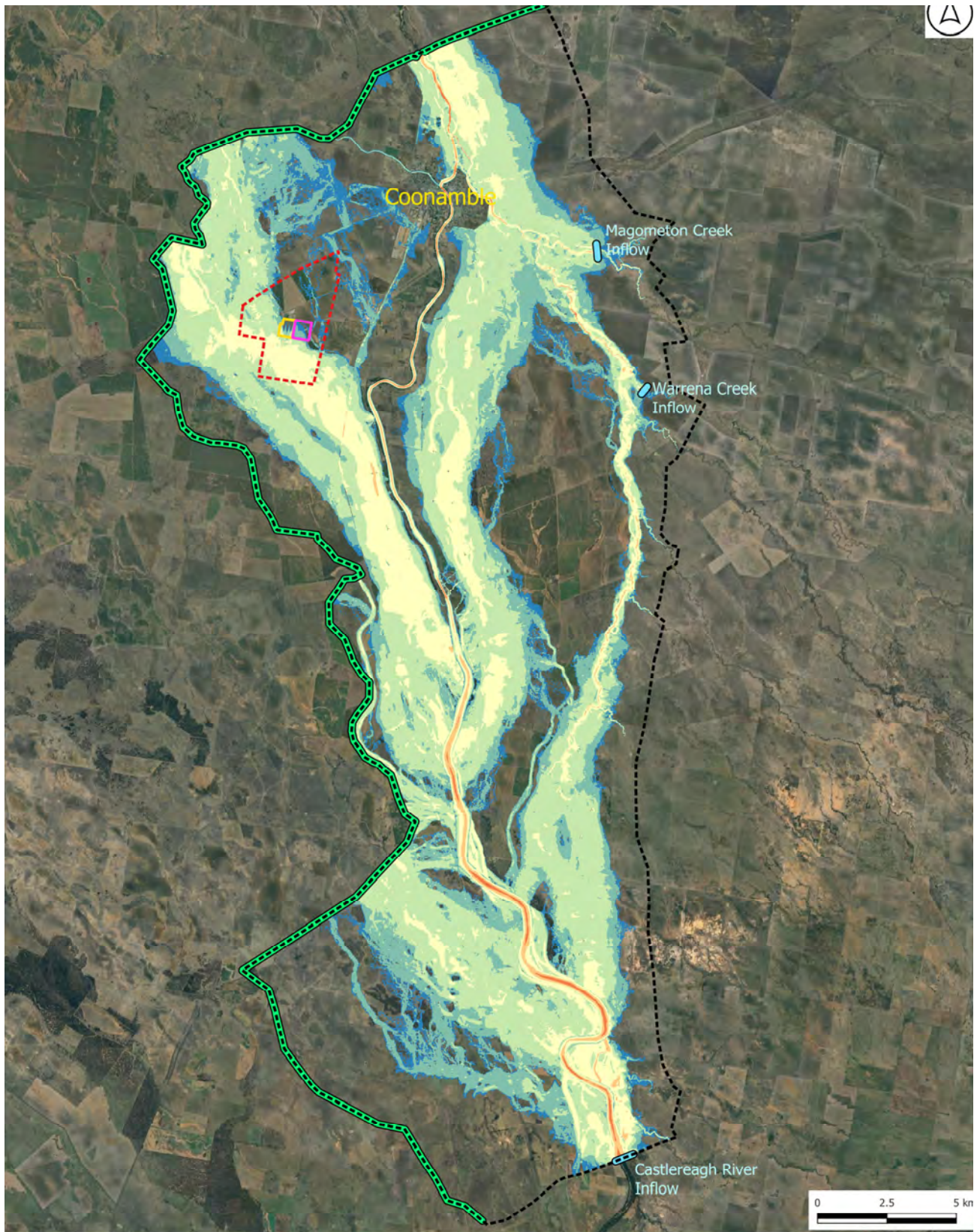
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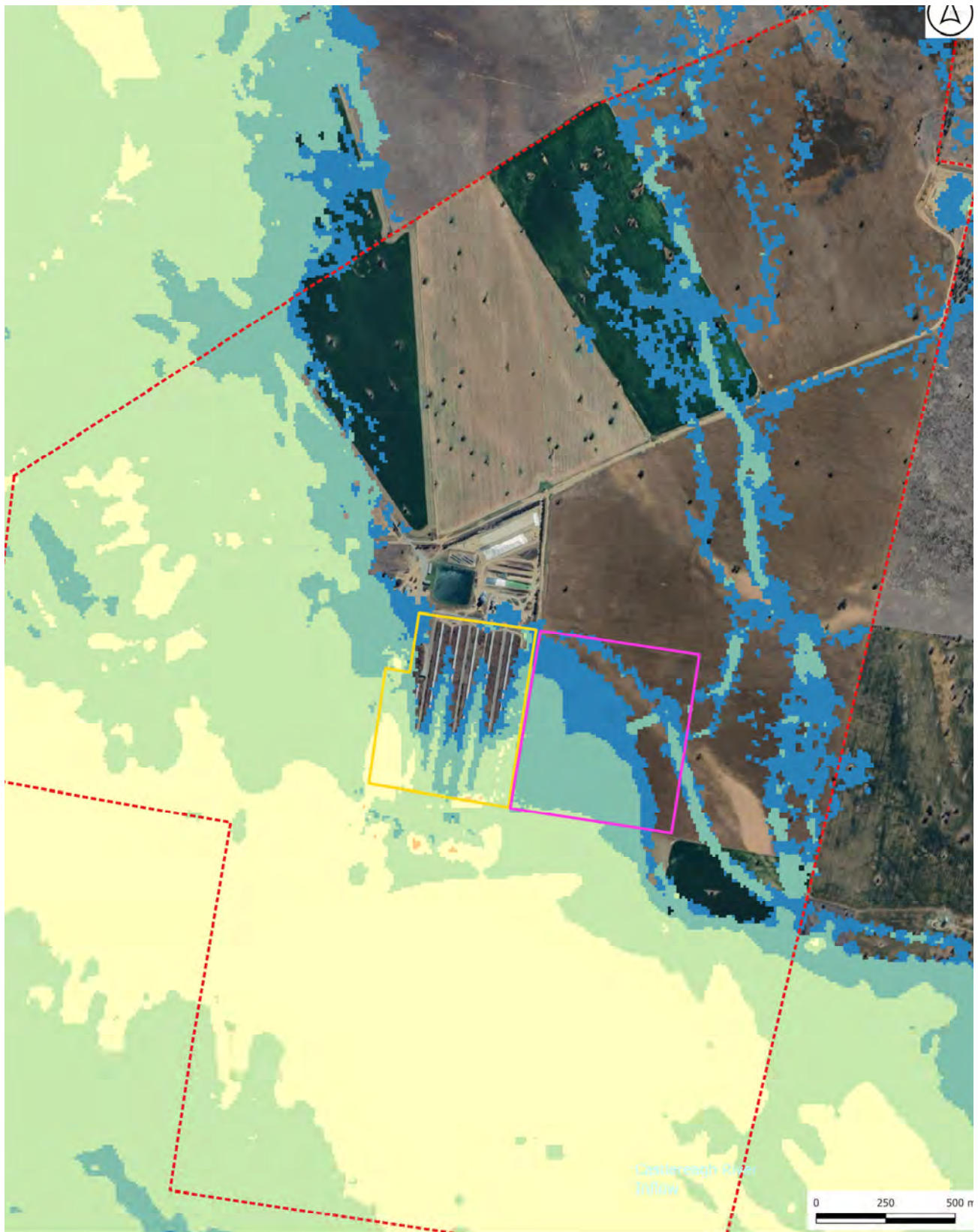
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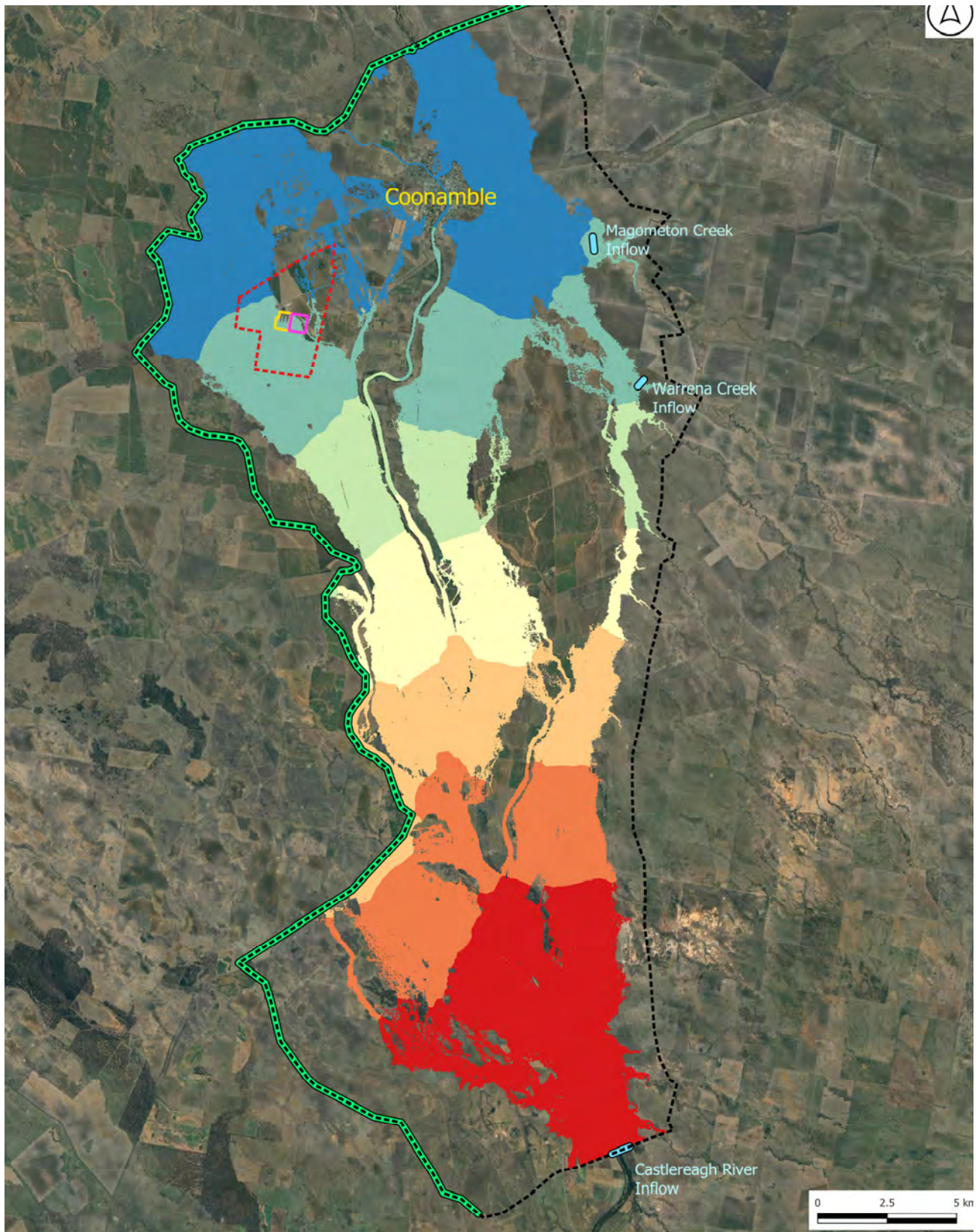
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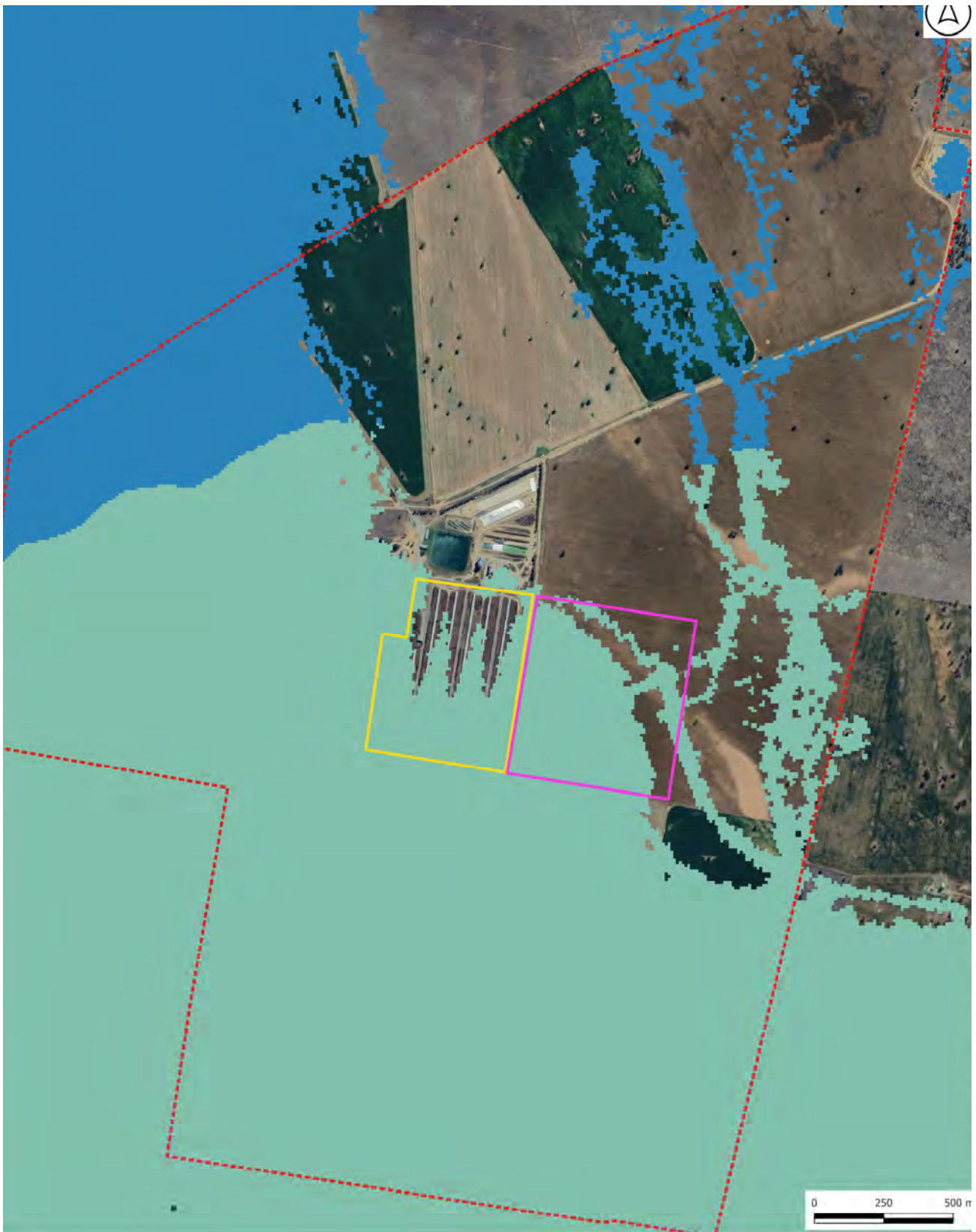
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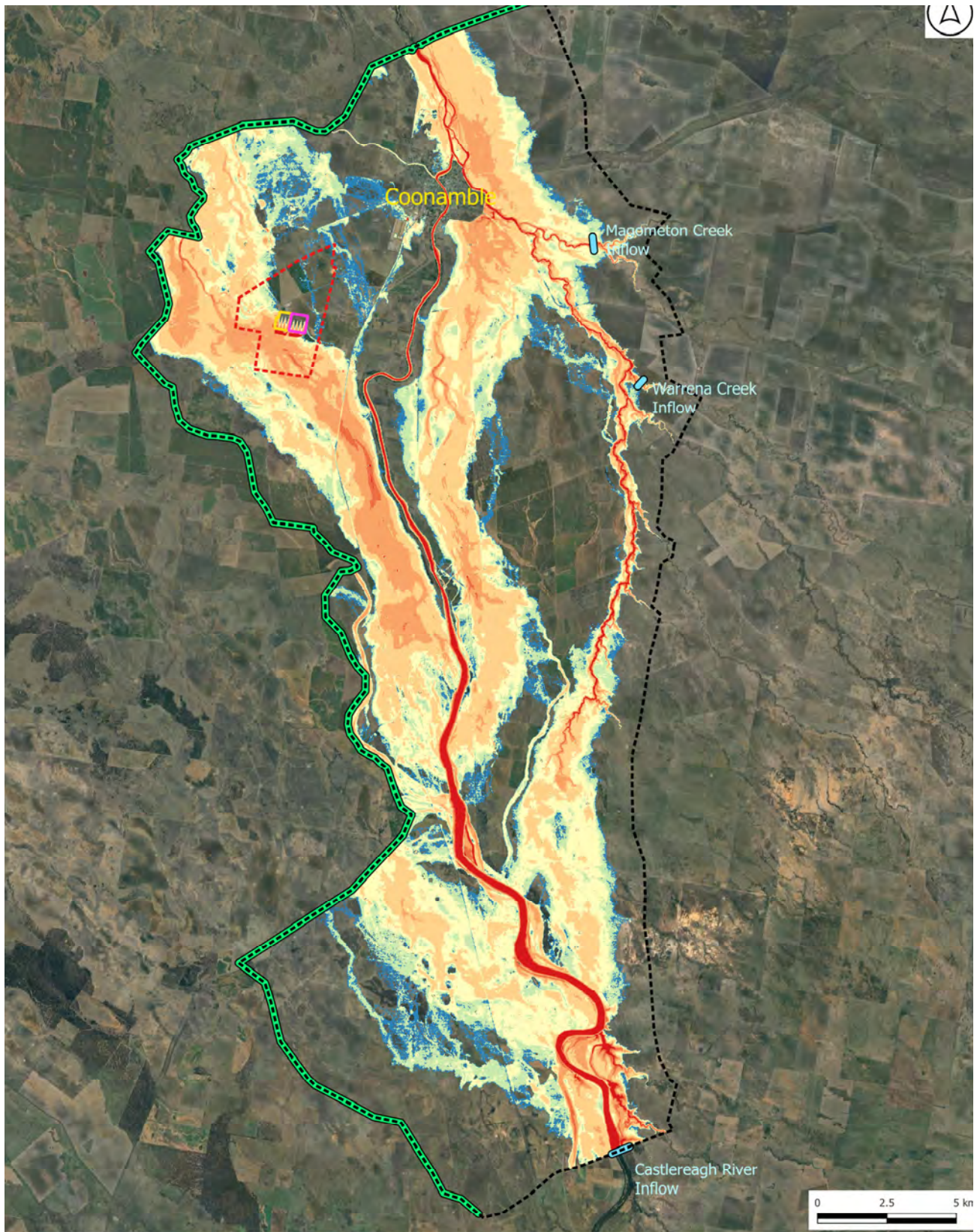
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Appendix B

Post-Development Flood Maps





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- Hydraulic Model Extent
- Upstream Boundaries
- Downstream Boundaries
- Lot's Boundaries
- lot site boundary
- Existing Feedlot
- Extension Feedlot

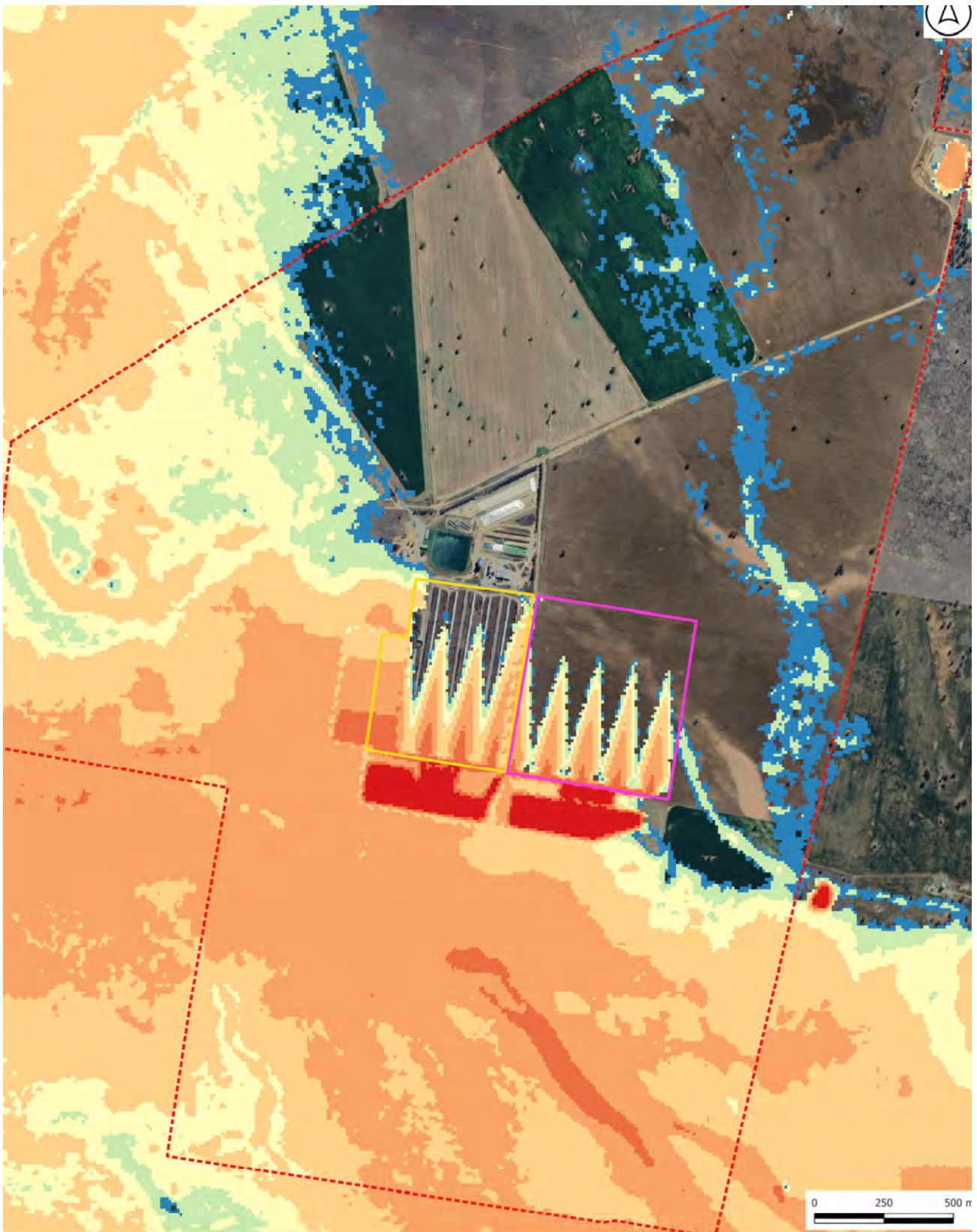
Maximum Depth of Flood	
dmax	Color
<= 0.1 m	Dark Blue
0.1 - 0.3	Light Blue
0.3 - 0.6	Yellow
0.6 - 1.2	Orange
1.2 - 2.0	Red-Orange
2.0 - 3.0	Dark Red



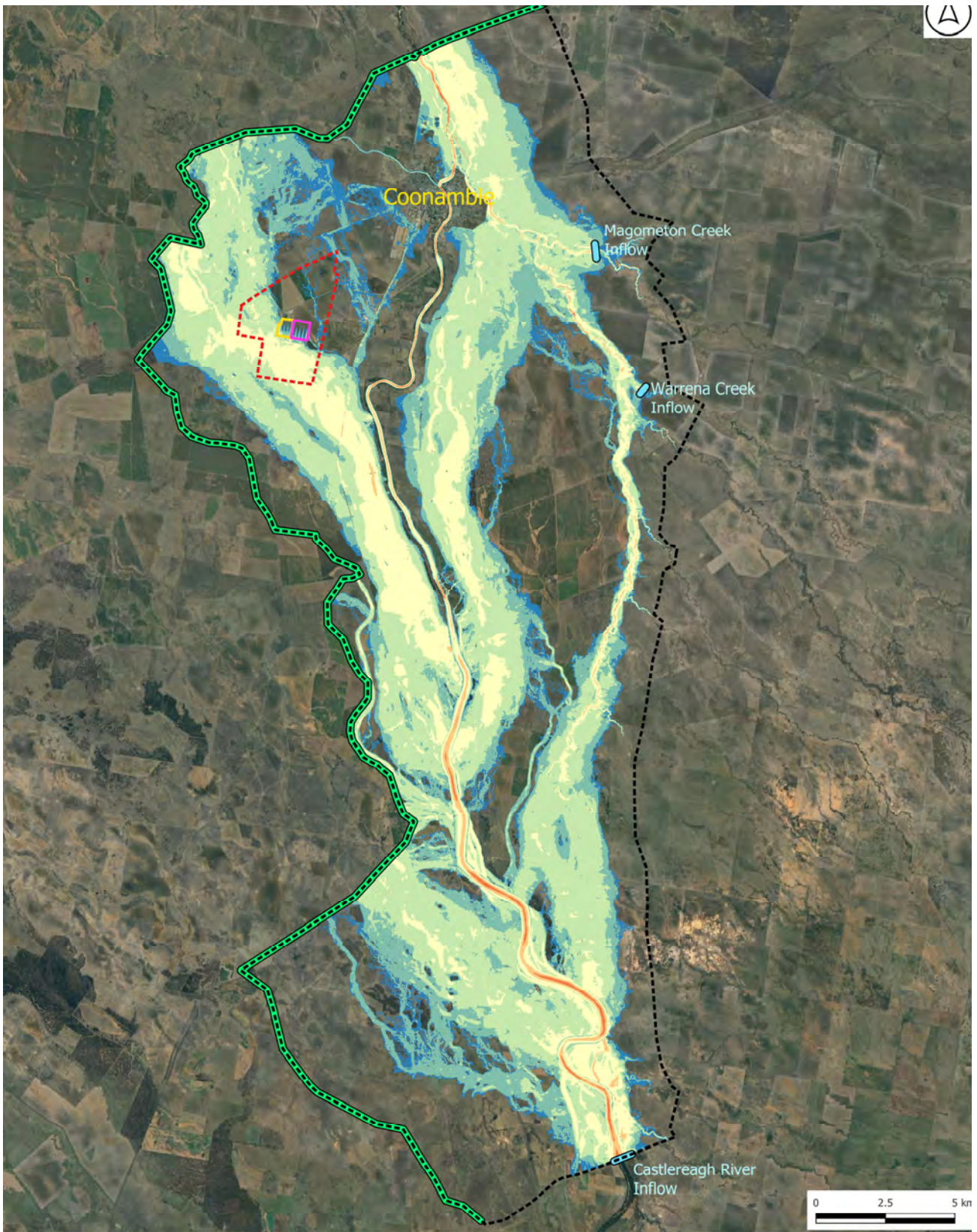
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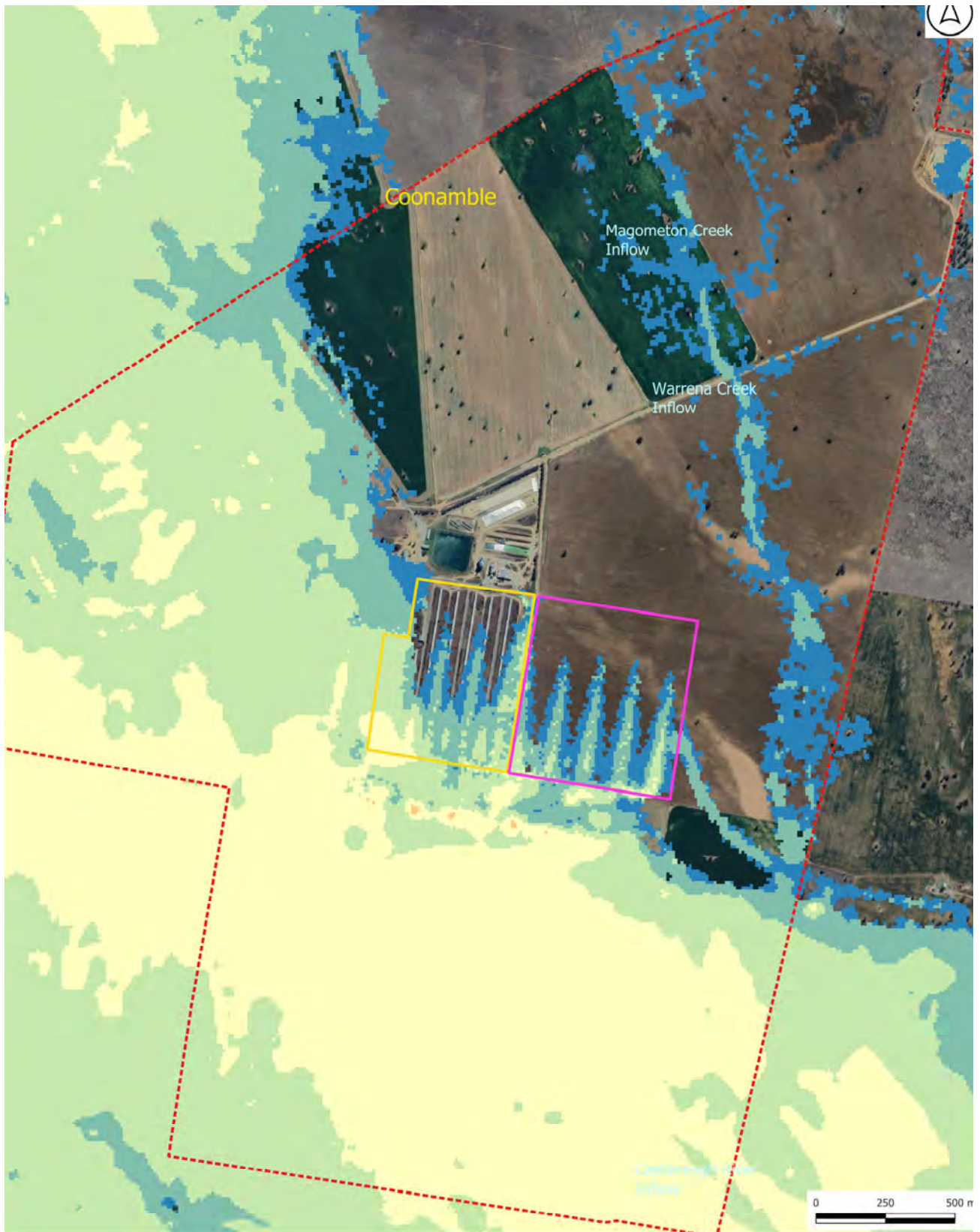
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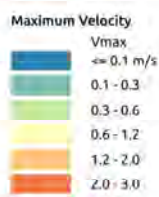


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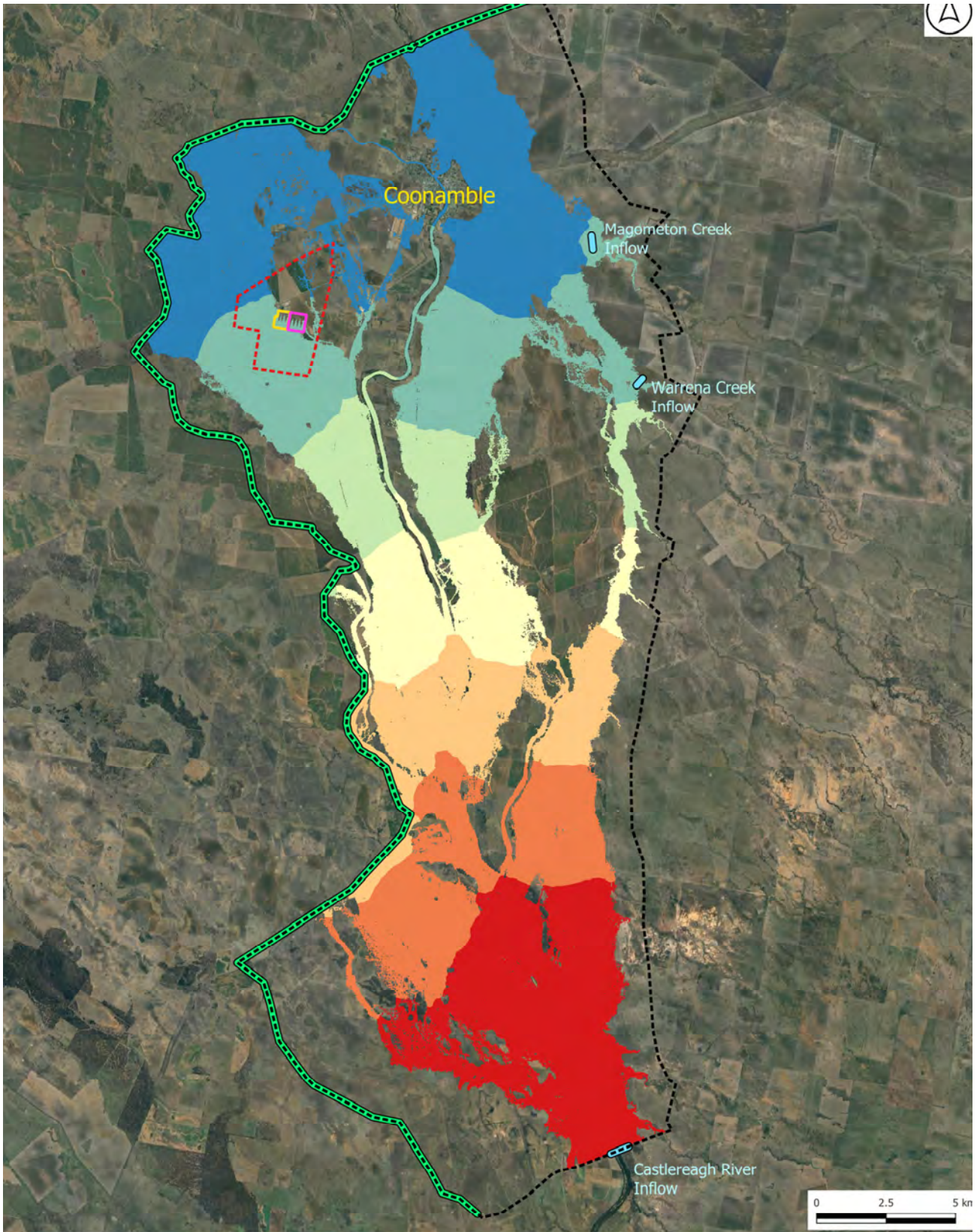
- Hydraulic Model Extent
- Lot's Boundaries
- lot site boundary
- Existing Feedlot
- Extension Feedlot



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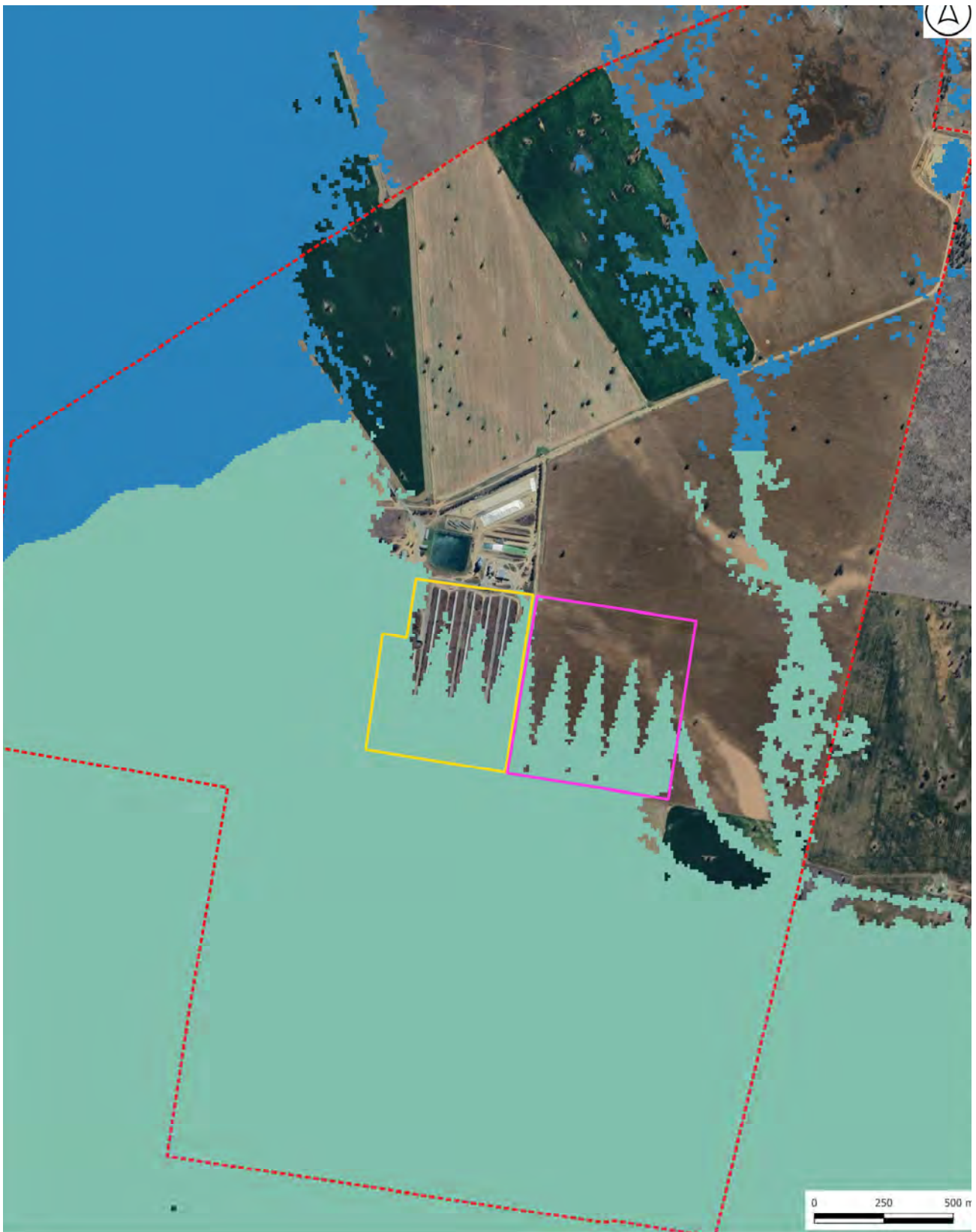
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- Hydraulic Model Extent
- Lot's Boundaries
- lot site boundary
- Existing Feedlot
- Extension Feedlot

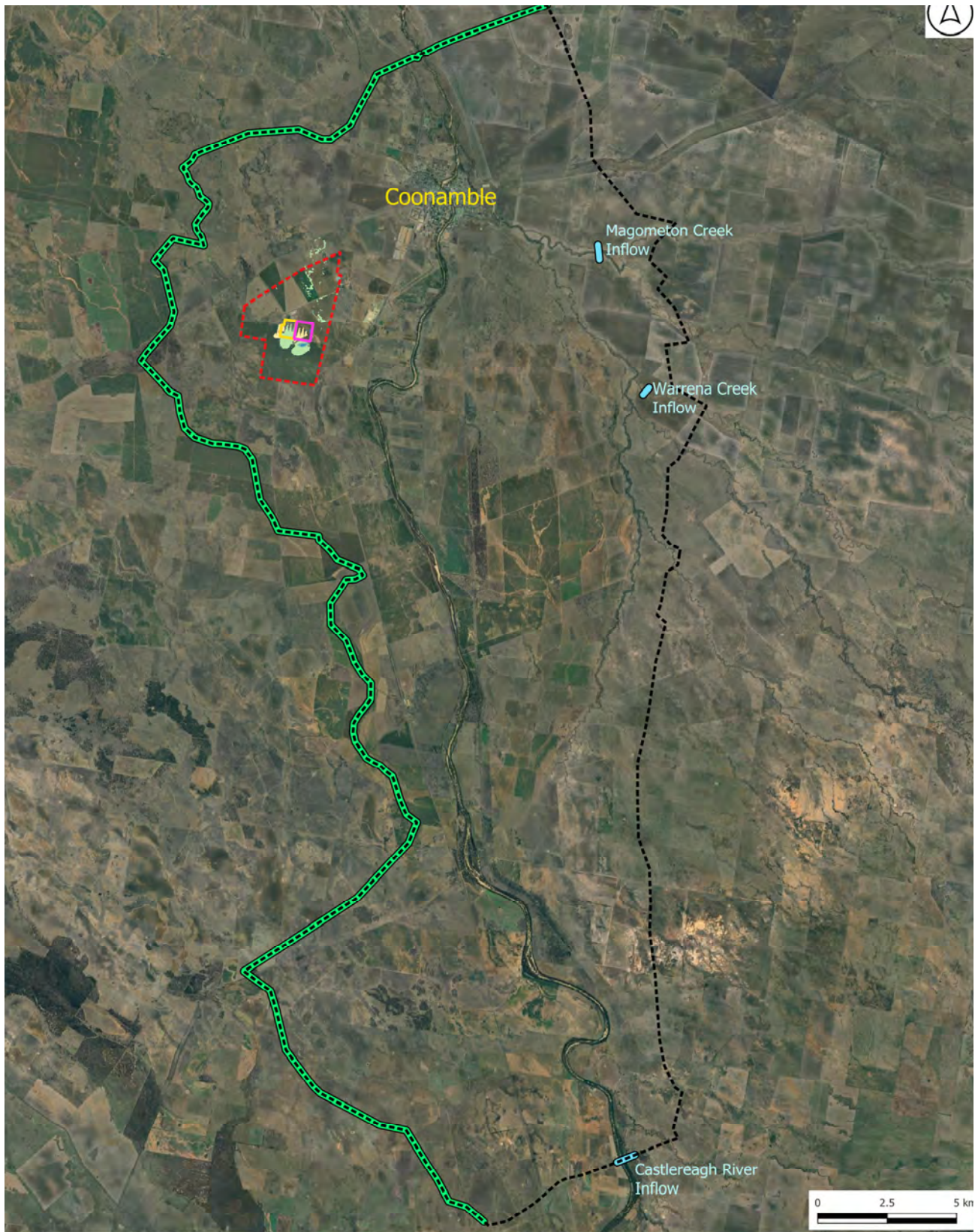
Maximum Flood level	
Level	Level
	<= 182 mAHD
	182 - 187
	187 - 192
	192 - 197
	197 - 202
	202 - 207



RURAL MARKETING AUSTRALIA PTY LT

Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Post- Developer



end



RURAL MARKETING AUSTRALIA PTY LTD

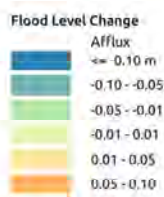
**Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT**

Post-Development Versus Pre-Development



end

- Hydraulic Model Extent
- Lot's Boundaries
- lot site boundary
- Existing Feedlot
- Extension Feedlot



RURAL MARKETING AUSTRALIA PTY LT

Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Post-Development Versus Pre-Development

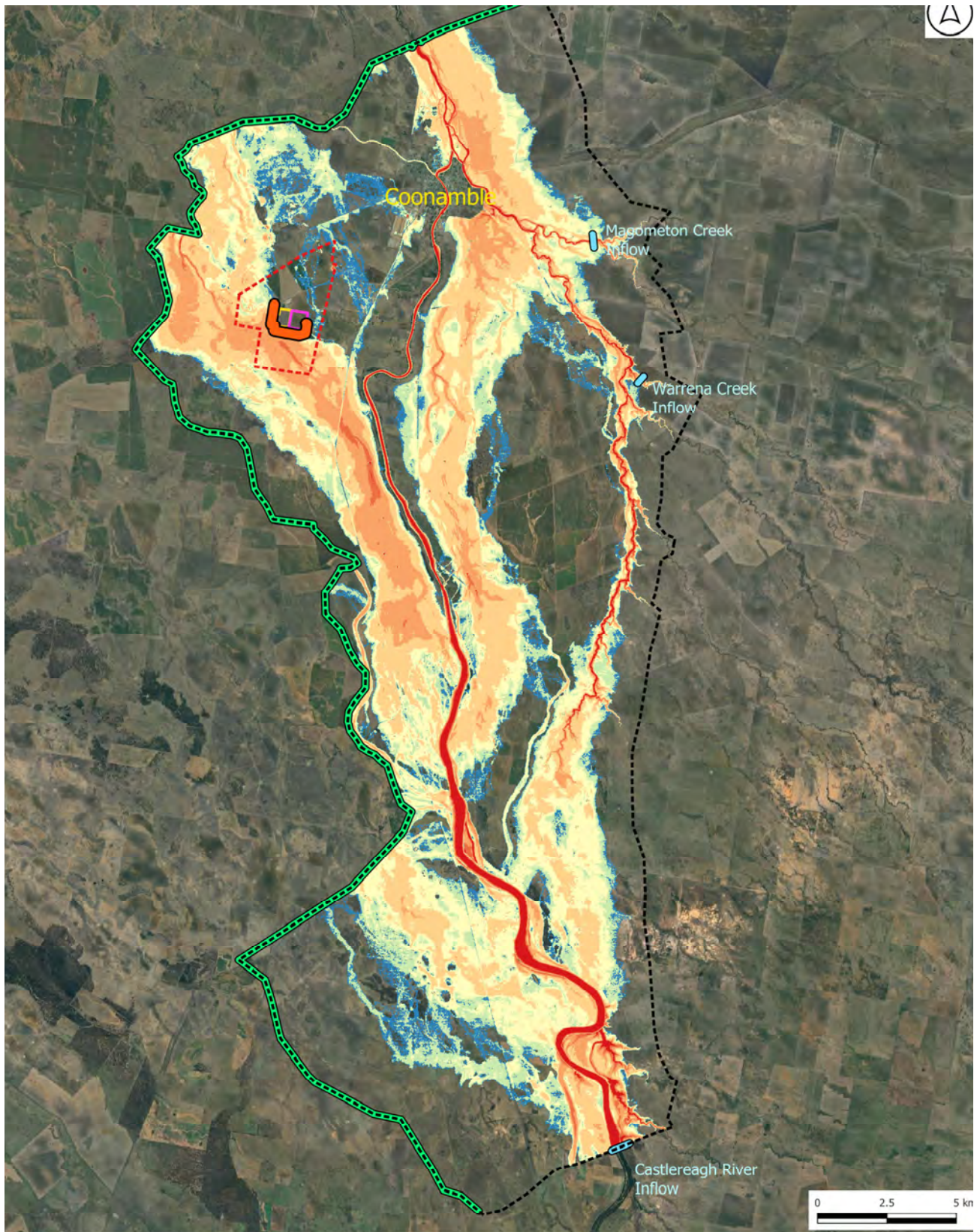
CREATING  GREATER

RURAL MARKETING AUSTRALIA PTY LTD
MOONYA FEEDLOT EXPANSION
FLOOD IMPACT ASSESSMENT

Appendix C

Mitigated Flood Maps





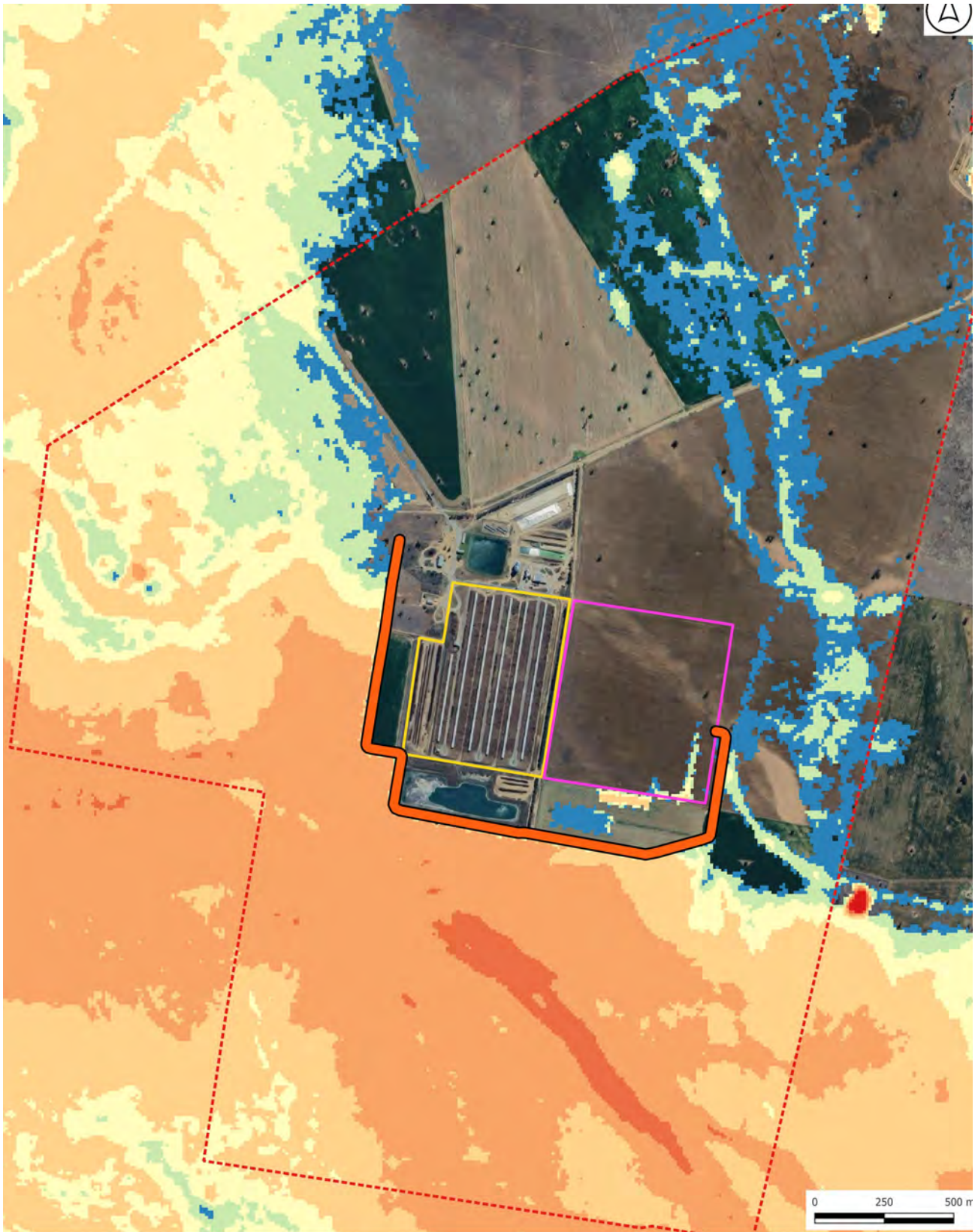
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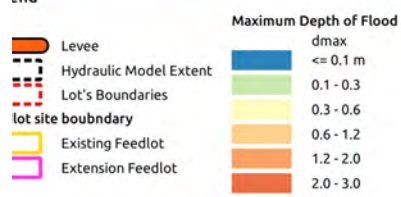
RURAL MARKETING AUSTRALIA PTY LTD

Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Mitigated Scenario



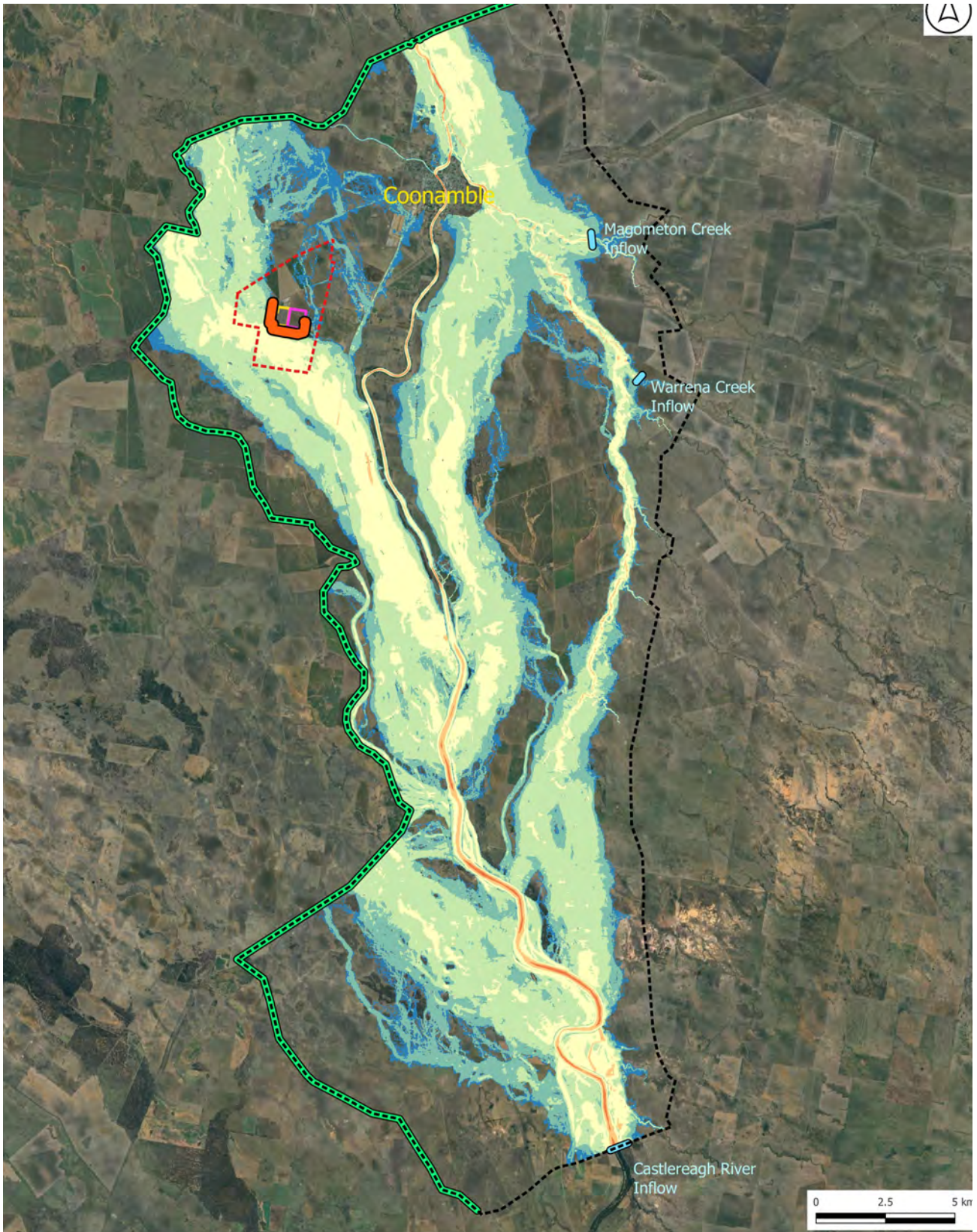
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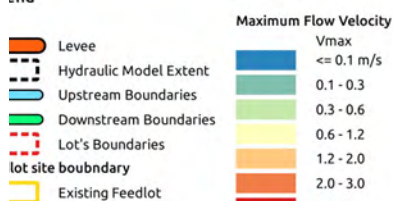
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Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Mitigated Scenario



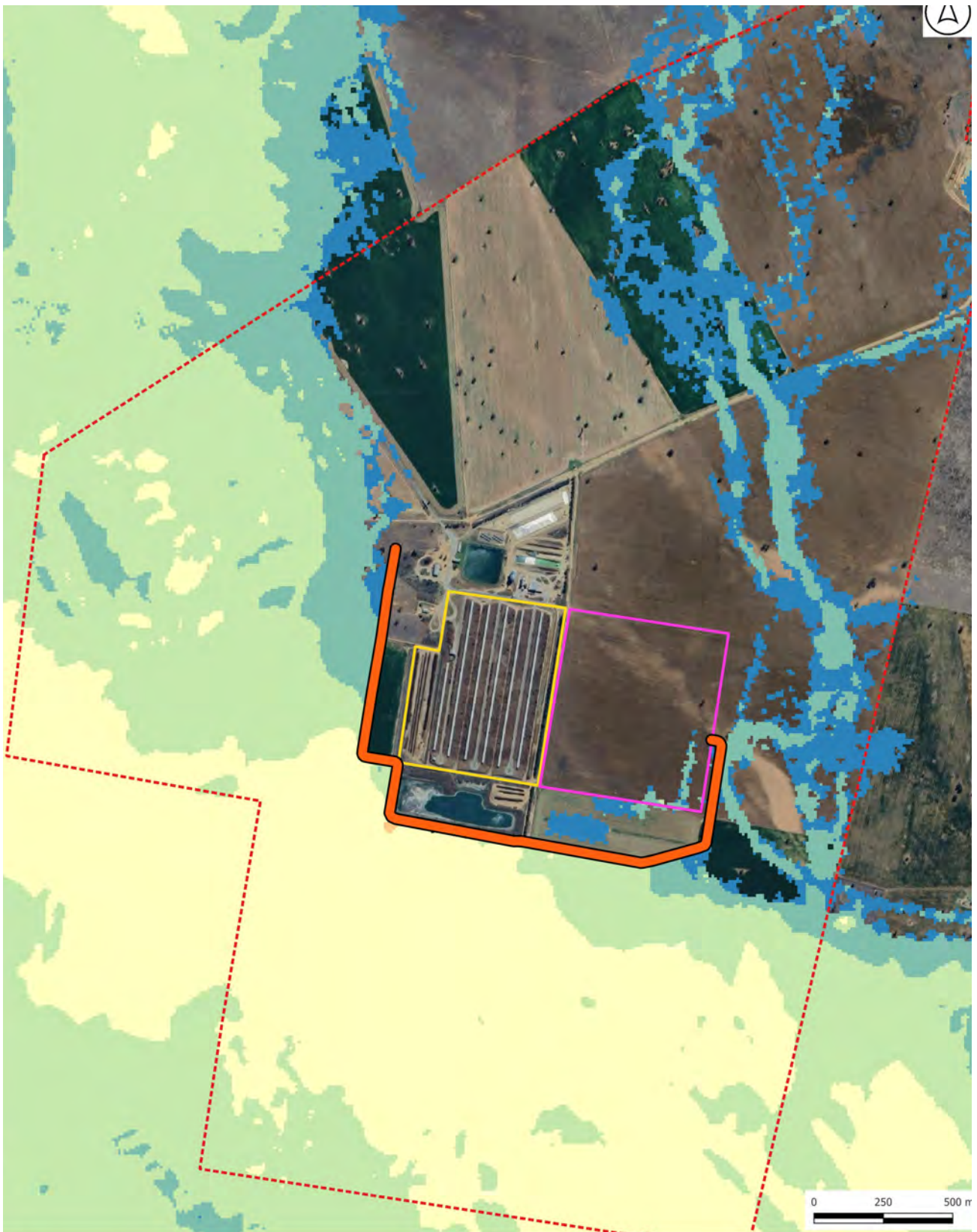
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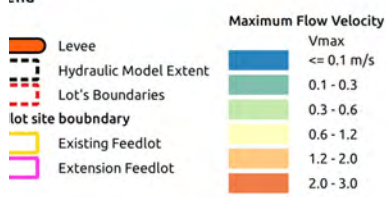
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Moonya Feedlot Expansio
FLOOD IMPACT ASSESMEN

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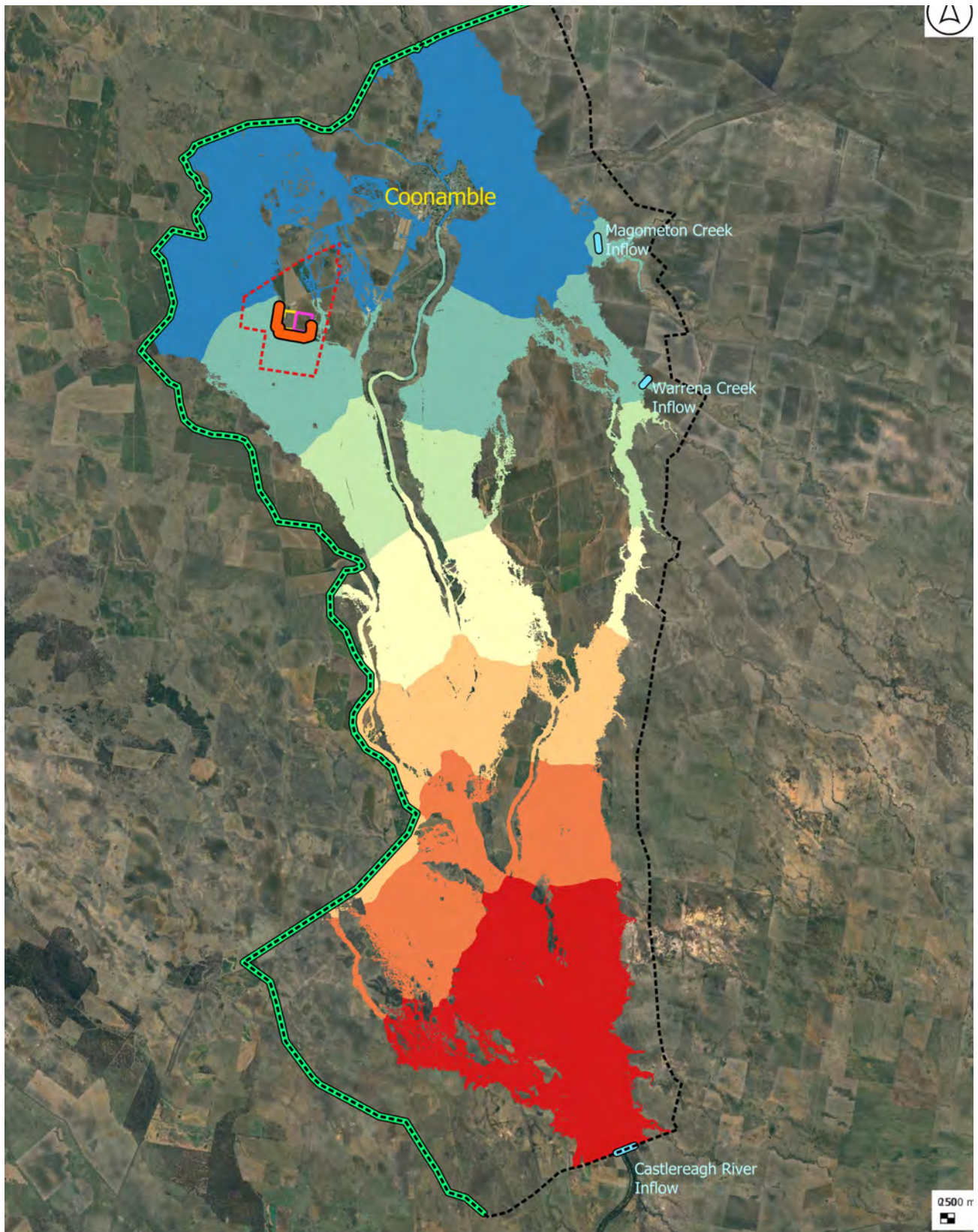
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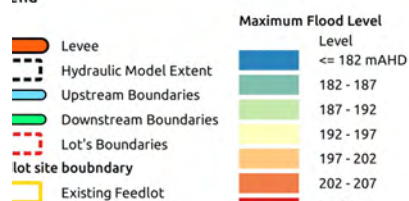
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Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Mitigated Scenario



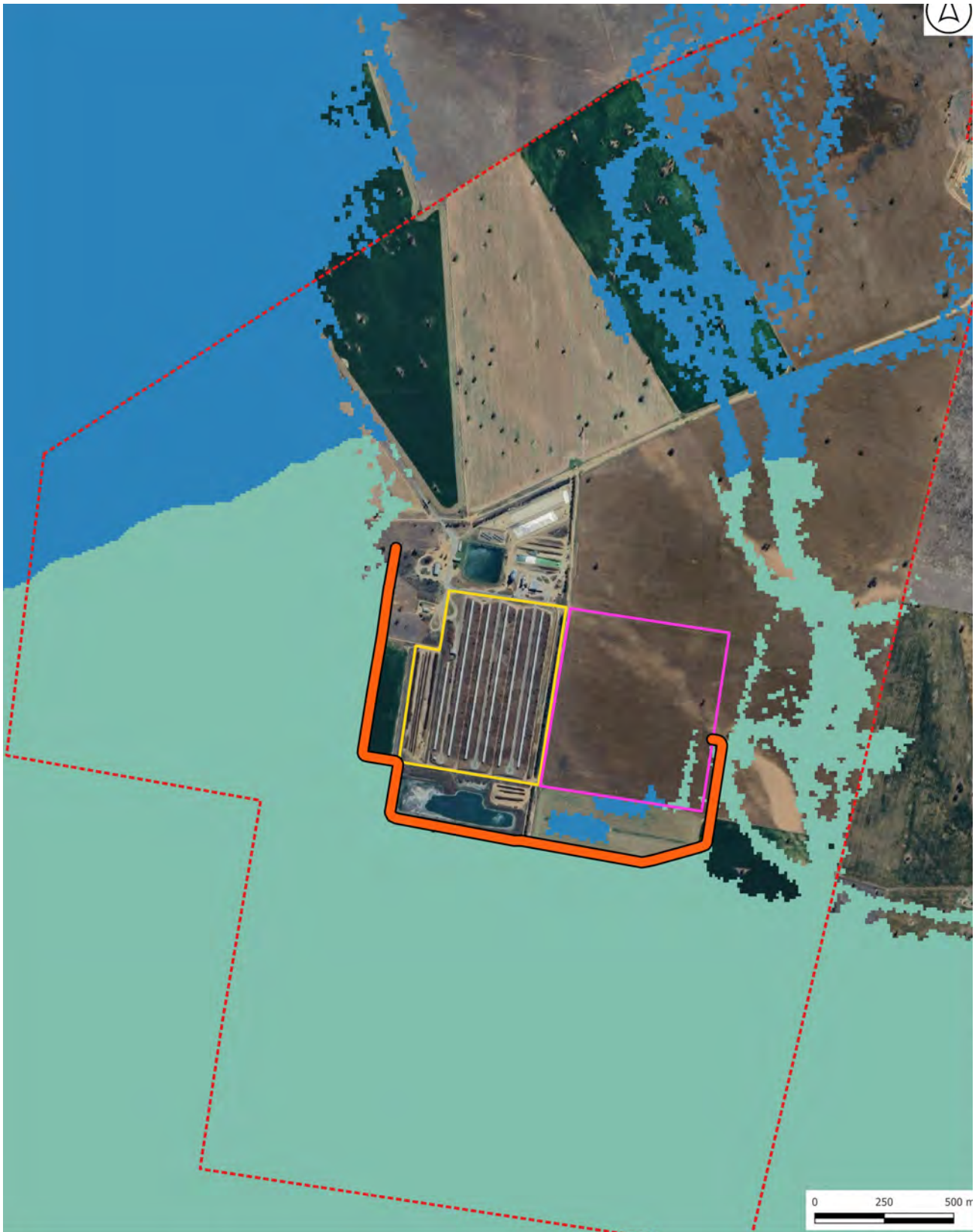
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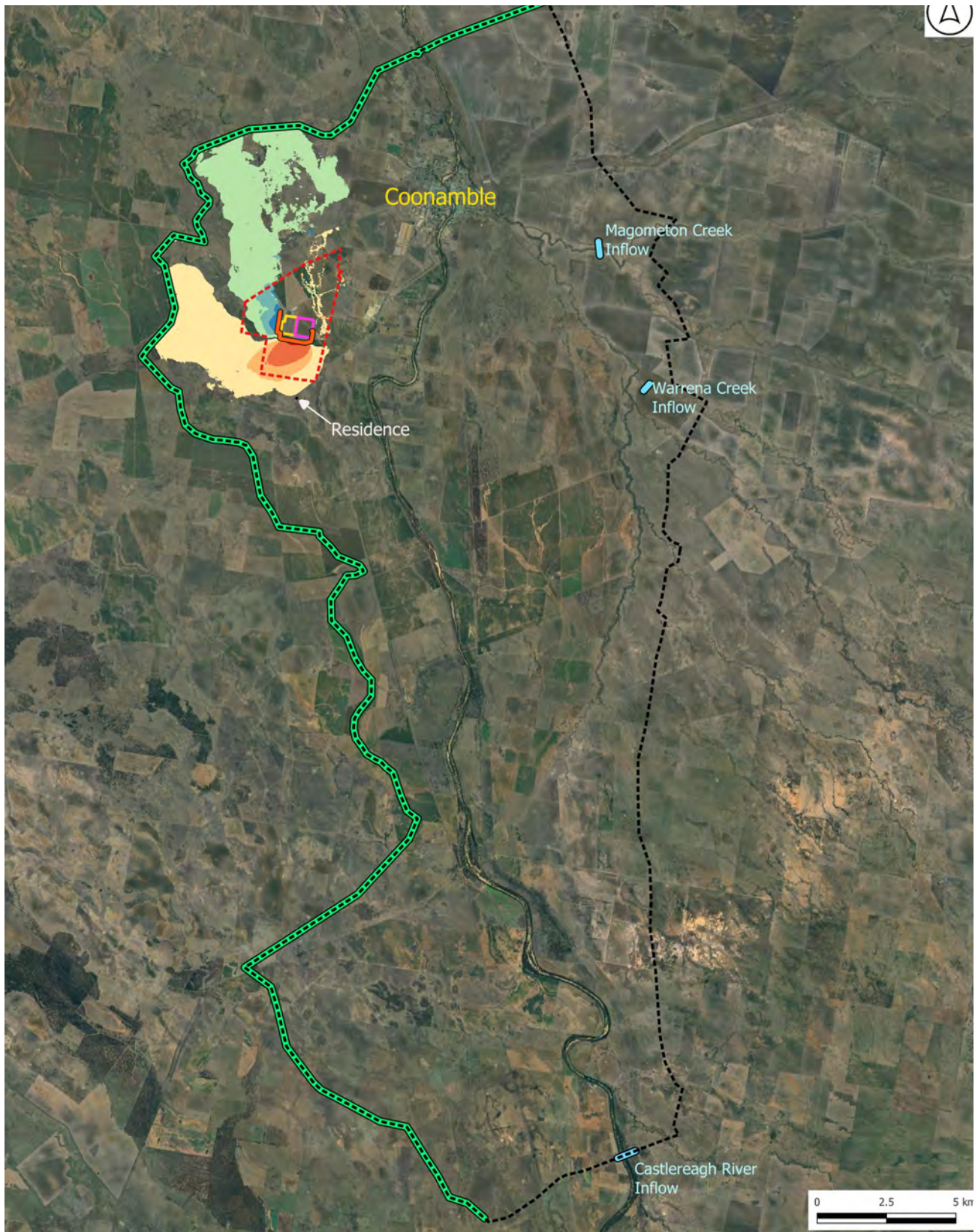
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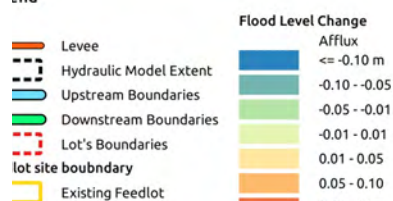
RURAL MARKETING AUSTRALIA PTY LTD

Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Mitigated Scenario



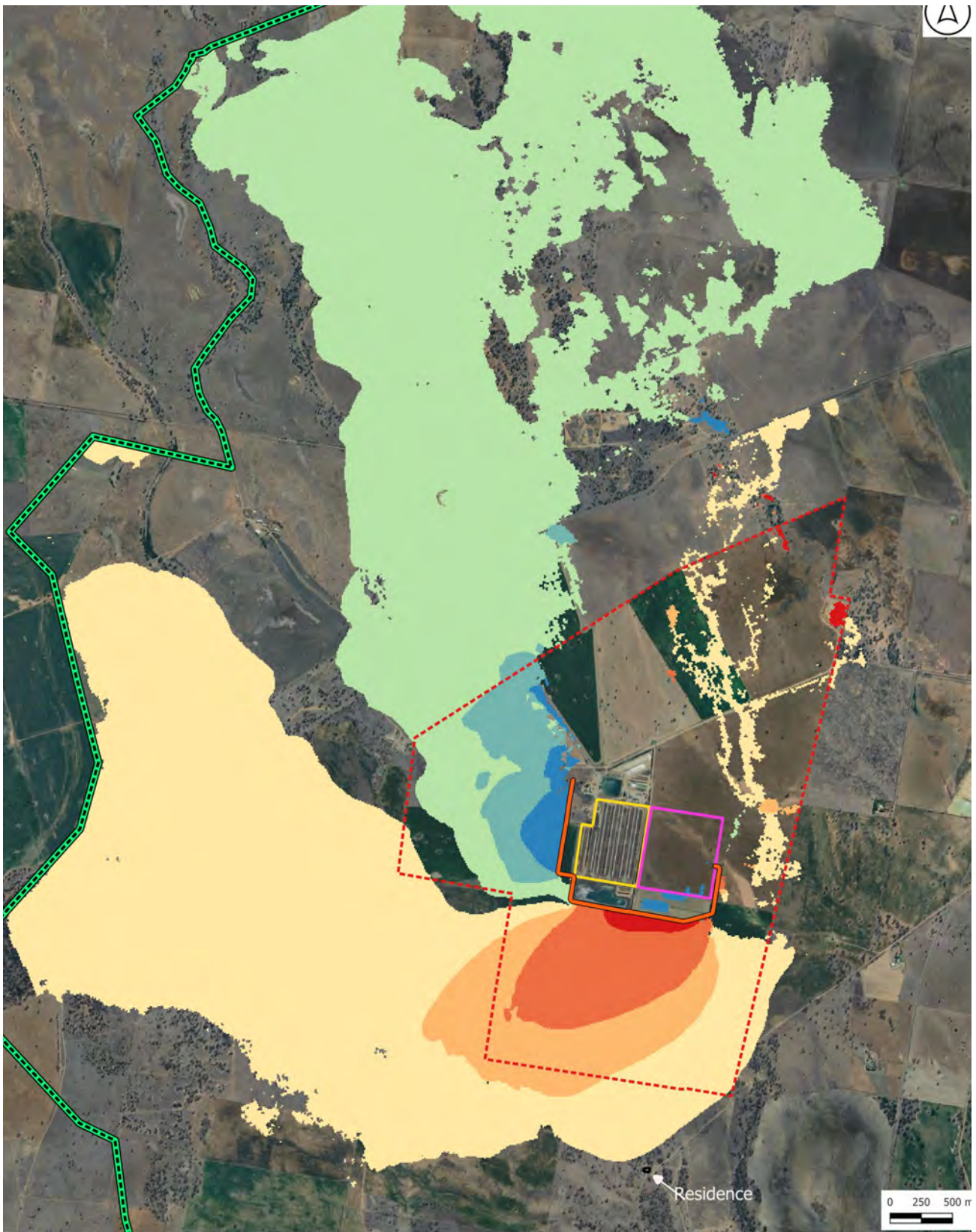
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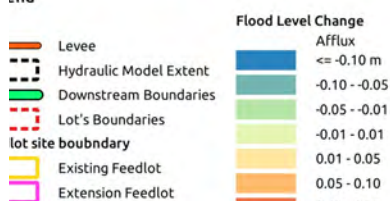
RURAL MARKETING AUSTRALIA PTY LT

Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT

Mitigated Scenario Versus Pre-Developer



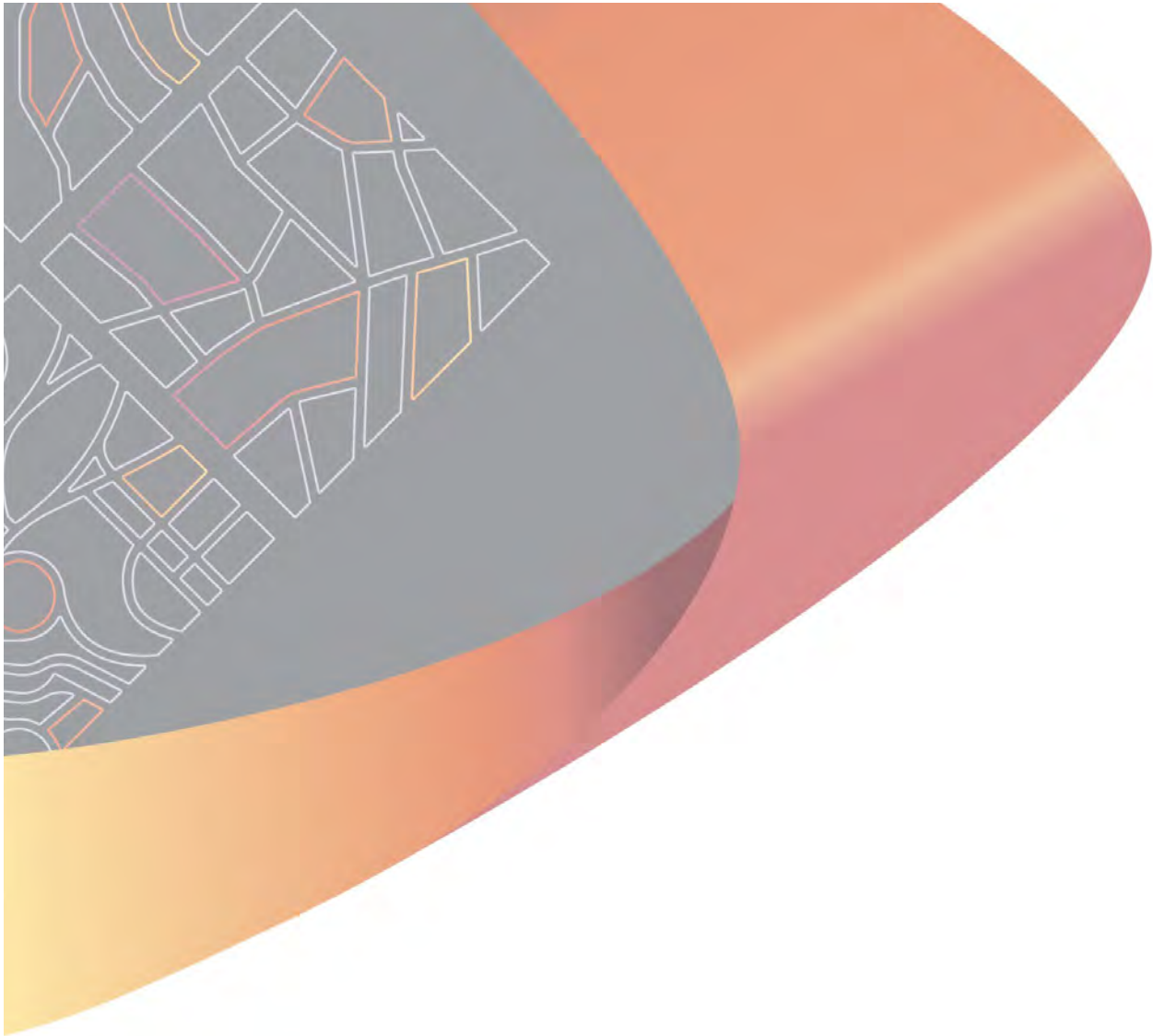
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RURAL MARKETING AUSTRALIA PTY LT

**Moonya Feedlot Expansion
FLOOD IMPACT ASSESSMENT**

Mitigated Scenario Versus Pre-Developer



CONFIDENTIAL

First Name

Last Name

[REDACTED]

Phone

[REDACTED]

Email

[REDACTED]

Address

[REDACTED]

If you are responding on behalf of an organisation, please type its name here

Type the name of the document on which you are commenting

Proposed feedlot expansion

Please write your comments here.

I am in strong support of the proposed expansion of the Coonamble Feedlot. Some of my reasons are; I sell all most all my steers to the feedlot at present, increasing the size of the feedlot wouldn't necessarily mean i have more cattle but it would increase the efficiency of placement ie correct weight and timing which in turn will allow better uterlization of resources on farm this lowers the risks in dry times and should increase profitability which will be used in R&M ,debt reduction and to offset climate change threats. Making beef cattle production profitable will slow, if not reduce, the amount of country being farmed for the first time helping to maintain biodersversity over the broader community this fits in well with Macquarie Marshes Environmental Landholders assoc theme "Fat Ducks means Fat Cattle". Most other rural shires depend on irrigation for their growth and employment their irrigators receive water for free and only pay a fraction of the admin and delivery charges, Coonamble does not have that luxury so when a big business opportunity like this (privately funded non government subsidised) is proposed it should not be missed. If this opportunity is missed another feedlot in a neighbouring shire will seize the opportunity and that will do harm to our producers, decrease profitability and drain population. I encourage you to hasten the proposed development of the feedlot where ever possible.

SUBMISSION 3

MOONYA FEEDLOT EXPANSION

IN-PRINCIPLE SUPPORT WITH CONCERNS

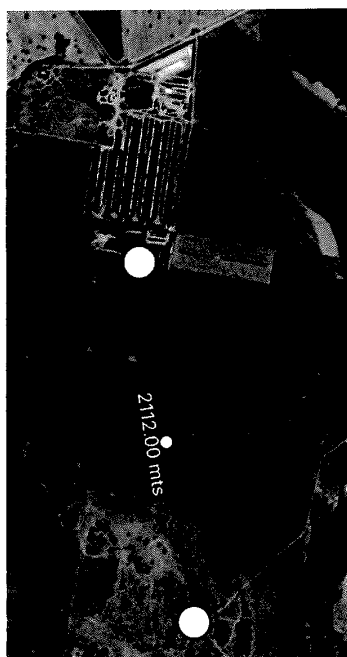
[REDACTED]

Thank you for the opportunity to make a submission regarding the Moonya feedlot expansion.

The Coonamble Feedlot is an important local business and employer and we support any business that is trying to expand in our shire.

Our family run a livestock and cropping business comprising 8000 ac in the Coonamble shire and 9000 ac in the Warren shire. It is run by [REDACTED] and our two eldest boys [REDACTED] and [REDACTED]. Three other sons are currently off farm.

Our farm [REDACTED], which has been owned by our family since 1911, lies to the south of the Moonya feedlot and we share a common boundary.



Our son [REDACTED] and his partner are engaged to be married and have renovated their home recently. Their home is 2.1km from the feedlot site. (see attached photo) At the time of renovation in 2023, we were unaware of any expansion plans.

At the same location we also have a stock and domestic bore which provides water for half of the property.

OUR CONCERNS

1. Water

Obviously, increasing cattle numbers from 10000 hd to 30000hd will greatly affect the amount of water consumed and drawn from the aquifer. Our main concern is the impact this may have on our own bore .

2. Odour.

Our son currently experiences offensive odour during and after rain, and when the wind blows directly from the north. This is not frequent but can be hard to tolerate when conditions are right. Expanding the feedlot may make this intolerable.

3. Market value

If the feedlot expansion is to go ahead, and our son and fiancée have to relocate, any future sale of that parcel of land will be affected by the presence of the bigger feedlot.

POSSIBLE SOLUTIONS

1. Water

We would like our own bore to be baseline tested by the proponents and agreements put in place should it be adversely affected in the future.

2. Odour

The only real tool in minimizing feedlot odour for us would be the establishment of a considerable vegetation belt of trees and shrubs along our shared boundary by the proponents.

As mentioned previously, our family fully support any local business trying to expand, as long as we are not adversely impacted from a business/environmental or personal point of view. We love where we live as do most of the people that live in our community. It is important that there are checks and balances with all of these types of developments so we can retain that quality of rural life.

Submission 4.

First Name

[Redacted]

Last Name

[Redacted]

Phone

[Redacted]

Email

[Redacted]

Address

[Redacted]

If you are responding on behalf of an organisation, please type its name here

[Redacted]

Type the name of the document on which you are commenting

DA 037-2024

Please write your comments here.

I'm a beef cattle breeder in the Macquarie Marshes; our cattle enterprise is designed around the production of steers to be sold to the feedlot industry. I support the expansion of the Coonamble feedlot as it can only assist with marketing opportunities for feeder weight steers. It seems to me that a development of the feedlot to that scale can only benefit the local economy, while not residing in the Coonamble shire our business does benefit from Coonamble as a service centre and any growth in the feedlot industry has flow on benefits to the Coonamble local government area.

Best regards,

The Logo Pogo Team

Transport for NSW



2 December 2024

TfNSW reference: WST24/00400/001 | SF2024/210180
Your reference: DA037/2024 | CNR-75344

General Manager
Coonamble Shire Council
By Email: council@coonambleshire.nsw.gov.au

Attention: Lesley Duncan

DA037/2024 – Increase capacity of an existing feedlot from 10,000 to 30,000 head – Multiple lot(s), DP(s) - 701 Quambone Road Coonamble

Transport for NSW (TfNSW) is responding to the abovementioned development application (DA) referred via the NSW Planning Portal on 13 November 2024.

TfNSW has reviewed the information and has **no objections** to the proposed development, subject to Council's consideration of comments as set out in **Attachment 1** of this letter.

TfNSW notes that in determining the application under Part 4 of the *Environmental Planning & Assessment Act 1979* it is the consent authority's responsibility to consider the environmental impacts of any road works that are ancillary to the development (such as removal of trees, relocation of utilities, stormwater management, etc). Depending on the nature of the works, the Council may require the developer to submit a further environmental assessment for any ancillary road works.

On Council's determination of this matter, please forward a copy of the Notice of Determination to TfNSW. If you have any questions, please contact Brendan Croft, Development Services Case Officer, on 1300 019 680 or email development.west@transport.nsw.gov.au.

Yours faithfully,

A handwritten signature in black ink that reads "Kylie-Anne Pont".

Kylie-Anne Pont
Team Leader Development Services (West)
Transport Planning
Planning, Integration and Passenger

OFFICIAL

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.west@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

1

Transport for NSW



Attachment 1

DA037/2024 – Increase capacity of an existing feedlot from 10,000 to 30,000 head – Multiple lot(s), DP(s) - 701 Quambone Road Coonamble

This attachment relates to TfNSW's response dated 2 December 2024 reference WST24/00400/001.

Context

TfNSW understands the subject application:

- Proposes the expansion of the existing active 'Moonya' feedlot, increasing head count from 10,000 to 30,000.
- The affected classified (Regional) road is Quambone Road (MR129).

Council is seeking general advice and comment from TfNSW to assist in its assessment. TfNSW notes that whilst the development is identified as 'designated development', there is no statutory trigger for referral to TfNSW under s.2.122 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021*.

TfNSW's primary interests are in the road network, traffic, and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport. Council is the roads authority for Quambone Road (MR129) and all other roads in the Coonamble Shire in accordance with s.7 of the *Roads Act 1993*.

TfNSW notes that any road works or intersection upgrades on Quambone Road require Council to seek concurrence from TfNSW under s.138(2) of the *Roads Act 1993*.

TfNSW comments

TfNSW has reviewed the supporting information provided with the application and notes that the proposed development will result in an increase of heavy vehicle movements entering and exiting the site. The existing site access appears to comprise of a wide sealed driveway with no formalised shoulder or turn treatment located on Quambone Road. A desktop analysis indicates that vehicle movements into the site currently occur via both directions.

Accordingly, TfNSW recommends that Council impose a condition requiring an upgrade of the access road intersection to the minimum required intersection treatment, being a rural Basic Auxiliary Left-turn/ Basic Auxiliary Right-turn treatment (BAL/BAR), as per *Austrroads Guide to Road Design – Part 4a Unsignalised and Signalised Intersections* (refer to Section 7.2.1 and Section 8.2.1) to facilitate safe and efficient movement of vehicles accessing the site. Road design plans should be provided for Council's consideration prior to determining the application to confirm the footprint of the upgrade does not adversely affect utilities/services, is fit-for-purpose and fits within the road corridor without affecting property boundaries and ensures that the extent of road work will be complies with the relevant Austrroads provisions and Australian Standards.

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transport.nsw.gov.au

2

Transport for NSW

Additional comments

In addition to the above requirement for road works to provide a BAR/BAL turn treatment, TfNSW highlights the following areas that should be considered to achieve better outcomes for the transport network:

1. Council should be satisfied that the largest design vehicle (identified in the TIA as an A-B triple configuration road train) can safely execute turning movements in and out of the access site road onto the classified road without impeding through traffic or the existing road environment.
2. Council should consider requesting an Operational Traffic Management Plan (TMP) be provided by the applicant to minimise any safety or operational concerns on the classified road network. The TMP should include the following (but not limited to):
 - a) Confirm hours of operation and consider the impacts on the local and classified road network during both construction and full operation of the expanded feedlot.
 - b) A driver's Code of Conduct detailing safety measures and mitigating concern for heavy vehicle transportation.
 - c) Information on any traffic control measures or provisions during peak periods of transporting laden heavy vehicles to and from the site.
 - d) Description and confirmation of any haulage routes associated with the expansion of the feedlot, including reference to any interactions with sensitive land uses (i.e. school zones or high pedestrian areas) and what safety considerations will be implemented.

OFFICIAL

Level 1, 51-55 Currajong Street, PARKES NSW 2870
PO Box 334 PARKES NSW 2870 | DX20256
Email: development.west@transport.nsw.gov.au | Phone: 1300 207 783
transport.nsw.gov.au

3

Department of Primary Industries and
Regional Development



OUT24/18806

The General Manager
Coonamble Shire Council
PO Box 249, Coonamble, NSW 2829

council@coonambleshire.nsw.gov.au

CNR-75344, DA037/2024 Proposed Moonya Feedlot expansion to 30,000 head – DPIRD Agriculture and Biosecurity advice

Dear Sir,

Thank you for your correspondence of 6 November 2024 and the opportunity to provide comment on the proposed expansion of the Moonya Feedlot, 701 Quambone Road, Coonamble 2829.

The NSW Department of Primary Industries and Regional Development (the Department) collaborates and partners with our stakeholders to protect and enhance the productive and sustainable use and resilience of agricultural resources and the environment.

Following our review of the EIS provided in support of the proposed increase in cattle numbers from 10,000 to 30,000 head, it is suggested more information be provided on the following aspects of the application:

Clarification of average days on feed (DOF):

- An average feeding regime of 120 DOF with an annual turnover of potentially 90,000 head (at 90% capacity) is substantial, given most other NSW feedlots of equivalent scale would be feeding animals for a longer period and with a lower annual turnover.

Clarification of mortality and carcass disposal:

- Given the potential annual turnover of up to 90,000 head this represents 450-900 carcasses requiring disposal annually. The EIS refers to an existing burial pit 'west of the feedlot' site, however, is not shown any site map.
- The location of the burial pit should be included in the EIS mapping plus a description of dimensions of the current pit and available area for pit expansion. Soil type information, any treatment or lining of pits should be included, as well as information on the potential presence and depth of any aquifers and flood affectation.
- The applicants are encouraged to consider and evaluate potential composting of carcasses as a more sustainable long-term outcome.

105 Prince Street | Locked Bag 21
Orange NSW 2800

E: landuse.ag@dpird.nsw.gov.au
dpird.nsw.gov.au

- There is no reference to carcase disposal methods in the event of a mass mortality due to disease, heat stress etc. If a mass mortality site is at a different part of the property it should be shown on mapping.

Feed and water:

- Peak intakes of both feed and water consumption per head at different times should be used to estimate total requirements of both when the expansion is completed, followed by potential storage quantities i.e. the amount that will be kept on hand in case of emergency (pump or electrical failure etc).
- In addition, water flow rates should be documented to demonstrate that water supply is adequate during periods of peak demand.

Backup power

- The application does not document future power supplies and contingencies during emergencies, so that feed and water can be supplied continually.

Shade

- The EIS mentions shade and shade structures briefly. It should be clearly stated how shade (how much per head, type of shade and orientation and the timeline for construction) will be provided in the expanded operation, given that ALFA is committed to NFAS-accredited feedlots providing shade by 2026.

Buffers

- More information on the proposed vegetated buffer is required, incorporating the location, length and width of buffers, the measures to establish and maintain the buffer, species types and layout of plantings for example.

This further information is required for DPIRD to provide appropriate advice on the referral. Should you require clarification on any of the information contained in this response, please do not hesitate to contact me by email at landuse.ag@dpi.nsw.gov.au.

Sincerely



Nita Scott

Agriculture & Biosecurity
Central West Orana Region

2 December 2024



Coonamble Shire Council
Lesley Duncan

bcmanager@coonambleshire.nsw.gov.au

Contact: Paul McNamara
Phone: 1300 662 077
Email: paul.mcnamara@waternsw.com.au
Our ref: IDAS1158740
Our File: A-79337
Your ref: DA037/2024

18 December 2024

Dear Sir / Madam,

RE: Proposed Development A-92147 (CRN-75344) DA037/2024 – Proposed Expansion of Moonya Feedlot Lot's 113, 119, 121, 124 // DP754199 Lot 1 // DP1124929, Quambone Road Coonamble NSW.

I refer to the above-mentioned development application referred to WaterNSW.

WaterNSW has reviewed the documents provided for the above integrated referral under s89 & s90(2) of the Water Management Act 2000 (WM Act), in relation to Water Management Work and Use Approvals, and have determined that no further investigation is required.

The documentation provided within the NSW Planning Portal demonstrates that the proponent currently holds Water Supply Work Approval, 80WA704193, which authorises a groundwater bore sufficient to service the feedlot watering requirements. WaterNSW considers that the proponent has no further obligation in addressing approval requirements under s.90(2) of the WM Act.

Further, WaterNSW considers that s.89 of the WM Act is not required, given that the water extracted under 80WA704193 is not used for irrigation purposes, as defined in the WM Act. As the water is applied to cropping post feedlot operations, this is considered a water 'reuse' and not irrigation.

It is important to note that the flood mitigation levee referred to in the Environmental Impact Statement Report No: 222230 Rev: C 22 October 2024, prepared by Premise, may constitute the requirement for a Flood work Approval under s.90(4) of the WM Act. The definition of a Flood Work has been provided for your consideration.

Water Management Act 2000 No 92

Dictionary:

flood work means a work (such as a barrage, causeway, cutting or embankment)–

(a) that is situated–

(i) in or in the vicinity of a river, estuary or lake, or

(ii) within a floodplain, and

(b) that is of such a size or configuration that, regardless of the purpose for which it is constructed or used, it is likely to have an effect on–

(i) the flow of water to or from a river, estuary or lake, or

(ii) the distribution or flow of floodwater in times of flood,

Level 14, 169 Macquarie Street, Parramatta, NSW 2150 | PO Box 398, Parramatta, NSW 2124
customer.helpdesk@waternsw.com.au | www.waternsw.com.au



and includes all associated pipes, valves, metering equipment and other equipment, but does not include any work declared by the regulations not to be a flood work.

Should you require any further information please do not hesitate to contact me via email to paul.mcnamara@waternsw.com.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "P. McNamara".

Paul McNamara
Water Regulation Specialist
WaterNSW

Department of Planning and Environment



Contact: Department of Planning and Environment-Water
Phone: 1300081047
Email: waterlicensing.servicedesk@dpie.nsw.gov.au

Our ref: IDAS-2024-10814
Your ref: DA037/2024

19 November 2024

The General Manager
COONAMBLE SHIRE COUNCIL
78-80 CASTLEREAGH STREET COONAMBLE 2829

Attention: Lesley Duncan

Uploaded to the ePlanning Portal

Dear Sir/Madam

Re: IDAS-2024-10814 - Controlled Activity Approval Not Required
Dev Ref: DA037/2024
Description: Increase the capacity of existing Moonya Feedlot from 10,000 head to 30,000 head
Location: Lot 113, DP754199, 701 QUAMBONE ROAD COONAMBLE 2829
Lot 119, DP754199, 701 QUAMBONE ROAD COONAMBLE 2829
Lot 121, DP754199, 701 QUAMBONE ROAD COONAMBLE 2829
Lot 124, DP754199, 701 QUAMBONE ROAD COONAMBLE 2829
Lot 1, DP1124929, 701 QUAMBONE ROAD COONAMBLE 2829

The Department of Planning and Environment-Water has reviewed documents for the above development application and considers that, for the purposes of the Water Management Act 2000 (WM Act), a controlled activity approval is not required for the proposed works and no further assessment by this agency is necessary.

Controlled Activity Not Required

The proposed works do not involve carrying out a work, removing or depositing material on waterfront land, or carrying out an activity which affects the quantity or flow of water in a water source.

If you have any questions regarding this correspondence, please use Water Assist to obtain further information or make an enquiry:
<https://www.dpie.nsw.gov.au/water/water-assist>

Yours Sincerely

A handwritten signature in black ink, appearing to read "Patrick Pahlow".

For
Patrick Pahlow
Team Leader
Licensing and Approvals
Department of Planning and Environment-Water

COONAMBLE
SHIRE COUNCIL

QUARTERLY
BUDGET REVIEW
DECEMBER 2024

**Coonamble Shire Council****Quarterly Budget Review
December 2024**

<i>Table of Contents</i>	<i>Page</i>
Report by the Responsible Accounting Officer	2 – 4
Cash and Investments Budget Review	5 – 6
Key Performance Indicators	7
Contracts & Consultancy Expenses	8-9
Coonamble Shire Budget Review Document	Attachment A

QUARTERLY BUDGET REVIEW TO 31 DECEMBER 2024

REPORT BY RESPONSIBLE ACCOUNTING OFFICER

In accordance with the Local Government Act, 1993 and the provisions of section 203 of the Local Government (General) Regulation 2005, a budget review statement and revision of estimates must be completed and submitted to Council for formal adoption at the end of each financial quarter, excluding the quarter ending 30th June. This report must include details on the general financial position of Council and, if this position is regarded as unsatisfactory, recommendations for remedial action must be made.

Council commenced the 2024/25 financial year with the original operational budget surplus of \$5,485. At the completion of the December 2024 review, Council's estimated budgeted result for the 2024/25 Financial Year has weakened to anticipated operational deficit of \$5,109,525. Council's position after non-operating expenditure has been considered has slightly improved to a \$1,225,120 draw down of working funds.

As previously noted in past budget reviews, Council is currently carrying the financial burden of a significant level of funding owed to it through various Commonwealth and State funded programs. This has had the effect of reducing the level of working funds available to Council. As such, Council has had to utilise a further \$2.1 Million of its Internal Reserves. Planning and timing of work to be carried out needs to be strongly considered before its commencement. This will help ensure that Council is benefiting from completing works for which we have the cash on hand, rather than prioritising works which Council carries the burden of the costs until the receipt of the funds is received. Council is also continuing to work with funding bodies to ensure that any outstanding funding currently owed to Council is received. Council has made several submissions over the past few months to acquit for completed works to allow the progression of the payment of grants. Council will replenish reserves and re-invest excess cash once funding has been received. By-monthly report

As in the past with the preparation of budget reviews, where increases in expenditure have been identified, management has also identified potential savings in the budget to offset these increases. Some of these adjustments are as follows:

- Workers Compensation Expenses – (P.4) An additional vote of \$270,322 has been included to allow for the significant increase in the workers compensation premium. This will be partially offset by increasing the oncost associated with works compensation.
- Insurance Claims Proceeds – (P.4) An additional vote of \$140,000 has been included to recognise the proceeds from insurance claims regarding council plant. This increase in income is offset in part by an additional allocation of \$93,174 Transfer to the Transport Reserve (P.19). This additional transfer will be utilised to replace two (2) Council vehicles that were written off in the prior financial year.
- Council Order – (P.5) An additional vote of \$50,000 was included to allow clean up works to commence on derelict buildings across the shire.

Coonamble Shire Council

QUARTERLY BUDGET REVIEW TO 31 DECEMBER 2024

- Grant Traineeships – (P.7) Council has been in receipt of several forms of funding from various employment agencies totalling \$83,762. This will be used to partially offset the costs of the wages for these employees.
- Museum Temporary Re-location – (P.12) The temporary re-location of the museum has incurred costs of \$15,608. This has been mostly funded through reallocating funds from the Public Halls maintenance budget. For this project to continue Council would need to identify a funding source by reallocating funds from another project.
- Quarry Operations – (P.14) Following a review of the Quarry operations taking into consideration projected expenditure and income for the remainder of the current financial year, additional resources are required to maintain required stock for sale, as such an increase expenditure vote of \$200,000 will be required. This will be partially offset by an expected increase of \$150,000 in income from sales. The remaining funding will be a reallocation from savings in the wages.
- Local Unsealed Roads Maintenance – (P.15) Carried forward works for the Roads to Recovery 2024 program have now been completed, with works commenced on the 2025 allocation. \$124,522 has been programmed to be spent on maintenance works and has resulted in the reallocation from the capital budget.
- Regional Sealed Roads Maintenance – (P.15) An additional vote of \$112,540 was included to cover the costs associated with maintaining the roads during harvest season. Council is in the process of looking to potentially cover these costs through grant funding programs.
- State Roads Maintenance – (P.16) Unpredicted costs incurred with the Glenhaven Road Project. An additional \$608,000 was incurred when completing the project. Council has had verbal confirmation that RMCC will cover these additional costs.

For Council's information the following table provides Council with a summary of the total of grants debtors owed to council as at the 31 December 2025

Council Function	
ADMINISTRATION & GOVERNANCE	\$ 30,000.00
PUBLIC ORDER & SAFETY	\$ -
HEALTH	\$ -
ENVIRONMENT	\$ 18,727.00
COMMUNITY SERVICES & EDUCATION	\$ 11,115.00
HOUSING & COMMUNITY AMENITIES	\$ -
WATER SUPPLY	\$ -
SEWERAGE SERVICES	\$ 6,986.00

Coonamble Shire Council

QUARTERLY BUDGET REVIEW TO 31 DECEMBER 2024

RECREATION & CULTURE	\$ 1,215,607.00
MINING, MANUFACTURING & CONSTRUCTION	\$ -
TRANSPORT & COMMUNICATION	\$ 8,691,561.00
ECONOMIC AFFAIRS	\$ 500,919.00
Total	\$ 10,474,915.00

For Council's information the following table provides Council with a summary of the total of drawdown from internal reserves as at 31 December 2025

Building and Premises	\$50,000
Community Development	-
Corporate	\$671,000
General	-
Housing & Community Services	-
Mines	-
Public	-
Recreation	-
Transport	\$1,016,000
Governance	\$379,000
Total	\$2,116,000

Moving forward to ensure Council's financial position does not deteriorate, strong consideration needs to be given to prioritising the projects for which the Council has the cash on hand. This will help Council to minimise the burden of carrying any additional costs until funding is received. Council also needs to make a concerted effort to ensure that Grant funding is acquitted in a timely manner.

With these strategies, it is my opinion the Quarterly Budget Review Statement for Coonamble Shire Council for the Quarter ended 31 December 2024 indicates that Council's financial position at 30 June 2025 to be satisfactory at year end, having regard to the projected estimates of income and expenditure and the original budgeted income and expenditure.

Bruce Quarmby
Responsible Accounting Officer

Coonamble Shire Council

QUARTERLY BUDGET REVIEW TO 31 DECEMBER 2024

Cash & Investments Budget Review Statement

Coonamble Shire Council

Budget review for the quarter ending 31 December 2024

Cash & Investments

	Original Balance 2024/25 (000's)	Budget 2024/25	Approved Changes		REVIS ^D Budget (000's)	Projected Year end result 2024/25 (000's)	ACTUAL YTD (000's)
			Sept Review (000's)	Dec Review (000's)			
Total Cash and Investments	29,463	(2,438)	1,611	(75)	(900)	28,563	22,032
Externally Restricted							
Unexpended Specific Purpose							
Grants / Loans	10,605	(4,061)	(2,391)	-	(6,452)	4,153	10,009
Water Supplies	3,654	(482)	(617)	(83)	(1,182)	2,472	3,724
Sewerage Services	5,150	(1,858)	(162)	(51)	(2,071)	3,079	4,749
Domestic Waste Management	368	(412)	87	-	(325)	41	282
Total Externally Restricted	19,775	(6,813)	(3,083)	(134)	(10,030)	9,745	16,764
Internal Restrictions							
Total Internally Restricted (Table A)	9,190	(976)	(1,213)	(2,116)	(4,305)	4,885	4,629
Total Restricted	28,965	(7,789)	(4,296)	(2,250)	(14,335)	14,630	23,393
Unrestricted Cash	498	5,353	5,907	2,175	13,435	13,933	(1,361)

Notes :

External restrictions are funds that must be spent for a specific purpose and cannot be used by council for general operations

Internal restriction are funds that council has determined will be used for a specific future purpose

ORIGINAL Budget +/- changes in previous quarters = REVIS^D BUDGET

REVIS^D Budget +/- recommended changes this quarter = PROJECTED year end result

Investments

All investments have been placed in accordance Council's investment policies

Cash

The Bank reconciliation has been carried out and balanced as at the 31 December 2024

QUARTERLY BUDGET REVIEW TO 31 DECEMBER 2024

Table A - Internally restricted Assets

Council will note that the preparation and listing of Council's Internal Reserves has been amended to reflect the various functions of Council, this has been carried out in accordance with suggested best practise principles.

	Original Balance 2024/25 (000's)	Budget 2024/25 (000's)	Approved Changes		Projected Year end result 2024/25 (000's)	ACTUAL YTD (000's)	
			Sept Review (000's)	Dec Review (000's)			REVISED Budget (000's)
Internally restricted Assets							
Building and Premises	571	-	(40)	(50)	(90)	481	481
Community Development	156	(15)	-	-	(15)	141	156
Corporate	1,839	(307)	107	(671)	(871)	968	968
General	1,583	(20)	(1,540)	-	(1,560)	23	23
Housing & Community Services	100	-	-	-	-	100	100
Mines	1,842	(371)	(15)	-	(386)	1,256	1,597
Public	43	-	-	-	-	43	43
Recreation	111	-	-	-	-	111	111
Transport	3,041	(283)	-	(1,016)	(1,279)	1,762	1,045
Governance	104	-	275	(379)	(104)	-	104
Total Internally restricted	9,190	(976)	(1,213)	(2,116)	(4,305)	4,885	4,829

Key Performance Indicators

Coonamble Shire Council

Budget review for the quarter ending 31 December 2024

Key Performance Indicators

	Water Dec-24	Sewer Dec-24	General Dec-24
1. Debt Service Cover Ratio			
Operating Result before Capital excluding interest depreciation/amortisation/impairment	571	676	518
Debt Service Cost	-	-	70
	=	=	=
	0.00	0.00	7.40
2. Rates, Annual Charges, Interest & Extra Charges Outstanding Percentage			
Rates, Annual & Extra Charges Outstanding	740	762	5,225
Rates, Annual & Extra Charges Collectible	1,812	1,497	7,351
	=	=	=
	40.85%	50.92%	71.09%
3. Building & Infrastructure Renewals Ratio			
Asset Renewals	45	50	1,356
Depreciation, Amortisation & Impairment (Building & Infrastructure Assets)	462	399	4,530
	=	=	=
	9.74%	12.53%	29.93%

Coonamble Shire Council

QUARTERLY BUDGET REVIEW TO 31 DECEMBER 2024

Budget Review Contracts and Other Expenses

Part A - Contracts Listing

Coonamble Shire Council

Budget review for the quarter ending 31 December 2024

Contracts

Contractor	Contract Details & Purpose	Contract Value GST Exclusive	Commencement Date	Duration of Contract	Budgeted (Y/N)
Panel Source Supply	Roadside Slashing and Spraying	N/A	1/01/2025	2 years with a possible 1 year extension	Y
Panel Source Supply	Road Stabilising	N/A	1/01/2025	2 years with a possible 1 year extension	Y
Tuff Group	Coonamble and Quambone Tennis Court Upgrades	\$ 213,086.50	15/11/2024	3 months	Y
Winsman Group	Construction of Coonamble Sportsground Amenities	\$ 514,900.00	14/11/204	3 months	Y

Explanatory Notes

1. Minimum reporting level is 1% of estimated income from continuing operations or \$50,000 whichever is the lesser.
2. Contracts listed are those entered into during the quarter and have yet to be fully performed, excluding contractors that are on Council's Preferred supplier list.
3. Contract for employment are not required to be included.
4. Where a contract for services etc. was not included in the budget, an explanation will be included in the budget review commentary.

Coonamble Shire Council

QUARTERLY BUDGET REVIEW TO 31 DECEMBER 2024

Budget Review Contracts and Other Expenses

Part B - Consultancy and Legal expenses

Coonamble Shire Council

Budget review for the quarter ending 31 December 2024

Consultancy and Legal Expenses

Expense	Expenditure YTD \$	Budgeted (Y/N)
Consultancies	\$ 69,982.00	Yes
Legal Fees	\$ 33,221.00	Yes

Definition of consultant:

A consultant is a person or organisation engaged under contract on a temporary basis to provide recommendations or high level specialist/ professional advice to assist decision making by management. Generally it is the advisory nature of the work that differentiates a consultant from other contractors

Note

Where any expenses for consultancy or Legal fees (including Code of Conduct expenses) have not been budgeted for an explanation will be provided in the budget review commentary

Coonamble Shire Council

COONAMBLE SHIRE COUNCIL BUDGET REVIEW SUMMARY- 31 DECEMBER 2024

Operational Plan Budget Summary	Operational Expenditure					Operational Revenues					Budget Summary Total				
	Original Budget 2024/25	Sept Review	Dec Review	Revised Budget 2024/25	Actual YTD 2024/25	Original Budget 2024/25	Sept Review	Dec Review	Revised Budget 2024/25	Actual YTD 2024/25	Original Budget	Sept Review	Dec Review	Revised Budget	Actual YTD
Functions of Council															
Administration & Governance	7,793,380	(59,704)	198,588	7,934,464	3,350,700	11,035,115	(3,064,717)	78,744	8,049,142	6,605,541	3,241,735	(3,005,013)	(119,844)	114,678	3,254,841
Public Order & Safety	1,289,749	(100,000)	54,500	1,244,249	548,500	674,045	(100,000)	0	574,045	269,605	(615,704)	0	(54,500)	(670,204)	(278,895)
Health	501,868	13,948	0	515,816	193,481	8,500	13,948	0	22,448	1,050	(493,368)	0	0	(493,368)	(192,431)
Environment	2,247,327	(85)	399	2,247,641	882,303	1,100,170	62,099	90,950	1,253,219	1,126,448	(1,147,157)	62,184	90,551	(994,422)	244,145
Community Services & Education	918,772	(8,316)	190	910,646	331,252	484,000	7,412	5,000	481,000	231,882	(434,772)	15,728	4,810	(429,646)	(99,370)
Housing & Comm. Amenities	728,292	(1,210)	0	727,082	250,216	293,670	0	2,000	295,670	136,909	(434,622)	1,210	2,000	(431,412)	(113,307)
Water Supplies	2,047,255	189,797	0	2,237,052	1,029,632	2,323,856	49,274	(25,039)	2,348,091	1,069,823	276,601	(140,523)	(25,039)	111,039	40,192
Sewerage Services	1,004,815	89,127	0	1,093,942	587,227	1,393,930	890	(25,000)	1,369,820	1,090,150	389,115	(88,237)	(25,000)	275,878	502,923
Recreation & Culture	2,650,997	1,447	(9,435)	2,643,009	1,418,229	135,525	1,000	25,620	162,145	123,672	(2,515,472)	(447)	35,055	(2,480,864)	(1,294,558)
Mining, Manufacturing & Const.	3,516,219	(90)	150,000	3,666,129	2,015,718	3,562,747	0	446,190	4,008,937	2,587,998	46,528	90	296,190	342,808	572,280
Transport & Communication	10,633,882	820,864	878,207	12,332,953	7,701,903	13,711,377	(1,089,647)	608,000	13,229,730	3,084,437	3,077,495	(1,910,511)	(270,207)	896,777	(4,617,466)
Economic Services	1,764,325	435	120,960	1,885,720	795,937	379,430	0	205,500	534,930	290,573	(1,384,895)	(435)	84,540	(1,350,790)	(505,364)
All Funds Operating Totals	35,096,880	946,213	1,393,409	37,438,702	19,105,097	35,102,365	(4,119,741)	1,411,965	32,329,177	16,618,087	5,485	(5,065,954)	18,556	(5,109,525)	(2,487,010)

Budget Summary					Original Estimate 2024/2025	December Review	December Review	Revised Budget 2024/2025	Actual YTD Result
Operating Result					5,485	(5,065,954)	18,556	(5,109,525)	(2,487,010)
Add Back Non Cash Items:									
Depreciation					6,687,931	97,041	0	6,784,972	3,392,486
Provision for Bad and Doubtful Debts					0	0	0	0	0
Amount Available for Non Operating Items					6,693,416	(4,968,913)	18,556	1,675,447	905,476
Non Operating Result (By Fund and Type)									
General Fund									
Non Operating Income					24,205,643	11,215,201	2,152,428	37,573,272	9,284,311
Loan Repayment					48,663	0	0	48,663	24,684
Capital Expenditure					32,621,106	4,951,242	(26,349)	37,545,999	4,473,301
General Fund Total					8,464,126	(6,263,959)	(2,178,777)	21,390	(4,786,326)
Water Fund									
Non Operating Income					482,149	686,275	0	652,850	0
Loan Repayments					0	0	0	0	0
Capital Expenditure					758,750	69,034	26,651	854,435	120,125
Water Fund Total					276,601	(617,241)	26,651	201,585	120,125
Sewerage Fund									
Non Operating Income					1,858,185	686,275	0	2,544,460	34,765
Loan Repayments					0	0	0	0	0
Capital Expenditure					2,247,300	524,512	0	2,771,812	707,824
Sewerage Fund Total					389,115	(161,763)	0	227,352	673,059
Total Non Operating Expenditure					9,129,842	(7,042,963)	(2,152,126)	450,327	(3,993,142)
Position after Non Operating Expenditure					(2,436,426)	2,074,050	2,170,682	1,225,120	4,898,618

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%
	BUDGET									BUDGET							
	2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND
ADMINISTRATION																	
General Purpose Revenues									General Purpose Revenues								
									Ordinary Rates - Farmland	4,338,645	2,658	0	2,658	4,341,303	4,338,049	3,254	0
									Ordinary Rates - Residential	705,203	1	0	1	705,204	704,250	954	100
									Ordinary Rates - Business	215,680	1,695	0	1,695	217,375	217,375	0	100
									Ordinary Rates - Small Rural Holdings	166,124	0	0	0	166,124	166,090	34	100
									Ordinary Rates - Rural Residential	83,367	536	0	536	83,903	83,903	0	100
									Ordinary Rates - Villages	66,340	0	0	0	66,340	66,340	0	100
									Pensioner Rates Abandoned	(41,050)	5,686	0	5,686	(35,364)	(35,567)	203	101
									Extra Charges on Ordinary Rates	43,620	0	0	0	43,620	27,400	16,220	63
									Grants Op (State)-Pens Rates Subsidy	22,165	(2,714)	555	(2,159)	20,006	20,006	0	100
									Financial Assistance Grant - General Component	3,928,880	(3,305,528)	0	(3,305,528)	623,352	311,676	311,676	50
General Purpose Revenues Total	0	0	0	0	0	0	0	0	General Purpose Revenues Total	9,528,974	(3,297,666)	555	(3,297,111)	6,231,863	5,899,522	332,341	95
Governance									Civic Activities								
Civic Activities									Other Grants - Australia Day Grant	20,000	0	(5,000)	(5,000)	15,000	12,000	3,000	80
Other Civic Expenses - Australia Day	20,000	0	0	0	20,000	2,566	17,434	13									
Other Civic Expenses - Christmas Carnival	27,000	0	0	0	27,000	14,663	12,337	54									
Other Civic Expenses - Anzac Day	3,000	0	0	0	3,000	0	3,000	0									
Other Civic Expenses - Flags and Banners	2,730	0	0	0	2,730	320	2,410	12									
Contributions and Donations																	
- Mayoral Donation Allocation	5,000	0	0	0	5,000	250	4,750	5									
- Sponsorship - Coonamble Show Society	5,000	0	0	0	5,000	5,000	0	100									
- Sponsorship - Fishers Ghost	3,000	0	0	0	3,000	3,000	0	100									
- Sponsorship - Coonamble Rodeo Assoc.	12,000	0	0	0	12,000	12,000	0	100									
- Coonamble CWA Rates	1,100	0	0	0	1,100	1,100	0	100									
-Sponsorship - Coonamble Greyhounds	3,000	0	0	0	3,000	3,000	0	100									
-Sponsorship - Coonamble Challenge	2,000	0	0	0	2,000	2,000	0	100									
-Pre-approved minor donations	1,500	0	0	0	1,500	750	750	50									
- Unallocated Donations	43,500	0	126	126	43,626	12,000	31,626	28									
Councillors & Governance																	
Councillors Training Expenses	15,000	0	0	0	15,000	10,286	4,714	69	Mayor Lease Back Vehicle Income	2,745	0	(2,084)	(2,084)	661	661	0	100
Governance - Other - Webcasting	820	1,000	0	1,000	1,820	882	938	48									
Election Expenses	47,580	(1,000)	(2,200)	(3,200)	44,380	0	44,380	0									
Mayoral Fees	23,650	0	0	0	23,650	8,807	14,843	37									
Mayoral Travel & Subsistence Exps	1,000	0	0	0	1,000	683	317	68									
Councillors Fees	112,165	0	0	0	112,165	50,302	61,863	45									
Cnclrs Travel & Subsistence Exps	11,000	0	0	0	11,000	5,271	5,729	48									
Delegates Expenses - GST	17,600	0	0	0	17,600	5,064	12,536	29									
Subscriptions & Membership Exps	32,295	0	0	0	32,295	1,660	30,635	5									
Membership fee - FWJO	12,000	0	0	0	12,000	373	11,627	3									
Governance - Contract Services	20,000	0	0	0	20,000	158	19,842	1									
Councillor Other Expenses	0	0	2,200	2,200	2,200	949	1,251	43									
Governance Total =	421,940	0	(2,074)	126	422,066	140,136	279,730	33	Governance Total =	22,745	0	(7,084)	(7,084)	15,661	12,661	3,000	81
Corporate Services Support									Corporate Services Support								
Corp Services Salaries & Allowances	2,587,346	0	(75,000)	(75,000)	2,512,346	1,202,781	1,309,565	48	Certificates - Sec 603	12,066	0	0	0	12,066	7,653	4,413	63
Misc Costs - Corporate Support Staff - Housing	50,300	0	0	0	50,300	23,600	26,700	47	Sundry Sales & Services	6,500	0	0	0	6,500	2,108	4,392	32
Staff Travelling Expenses	90,000	0	0	0	90,000	39,100	50,900	43	Refund of Expenses	10,000	0	0	0	10,000	7,326	2,674	73
Staff Development - Other	20,000	0	0	0	20,000	2,366	17,634	12	Legal Costs Recovered	66,150	0	40,000	40,000	106,150	31,054	75,096	29
Bank Fees & Charges	23,979	0	0	0	23,979	14,505	9,474	60									
Administration Legal Expenses	186,624	0	40,000	40,000	226,624	61,849	164,775	27									
Legal Expenses - Code of Conduct	40,000	15,000	0	15,000	55,000	22,907	32,093	42									
Admin Telephone & Comms Charges	23,345	0	0	0	23,345	10,557	12,788	45									
Administration - Rates & Charges	3,580	4,000	0	4,000	7,580	5,059	2,521	67									
Misc. Administration Expenses GST	40,100	(193)	0	(193)	39,907	6,543	33,364	16									
Advertising Expenses	18,360	0	0	0	18,360	11,102	7,258	60									
Printing & Stationery	32,960	0	0	0	32,960	9,341	23,619	28									
Postage Charges	23,825	0	0	0	23,825	7,336	16,489	31									
Admin Subscriptions & Membership	32,035	0	0	0	32,035	23,641	8,394	74									
Valuation Fees	25,890	193	0	193	26,083	26,083	0	100									

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	
	BUDGET									BUDGET								Budget
	2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND	
ADMINISTRATION																		
Corporate Services Support - cont									Corporate Services Support - cont									
External Audit Fees	80,000	0	0	0	80,000	7,342	72,658	9										
Internal Audit Costs	90,000	0	0	0	90,000	3,120	86,880	3										
Governance and Risk Salaries & Allowances	357,080	0	0	0	357,080	162,011	195,069	45										
Misc Costs - Housing Subsidy	10,400	0	0	0	10,400	2,600	7,800	25										
Other Admin - Contract Services	116,000	0	75,000	75,000	191,000	154,357	36,643	81										
Procurement Guided Buying	50,000	25,000	0	25,000	75,000	75,000	0	100										
Bad & Doubtful Debts Expense	25,000	0	0	0	25,000	0	25,000	0										
Insurance									Insurance									
Administration Insurance Premiums	308,678	0	0	0	308,678	287,306	21,372	93	Administration Sundry Income	41,438	0	0	0	41,438	4,516	36,922	11	
Administration Buildings & Grounds									Administration Buildings & Grounds									
Council Offices Insurances	44,855	(2,046)	0	(2,046)	42,809	42,808	0	100										
Council Offices Electricity	11,770	0	0	0	11,770	4,134	7,636	35										
Council Offices Repairs & Mntce	67,580	0	0	0	67,580	31,934	35,646	47										
Information Technology									Information Technology									
IT - Office Equipment Maintenance	33,638	0	0	0	33,638	11,934	21,704	35										
IT - Cyber security	33,148	0	0	0	33,148	14,175	18,973	43										
IT - Contract Services	2,000	0	6,240	6,240	8,240	6,646	1,594	81										
IT - Software Licences & Renewals	145,292	25,000	0	25,000	170,292	107,739	62,553	63										
IT - Website Expenses	3,000	0	0	0	3,000	1,316	1,684	44										
Asset Management																		
Asset Management Salaries	333,909	(25,000)	0	(25,000)	308,909	83,183	225,726	27										
Asset - Subs & Membership	15,000	0	0	0	15,000	0	15,000	0										
Asset Management Improvement Program	70,000	0	0	0	70,000	0	70,000	0										
Asset - Misc Expenses	5,000	0	0	0	5,000	0	5,000	0										
GIS General Expenses	5,000	0	0	0	5,000	0	5,000	0										
Interest									Interest									
Interest Expenses	21,736	0	0	0	21,736	10,881	10,855	50	Interest on Investments	894,800	0	(100,000)	(100,000)	794,800	305,974	488,826	38	
Interest on Overdraft	510	0	0	0	510	247	263	48										
Corporate Support Total =	5,027,940	41,954	46,240	88,194	5,116,134	2,473,503	2,642,631	48	Corporate Support Total =	1,030,953	0	(60,000)	(60,000)	970,953	358,631	612,322	37	
Engineering Technical Support									Engineering Technical Support									
Engineering Staff Salaries	1,096,515	0	0	0	1,096,515	628,643	467,872	57										
Engineering Housing Subsidy	62,400	0	0	0	62,400	19,600	42,800	31										
Engineering Staff Travel Expenses	101,425	0	25,000	25,000	126,425	71,590	54,835	57										
Eng Supervision Telephone Expenses	3,815	0	4,100	4,100	7,915	3,906	4,009	49										
Engineering Printing & Stationery	13,135	0	0	0	13,135	7,790	5,345	59										
Engineering Office Sundry Expenses	5,255	0	0	0	5,255	3,000	2,255	57										
Engineering Equipment Mntce	10,200	0	0	0	10,200	3,428	6,772	34										
Engineering Subs & Memberships	38,870	0	0	0	38,870	16,620	22,250	43										
Engineering - Contract Services	298,660	0	0	0	298,660	47,446	251,214	16	Flood Damage Income	289,960	0	0	0	289,960	47,446	242,514	16	
Software Licences & Renewals	21,130	0	0	0	21,130	10,934	10,196	52										

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%
	BUDGET									BUDGET							
	2024/25	Review	Review	Changes	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Changes	Budget	YTD	Budget	EXPEND
ADMINISTRATION																	
Stores & Depot Operations									Stores & Depot Operations								
Storekeeper Salaries and Wages	253,373	0	0	0	253,373	75,107	178,266	30	Sale of Surplus Materials	4,000	0	0	0	4,000	0	4,000	0
Depot Insurances	15,280	(658)	0	(658)	14,622	14,622	0	100									
Depot Electricity Charges	12,125	0	0	0	12,125	3,473	8,652	29									
Depot Telephone & Comms Charges	2,535	0	0	0	2,535	1,167	1,368	46									
Depot Rates & User Charges	4,820	0	0	0	4,820	3,701	1,119	77									
Depot Sundry Expenses	10,000	0	0	0	10,000	1,418	8,582	14									
Depot Operating Expenses	25,000	0	0	0	25,000	10,672	14,328	43									
Depot Maintenance Expenses	45,550	0	0	0	45,550	27,993	17,557	61									
Depot Cleaning Expenses	10,000	(1,000)	0	(1,000)	9,000	5,411	3,589	60									
Depot Stores Unaccounted for	2,000	0	0	0	2,000	0	2,000	0									
Engineering & Works Total =	2,032,088	(1,658)	29,100	27,442	2,059,530	956,521	1,103,009	46	Engineering & Works Total =	293,960	0	0	0	293,960	47,446	246,514	16
Clearing Accounts									Workforce Operations								
Workforce Operations									Grants Operating - Staff Traineeship	10,000	0	0	0	10,000	5,000	5,000	50
Corp Services Leave Entitlements	1,577,201	0	0	0	1,577,201	418,867	1,158,334	27	Contributions to Functions	500	0	0	0	500	0	500	0
Corp Services Public Holidays	382,690	0	0	0	382,690	54,550	328,140	14	Sundry Contributions to Training	0	0	6,273	6,273	6,273	0	100	
Other Miscellaneous Staff Exps	128,845	0	8,000	8,000	136,845	48,656	88,189	36	Employee Vehicle - Lease Back Income	9,435	5,000	0	5,000	14,435	9,714	4,721	67
Employee Superannuation	1,209,385	0	0	0	1,209,385	511,609	697,776	42	Sundry Income - Jury Service	750	0	0	0	750	0	750	0
Fringe Benefits Tax	70,000	0	0	0	70,000	5,277	64,723	8									
Staff Training & Development - GST	237,500	0	30,000	30,000	267,500	186,404	81,096	70									
Staff Recruitment Expenses	80,000	0	(8,000)	(8,000)	72,000	13,712	58,288	19									
General Safety Expenses	40,860	0	0	0	40,860	19,015	21,845	47									
Workers Compensation Insurance	369,741	0	270,322	270,322	640,063	365,627	274,436	57									
Extra Clerical Assistance	5,000	0	0	0	5,000	0	5,000	0									
Advertising - HR	25,000	0	0	0	25,000	2,556	22,444	10									
Printing and Stationery - HR	4,500	0	0	0	4,500	2,013	2,487	45									
Subscriptions and Memberships - HR	14,500	0	0	0	14,500	5,019	9,481	35									
Salaries & Allowances NEI	492,355	0	0	0	492,355	257,158	235,197	52									
WHS Other Expenses	266,723	0	0	0	266,723	160,493	106,230	60									
Organisational Change Costs	40,000	0	0	0	40,000	20,119	19,881	50									
Less - Contributions from Works									Employment Overheads Total =	20,685	5,000	6,273	11,273	31,958	20,987	10,971	66
Oncost Recoveries	(4,220,526)	0	(150,000)	(150,000)	(4,370,526)	(2,336,378)	(2,034,148)	53	Plant Operations								
Training Contributions	(52,630)	0	0	0	(52,630)	(26,315)	(26,315)	50	Diesel Fuel Rebate Tax Credits	132,298	0	0	0	132,298	45,096	87,202	34
									Sundry Plant Income	3,000	0	0	0	3,000	56	2,944	2
Employment Overheads Total =	671,144	0	150,322	150,322	821,466	(291,618)	1,113,084	(35)	Insurance Claims proceeds - Council Plant	0	140,000	139,000	279,000	279,000	133,194	145,806	48
Plant Operations									Profit on Private Works	2,500	0	0	0	2,500	0	2,500	0
Plant Running Expenses	1,886,635	400,000	0	400,000	2,286,635	1,168,854	1,117,781	51	Plant Running Expenses Total	137,798	140,000	139,000	279,000	416,798	178,346	238,452	43
Plant Hire Income Charged to Works	(3,342,110)	(500,000)	(25,000)	(525,000)	(3,867,110)	(1,644,694)	(2,222,416)	43	Disposal of Council Assets								
Small Plant & Tools Expenses	22,588	0	0	0	22,588	3,600	18,988	16	Net Profit on Disposal of Assets - Land	0	87,949	0	87,949	87,949	87,948	1	100
									Net Profit on Disposal of Assets - Building	0	0	0	0	0	0	0	0
Workshop Operations									Net Profit on Disposal of Assets - Plant & Fleet	0	0	0	0	0	0	0	0
Workshop Salaries and Wages	27,444	0	0	0	27,444	18,418	9,026	67	Plant Running Expenses Total	0	87,949	0	87,949	87,949	87,948	1	100
Workshop Other Expenses	20,000	0	0	0	20,000	13,124	6,876	66	Administration - Depreciation								
									Deprn - Admin Vehicles	34,095	0	0	0	34,095	17,048	17,048	50
Plant Running Expenses Total =	(1,385,443)	(100,000)	(25,000)	(125,000)	(1,510,443)	(440,698)	(1,069,745)	29	Deprn - Admin Office Equipment	47,239	0	0	0	47,239	23,620	23,620	50
Disposal of Council Assets									Deprn - Admin Buildings Specialised	22,890	0	0	0	22,890	11,445	11,445	50
Net Loss on Disposal of Assets - Land	0	0	0	0	0	0	0	0	Deprn - Engineering Vehicles	877,269	0	0	0	877,269	438,635	438,635	50
Net Loss on Disposal of Assets - Building	0	0	0	0	0	0	0	0	Deprn - Depot Buildings	43,031	0	0	0	43,031	21,516	21,516	50
Net Loss on Disposal of Assets - Plant & Fleet	0	0	0	0	0	0	0	0	Deprn - Depot Other Structures	1,188	0	0	0	1,188	594	594	50
									Administration - Depreciation Total	1,025,712	0	0	0	1,025,712	512,856	512,856	50
Plant Running Expenses Total =	0	0	0	0	0	0	0	0	ADMINISTRATION TOTAL	7,793,380	(59,704)	198,588	141,084	7,934,464	3,350,700	4,581,565	42
Administration - Depreciation									ADMINISTRATION TOTAL	11,035,115	(3,064,717)	78,744	(2,985,973)	8,049,142	6,605,541	1,443,602	82
Deprn - Admin Vehicles	34,095	0	0	0	34,095	17,048	17,048	50									
Deprn - Admin Office Equipment	47,239	0	0	0	47,239	23,620	23,620	50									
Deprn - Admin Buildings Specialised	22,890	0	0	0	22,890	11,445	11,445	50									
Deprn - Engineering Vehicles	877,269	0	0	0	877,269	438,635	438,635	50									
Deprn - Depot Buildings	43,031	0	0	0	43,031	21,516	21,516	50									
Deprn - Depot Other Structures	1,188	0	0	0	1,188	594	594	50									
Administration - Depreciation Total	1,025,712	0	0	0	1,025,712	512,856	512,856	50	Profit/Loss on Sale Total	0	0	0	0	0	0	0	0
ADMINISTRATION TOTAL	7,793,380	(59,704)	198,588	141,084	7,934,464	3,350,700	4,581,565	42	ADMINISTRATION TOTAL	11,035,115	(3,064,717)	78,744	(2,985,973)	8,049,142	6,605,541	1,443,602	82

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	
	BUDGET									BUDGET								Budget
	2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND	
PUBLIC ORDER & SAFETY																		
Fire Services									Fire Services									
Cont. to Fire Board	28,693	0	0	0	28,693	13,948	14,745	49										
Rural Fire Services									Other Revenue - Member Contributions	551,975	0	0	0	551,975	263,717	288,258	48	
Coonamble Contributions (Zone)	174,307	0	0	0	174,307	83,279	91,028	48										
Other Member Contributions	551,975	0	0	0	551,975	263,717	288,258	48										
RFS Non Reimbursables	29,685	0	0	0	29,685	22,305	7,380	75										
RFFF Hazard Reduction works	100,000	(100,000)	0	(100,000)	0	0	0	0	RFFF Hazard Reduction works	100,000	(100,000)	0	(100,000)	0	0	0	0	
Fire Protection Total =	884,659	(100,000)	0	(100,000)	784,659	383,249	401,410	49	Fire Protection Total =	651,975	(100,000)	0	(100,000)	551,975	263,717	288,258	48	
Emergency Services									Emergency Services									
Contributions to Emergency Services	18,427	0	0	0	18,427	6,832	11,594	37										
SES Operating Expenses	24,222	0	0	0	24,222	3,673	20,549	15										
SES Building Expenses	5,000	0	4,500	4,500	9,500	9,045	455	95										
Emergency Services Total =	47,649	0	4,500	4,500	52,149	19,550	32,599	37	Emergency Services Total =	0	0	0	0	0	0	0	0	
Animal Control Services									Animal Control Services									
Animal Control Ranger Salaries	73,490	0	(10,000)	(10,000)	63,490	36,803	26,687	58	Animal Regulatory Fees & Fines	10,745	0	0	0	10,745	4,373	6,372	41	
Animal Control Telephone Expenses	1,200	0	0	0	1,200	213	987	18	Impounding Fees & Charges	5,500	0	0	0	5,500	865	4,635	16	
Other Animal General Expenses	5,000	0	10,000	10,000	15,000	4,755	10,245	32	Animal Control - Sundry Sales	825	0	0	0	825	650	175	79	
Impounding & Pound Expenses	60,405	0	0	0	60,405	39,127	21,278	65										
Desexing program	10,000	0	0	0	10,000	1,201	8,799	12										
Animal Welfare Program	6,500	0	0	0	6,500	0	6,500	0										
Regulatory Control Salaries	90,450	0	0	0	90,450	19,082	71,368	21	Regulatory Fees and Fines	5,000	0	0	0	5,000	0	5,000	0	
Regulatory Control Telephone Expenses	1,200	0	0	0	1,200	213	987	18										
Other Regulatory Control General Expenses	2,000	0	0	0	2,000	0	2,000	0										
Impounding Expenses	22,615	0	0	0	22,615	312	22,303	1										
Council Order - Derelict Buildings	0	0	50,000	50,000	50,000	0	50,000	0										
Animal Control Total =	272,860	0	50,000	50,000	322,860	101,706	221,154	32	Animal Control Total =	22,070	0	0	0	22,070	5,888	16,182	27	
Other Public Order & Safety									Other Public Order & Safety									
Security Cameras Insurance	1,772	302	0	302	2,074	1,718	356	83										
Security Camera Electricity Charges	779	300	0	300	1,079	725	354	67										
Security Cameras Repairs & Mntce	8,240	(602)	0	(602)	7,638	4,656	2,982	61										
Other Public Order & Safety	10,791	0	0	0	10,791	7,099	3,692	66	Other Public Order & Safety	0	0	0	0	0	0	0	0	
Public Order & Safety - Depreciation																		
Depn - Plant & Equipment	2,090	0	0	0	2,090	1,045	1,045	50										
Depn - Buildings Specialised	71,700	0	0	0	71,700	35,850	35,850	50										
Public Order & Safety - Depreciation	73,790	0	0	0	73,790	36,895	36,895	50										
PUBLIC ORDER & SAFETY TOTAL	1,289,749	(100,000)	54,500	(45,500)	1,244,249	548,500	695,749	44	PUBLIC ORDER & SAFETY TOTAL	674,045	(100,000)	0	(100,000)	574,045	269,605	304,440	47	

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%
	BUDGET									BUDGET							
	2024/25	Review	Review	Changes	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Changes	Budget	YTD	Budget	EXPEND
HEALTH SERVICES																	
Health and Building Administration									Health and Building Administration								
Health Salaries & Allowances	320,268	0	0	0	320,268	118,731	201,537	37	Health Licences & Inspection Fees	8,500	0	0	0	8,500	1,050	7,450	12
Housing Subsidy - Health	10,400	0	0	0	10,400	2,600	7,800	25									
Health Staff Travelling Expenses	10,200	0	0	0	10,200	0	10,200	0									
Health Sundry Expenses	5,000	0	0	0	5,000	1,836	3,164	37									
Health Services Contract Staff	156,000	0	0	0	156,000	68,965	87,035	44									
Grant Program - Mosquito Man Plan	0	13,948	0	13,948	13,948	1,349	12,599	10	Mosquito Management Plan - Grant	0	13,948	0	13,948	13,948	0	13,948	0
Admin. & Building Total	501,868	13,948	0	13,948	515,816	193,481	322,335	38	Admin. & Building Total	8,500	13,948	0	13,948	22,448	1,050	21,398	5
Health and Building Depreciation									Health and Building Depreciation								
Health & Building Depreciation Total =	0	0	0	0	0	0	0	0	Health & Building Depreciation Total	0	0	0	0	0	0	0	0
HEALTH TOTAL	501,868	13,948	0	13,948	515,816	193,481	322,335	38	HEALTH TOTAL	8,500	13,948	0	13,948	22,448	1,050	21,398	5

EXPENDITURE	ORIGINAL	Total			REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Total			REVISED	ACTUAL	Remaining	%
	BUDGET	Sept	Dec	Budget						Budget	Budget	2024/25	Review				
	2024/25	Review	Review	Changes	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Changes	Budget	YTD	Budget	EXPEND
ENVIRONMENT																	
Noxious Plants & Animals									Noxious Plants & Animals								
Contributions and Donations - CMCC	121,370	0	2,001	2,001	123,371	123,371	0	100									
Noxious Plants - Control Expenses	3,210	0	0	0	3,210	568	2,642	18									
Pest Control Expenses	9,625	0	0	0	9,625	196	9,429	2									
Admin. & Inspection Total	134,205	0	2,001	2,001	136,206	124,135	12,071	91	Admin. & Inspection Total	0	0	0	0	0	0	0	0
Other Environmental Services									Other Environmental Services								
Environmental - Other Expenses	2,680	0	0	0	2,680	546	2,134	20									
Grant - Caring For Country	0	0	3,125	3,125	3,125	3,125	0	100	Grant - Caring For Country Environment Reserve	0	0	3,125	3,125	3,125	3,125	0	100
Subs & Membership- Environ Services	3,810	0	0	0	3,810	0	3,810	0									
Flood Mitigation									FLOOD MITIGATION								
Levee Banks Maintenance Expenses	40,000	0	0	0	40,000	0	40,000	0									
Flood Mitigation - Contract Services	5,000	0	0	0	5,000	0	5,000	0									
Other Environmental Protection Total =	51,490	0	3,125	3,125	54,615	3,671	50,944	7	Environmental Protection Total =	0	0	3,125	3,125	3,125	3,125	0	100
Solid Waste Management - Collection									SOLID WASTE MANAGEMENT								
Solid Waste Collections	182,205	0	0	0	182,205	49,416	132,789	27	Domestic Waste Annual Charges - Domestic	645,460	0	4,063	4,063	649,523	649,523	0	100
Bulk Waste - Kerbside Collection	70,960	0	0	0	70,960	27,229	43,731	38	Domestic Waste Annual Charges - Non Res	178,890	62,785	0	62,785	241,675	241,101	574	100
Purchase of Waste Bins	4,310	0	0	0	4,310	3,032	1,278	70	DWM Extra Charges	12,300	0	0	0	12,300	8,867	3,433	72
									Less: Pension Write Off	(24,080)	(1,870)	0	(1,870)	(25,950)	26,015	(51,965)	(100)
									Pensioner Subsidy	13,000	1,184	0	1,184	14,184	14,619	(435)	103
Solid Waste Management - Disposal									Solid Waste Management - Disposal								
Waste Facility Salaries and Wages	414,465	0	0	0	414,465	180,135	234,330	43	Grant - Traineeships	0	0	83,762	83,762	83,762	83,762	0	100
Waste - Housing Subsidy	10,400	0	(5,200)	(5,200)	5,200	2,600	2,600	50	Waste Facility Gate Takings - Domestic	39,400	0	0	0	39,400	15,242	24,158	39
Waste Facility (Tip) Insurance	2,952	(137)	0	(137)	2,815	2,815	0	100	Waste Facility Gate Takings - Commercial	112,800	0	0	0	112,800	42,495	70,305	38
Electricity - Waste Depot	750	0	1,250	1,250	2,000	881	1,119	44	Sale of new household bins	7,500	0	0	0	7,500	2,880	4,620	38
Telephone & Comms - Waste Depot	1,906	0	(750)	(750)	1,156	472	684	41	Sale of Recyclables	114,400	0	0	0	114,400	38,819	75,581	34
Waste Depots - Rates & Charges	1,000	52	(27)	25	1,025	1,025	0	100									
General Expenses - Waste Disposal	29,550	0	0	0	29,550	7,721	21,829	26	Garbage Disposal Total =	1,099,670	62,099	87,825	149,924	1,249,594	1,123,323	126,271	90
Waste Depot Operations	619,714	0	0	0	619,714	234,279	385,435	38	Street Cleaning								
Waste Buildings Maintenance	25,000	0	0	0	25,000	8,945	16,055	36	General Expenses - Street Cleaning	305,875	0	0	0	305,875	144,674	161,201	47
Clean up of Old Tip Facility - Coonamble	200,000	0	0	0	200,000	0	200,000	0	Street Cleaning Total =	305,875	0	0	0	305,875	144,674	161,201	47
Garbage Disposal Total =	1,563,212	(85)	(4,727)	(4,812)	1,558,400	518,551	1,039,849	33	STORMWATER / URBAN DRAINAGE								
Street Cleaning									Stormwater Management								
General Expenses - Street Cleaning	305,875	0	0	0	305,875	144,674	161,201	47	Stormwater Drainage Maintenance	10,000	0	0	0	10,000	0	10,000	0
Street Cleaning Total =	305,875	0	0	0	305,875	144,674	161,201	47	Stormwater/Urban Drainage Total =	10,000	0	0	0	10,000	0	10,000	0
STORMWATER / URBAN DRAINAGE									Environmental Services Depreciation								
Stormwater Management									Depn - Buildings Specialised	5,360	0	0	0	5,360	2,680	2,680	50
Drainage Diagram Fees - GST Free	500	0	0	0	500	0	500	0	Depn - Other Structures	19,150	0	0	0	19,150	9,575	9,575	50
Stormwater/Urban Drainage Total =	500	0	0	0	500	0	500	0	Depn - Storm Water Drainage	158,035	0	0	0	158,035	79,018	79,018	50
Environmental Depreciation Total =	182,545	0	0	0	182,545	91,273	91,273	150	Environmental Depreciation Total =	0	0	0	0	0	0	31,054	0
ENVIRONMENT TOTAL	2,247,327	(85)	399	314	2,247,641	882,303	1,365,338	39	ENVIRONMENT TOTAL	1,100,170	62,099	90,950	153,049	1,253,219	1,126,448	157,825	90

EXPENDITURE	ORIGINAL	Total			REVISD	ACTUAL	Remaining	%	INCOME	ORIGINAL	Total			REVISD	ACTUAL	Remaining	%	
	BUDGET	Sept	Dec	Budget						Budget	YTD	Budget	EXPEND					BUDGET
	2024/25	Review	Review	Changes	Budget		Budget			2024/25	Review	Review	Changes	Budget		Budget		
COMMUNITY SERVICES & EDUCATION																		
Education									Education									
Contributions- Coonamble Scholarship	3,000	0	0	0	3,000	3,000	0	100										
Education Total	3,000	0	0	0	3,000	3,000	0	100	Education Total	0	0	0	0	0	0	0	0	0
Aged & Disabled									Aged & Disabled									
General Expenses - Aged & Disabled	32,000	0	0	0	32,000	0	32,000	0	Grants Operational (State) Aged & Disabled	1,000	0	5,000	5,000	6,000	0	6,000	0	
Aged & Disabled Total	32,000	0	0	0	32,000	0	32,000	0	Aged & Disabled Total	1,000	0	5,000	5,000	6,000	0	6,000	0	
Children & Youth Services									Children & Youth Services									
Salaries and Wages - Youth Services	77,289	0	0	0	77,289	5,752	71,537	7	Sundry Income - Youth Services	1,000	0	0	0	1,000	0	1,000	0	
Youth Centre Insurance	4,655	(223)	0	(223)	4,432	4,432	0	100										
Youth Services Telephone Expenses	525	0	0	0	525	187	338	36										
Rates Charges Gulargambone Youth Centre	1,240	0	0	0	1,240	1,017	223	82	Grant Funds - School Holiday Program	7,000	7,412	0	7,412	14,412	14,412	0	100	
General Expenses - Youth Programs	56,100	7,412	0	7,412	63,512	23,460	40,052	37										
Youth Service - General Expenses	5,000	0	0	0	5,000	0	5,000	0										
Repairs & Mntce - Gular Youth Centre	10,200	0	0	0	10,200	208	9,992	2										
Cleaning - Gular Youth Centre	5,000	0	0	0	5,000	0	5,000	0										
Children & Youth Services Total	160,009	7,189	0	7,189	167,198	35,056	132,142	21	Children & Youth Services Total	8,000	7,412	0	7,412	14,412	1,000	0		
Other Community Services									Other Community Services									
Community Services - CSP Expenses	10,000	0	190	190	10,190	10,190	0	100	Grants - Regional Youth Investment Program	475,000	0	0	0	475,000	217,470	257,530	46	
Community Services - Wages	220,902	0	0	0	220,902	56,606	164,296	26										
Regional Youth Investment Program	475,000	(15,505)	0	(15,505)	459,495	217,470	242,025	47	Aged & Disabled Total	475,000	0	0	0	475,000	217,470	257,530	46	
Aged & Disabled Total	705,902	(15,505)	190	(15,315)	690,587	284,266	406,321	41	Community Services - Depreciation									
Community Services - Depreciation									Community Services - Depreciation									
Depn - Buildings Specialised	17,861	0	0	0	17,861	8,931	8,931	50										
Community Services - Depreciation	17,861	0	0	0	17,861	8,931	8,931	50	Community Services - Depreciation	0	0	0	0	0	0	0	0	0
COMMUNITY & EDUCATION SERVICES TOTAL	918,772	(8,316)	190	(8,126)	910,646	331,252	579,394	36	COMMUNITY & EDUCATION SERVICES TOTAL	484,000	7,412	5,000	12,412	481,000	231,882	264,530	48	

EXPENDITURE	ORIGINAL	Total			REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Total			REVISED	ACTUAL	Remaining	%
	BUDGET	Sept	Dec	Budget						BUDGET	Sept	Dec	Budget				
	2024/25	Review	Review	Changes	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Changes	Budget	YTD	Budget	EXPEND
HOUSING & COMMUNITY SERVICES																	
Council Housing									Council Housing								
Council Housing Insurance	25,447	(1,202)	0	(1,202)	24,245	14,787	9,458	61	Council Housing Rental Income	66,300	0	0	0	66,300	22,665	43,635	34
Council Housing Rates & Charges	28,230	0	0	0	28,230	15,948	12,282	56									
Council Housing Maintenance Expenses	68,000	0	0	0	68,000	20,932	47,068	31									
Council Housing Total =	121,677	(1,202)	0	(1,202)	120,475	51,667	68,808	43	Council Housing Total =	66,300	0	0	0	66,300	22,665	43,635	34
Public Cemeteries									Public Cemeteries								
Cemeteries Insurance	170	(8)	0	(8)	162	162	0	100	Cemetery Fees	94,370	0	0	0	94,370	50,392	43,978	53
Cemeteries Rates & User Charges	14,400	0	0	0	14,400	6,633	7,767	46									
Cemeteries Maintenance Expenses	149,500	0	0	0	149,500	58,013	91,487	39									
Public Cemeteries Total =	164,070	(8)	0	(8)	164,062	64,808	99,254	40	Public Cemeteries Total =	94,370	0	0	0	94,370	50,392	43,978	53
Public Conveniences									Public Conveniences								
Public Conveniences Insurance	1,635	0	0	0	1,635	1,557	78	95									
Public Conveniences Maintenance	125,980	0	0	0	125,980	54,594	71,386	43									
Public Conveniences Total =	127,615	0	0	0	127,615	56,151	71,464	44	Public Conveniences Total =	0	0	0	0	0	0	0	0
Street Lighting									Street Lighting								
Street Lighting Electricity Charges	135,400	0	0	0	135,400	52,230	83,170	39	Street Lighting Subsidy	39,000	0	2,000	2,000	41,000	0	41,000	0
Street Lighting Maintenance	5,000	0	0	0	5,000	0	5,000	0									
Street Lighting Total =	140,400	0	0	0	140,400	52,230	88,170	37	Street Lighting Total =	39,000	0	2,000	2,000	41,000	0	41,000	0
Town Planning									Town Planning								
Town Planning - Contract Services	110,600	0	0	0	110,600	0	110,600	0	Development Application Fees	70,500	0	0	0	70,500	51,570	18,930	73
Town Planning legal Expenses	10,000	0	0	0	10,000	0	10,000	0	Subdivision Fees	1,000	0	0	0	1,000	414	586	41
Town Planning - Sundry Expenses	2,000	0	0	0	2,000	395	1,605	20	Certificates Sec 149	17,500	0	0	0	17,500	9,312	8,188	53
Town Planning - Portal Awareness Training	2,000	0	0	0	2,000	0	2,000	0	Certificates Sec 735A O/S Notices	4,500	0	0	0	4,500	2,556	1,944	57
									Town Planning Sundry Income	500	0	0	0	500	0	500	0
Town Planning Total =	124,600	0	0	0	124,600	395	124,205	0	Town Planning Total =	94,000	0	0	0	94,000	63,852	30,148	225
Housing & Community Depreciation																	
Depn - Buildings Specialised	10,345	0	0	0	10,345	5,173	5,173	50									
Depn - Buildings Non Specialised	15,484	0	0	0	15,484	7,742	7,742	50									
Depn - Other Structures	24,101	0	0	0	24,101	12,051	12,051	50									
Total Housing & Community Depn	49,930	0	0	0	49,930	24,965	24,965	50									
HOUSING & COMMUNITY AMENITIES TOTAL	728,292	(1,210)	0	(1,210)	727,082	250,216	476,866	34	HOUSING & COMMUNITY AMENITIES TOTAL	293,670	0	2,000	2,000	295,670	136,909	158,761	46

EXPENDITURE	ORIGINAL				REVISD Budget	ACTUAL YTD	Remaining Budget	% EXPEND	INCOME	ORIGINAL				REVISD Budget	ACTUAL YTD	Remaining Budget	% EXPEND
	BUDGET 2024/25	Sept Review	Dec Review	Total Budget Changes						BUDGET 2024/25	Sept Review	Dec Review	Total Budget Changes				
WATER SUPPLY OPERATIONS																	
Coonamble Water Operations									Coonamble Water Operations								
Insurance Coonamble Water Supply	49,130	(1,243)	0	(1,243)	47,887	47,887	0	100	Annual Charges Coonamble Water Access	737,005	(4,620)	(315)	(4,935)	732,070	732,070	0	100
Electricity - Coonamble Water Supply	101,925	0	0	0	101,925	44,276	57,649	43	Less: Pension Rebate Coonamble	(17,835)	744	(44)	700	(17,135)	(17,135)	0	100
Coonamble Wtr Cont to Training Costs	22,240	0	0	0	22,240	11,120	11,120	50	Coonamble Water Extra Charges	27,990	0	0	0	27,990	17,824	10,166	64
Telephone & Comms - Coonamble Water	1,930	0	0	0	1,930	899	1,031	47	Coonamble Water Connection Fees	5,000	0	0	0	5,000	3,585	1,415	72
Rates & Charges Coonamble Water	3,005	0	0	0	3,005	2,262	743	75	Coonamble Water User Pays Water	983,540	0	0	0	983,540	0	983,540	0
Water Treatment & Misc Expenses	311,120	0	0	0	311,120	168,963	142,157	54	Sundry Sales - Coonamble Water	7,110	0	0	0	7,110	3,890	3,220	55
Repairs & Mntce Coonamble Water	560,810	0	0	0	560,810	306,648	254,162	55	Grant Op (State) Cmble Wtr Pens Subs	9,630	59	278	337	9,967	9,967	0	100
Coonamble Water - Contract Services	2,000	0	0	0	2,000	0	2,000	0	Interest on Invests Coonamble Water	73,920	0	(25,000)	(25,000)	48,920	18,833	30,087	38
Coonamble Water Meter Reading	69,400	0	0	0	69,400	37,971	31,429	55	Grant Funds - Develop IWCM	121,051	(51,667)	0	(51,667)	69,384	24,539	44,845	35
Administration - Engineering	125,580	0	0	0	125,580	47,055	78,525	37	Grant Funds - Advance Operational Support	0	100,000	0	100,000	100,000	24,800	75,201	25
Development of IWCM Coonamble Shire Council	199,165	0	0	0	199,165	24,539	174,626	12									
Advance Operational Support - Grant Funded	0	150,000	0	150,000	150,000	33,066	116,934	22									
Depreciation - Coonamble Water	342,296	33,812	0	33,812	376,108	188,054	188,054	50									
Total Coonamble Water Operations	1,788,601	182,569	0	182,569	1,971,170	912,740	1,058,430	46	Total Coonamble Water Operations	1,947,411	44,516	(25,081)	19,435	1,966,846	818,373	1,148,474	42
Quambone Water Operations									Quambone Water Operations								
Insurance Quambone Water Supply	365	(6)	0	(6)	359	359	0	100	Annual Charges Quambone Water Access	50,470	3,700	0	3,700	54,170	53,160	1,010	98
Electricity - Quambone Water Supply	2,335	0	0	0	2,335	1,202	1,133	51	Less: Pensioner Subsidy - Quambone	(705)	180	0	180	(525)	(613)	88	117
Other Expenses Quambone Water	31,500	0	0	0	31,500	3,520	27,980	11	Quambone Water Extra Charges	1,520	0	0	0	1,520	973	547	64
Repairs & Mntce Quambone Water	45,100	0	0	0	45,100	18,154	26,946	40	Quambone Water User Pays Water	29,120	0	0	0	29,120	0	29,120	0
Quambone Water Meter Reading	2,300	0	0	0	2,300	0	2,300	0	Sundry Sales - Q'Bone Water	450	0	0	0	450	362	88	80
Depreciation - Quambone Water	21,790	2,050	0	2,050	23,840	11,920	11,920	50									
Total Quambone Water Operations	103,390	2,044	0	2,044	105,434	35,155	70,279	33	Total Coonamble Water Operations	80,855	3,880	0	3,880	84,735	53,883	30,853	64
Gulargambone Water									Gulargambone Water								
Insurance Gular Water Supply	2,000	(27)	0	(27)	1,973	1,973	0	100	Annual Charges Gular Water Access	180,800	800	0	800	181,600	181,600	0	100
Electricity - Gular Water Supply	17,185	0	0	0	17,185	6,757	10,428	39	Less: Pension Rebate	(2,740)	115	0	115	(2,625)	(2,625)	0	100
Gular Wtr Cont to Training Costs	3,025	0	0	0	3,025	1,513	1,513	50	Gular Water Extra Charges	7,150	0	0	0	7,150	4,913	2,237	69
Other Expenses Gular Water	28,290	0	0	0	28,290	7,051	21,239	25	Gular Water User Pays Water	76,720	0	0	0	76,720	0	76,720	0
Repairs & Mntce Gular Water	46,600	0	0	0	46,600	33,043	13,557	71	Sundry Sales - Gular Water	500	0	0	0	500	0	500	0
Gular Water Meter Reading	1,200	0	0	0	1,200	312	888	26	Grant Op (State) Gular Water Pens Subs	1,480	(37)	42	5	1,485	1,485	0	100
Depreciation - Gulargambone Water	56,964	5,211	0	5,211	62,175	31,088	31,088	50	Interest on Invests Gular Water	31,680	0	0	0	31,680	12,195	19,485	38
Total Gulargambone Water Operations	155,264	5,184	0	5,184	160,448	81,736	78,712	51	Total Coonamble Water Operations	295,590	878	42	920	296,510	197,568	98,942	67
WATER SUPPLY TOTAL	2,047,255	189,797	0	189,797	2,237,052	1,029,632	1,207,421	46	WATER SUPPLY TOTAL	2,323,856	49,274	(25,039)	24,235	2,348,091	1,069,823	1,278,268	46

EXPENDITURE	ORIGINAL BUDGET				Total Budget		REVISIED Budget	ACTUAL YTD	Remaining Budget	%	INCOME	ORIGINAL BUDGET				Total Budget		REVISIED Budget	ACTUAL YTD	Remaining Budget	%
	2024/25	Sept Review	Dec Review	Changes	Budget	REVISIED Budget						2024/25	Sept Review	Dec Review	Changes	Budget	REVISIED Budget				
SEWERAGE SERVICES OPERATIONS																					
Coonamble Sewerage Operations											Coonamble Sewerage Operations										
Insurance - Coonamble Sewer	1,215	(21)	0	(21)	1,194	1,194	0	100			Annual Charges Coonamble Sewer Access	875,770	4,450	0	4,450	880,220	879,598	622	100		
Electricity - Coonamble Sewer	48,180	0	0	0	48,180	14,877	33,303	31			Less: Pension Rebate	(15,920)	0	0	0	(15,920)	(15,555)	(365)	98		
Telephone & Comms - Coonamble Sewer	2,140	0	0	0	2,140	928	1,212	43			Coonamble Sewer Extra Charges	15,010	0	0	0	15,010	10,799	4,211	72		
Coonamble Sewer Cont to Training	20,185	0	0	0	20,185	10,093	10,093	50			Coonamble Sewer - Connection Fees	4,000	0	0	0	4,000	1,300	2,700	33		
Rates & User Charge Coonamble Sewer	14,175	0	0	0	14,175	3,521	10,654	25			Coonamble Sewer User Pays Charges	180,100	0	0	0	180,100	0	180,100	0		
Other Expenses - Coonamble Sewer	10,100	0	0	0	10,100	5,259	4,841	52			Interest on Invests Coonamble Sewer	73,920	0	(25,000)	(25,000)	48,920	18,833	30,087	38		
Repairs & Mntce - Coonamble Sewer	383,900	33,000	0	33,000	416,900	275,860	141,040	66			Sundry Sales - Coonamble Sewer	12,855	0	0	0	12,855	4,841	8,014	38		
Coonamble Sewer - Contract Services	20,000	0	0	0	20,000	0	20,000	0			Grant Op (State) Cmbly Swr Pens Subs	8,645	0	0	0	8,645	8,678	(33)	100		
Administration - Engineering	61,850	0	0	0	61,850	20,167	41,683	33									0	0			
Depreciation - Coonamble Sewerage Services	294,555	23,890	0	23,890	318,445	159,223	159,223	50													
Total Coonamble Operations	856,300	56,869	0	56,869	913,169	491,120	422,049	54			TOTAL SEWERAGE SERVICES	1,154,380	4,450	(25,000)	(20,550)	1,133,830	908,494	225,336	80		
Gulargambone Sewerage Operations											Gulargambone Sewerage Operations										
Insurance - Gular Sewer	1,650	180	0	180	1,830	1,830	0	100			Annual Charges Gular Sewer Access	168,950	(3,560)	0	(3,560)	165,390	165,390	0	100		
Electricity - Gular Sewer	8,965	0	0	0	8,965	5,145	3,820	57			Less: Pension Rebate	(2,555)	0	0	0	(2,555)	(2,324)	(231)	91		
Gular Sewer Cont to Training	7,180	0	0	0	7,180	3,590	3,590	50			Gular Sewer Extra Charges	6,870	0	0	0	6,870	4,666	2,204	68		
Other Expenses - Gular Sewer	3,875	0	0	0	3,875	1,876	1,999	48			Gular Sewer - Connection Fees	250	0	0	0	250	0	250	0		
Repairs & Mntce - Gular Sewer	77,500	0	0	0	77,500	42,954	34,546	55			Gular Sewer User Pays Charges	31,970	0	0	0	31,970	0	31,970	0		
											Interest on Invests Gular Sewer	31,680	0	0	0	31,680	12,195	19,485	38		
Depreciation - Gulargambone Sewerage Services	49,345	32,078	0	32,078	81,423	40,712	40,712	50			Grant Op (State) Gular Sewer Pens Subs	1,385	0	0	0	1,385	1,413	(28)	102		
											Sundry Sales - Gulargambone Sewer	1,000	0	0	0	1,000	316	684	32		
TOTAL SEWERAGE SERVICES	148,515	32,258	0	32,258	180,773	96,107	84,667	53			TOTAL SEWERAGE SERVICES	239,550	(3,560)	0	(3,560)	235,990	181,656	54,334	77		
SEWERAGE SERVICES OPERATIONS TOTAL	1,004,815	89,127	0	89,127	1,093,942	587,227	506,715	54			SEWERAGE SERVICES OPERATIONS TOTAL	1,393,930	890	(25,000)	(24,110)	1,369,820	1,090,150	279,670	80		

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%
	BUDGET									BUDGET							
	2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND
RECREATION & CULTURE																	
PUBLIC LIBRARIES									PUBLIC LIBRARIES								
Library Staff Salaries & Allowances	152,745	0	0	0	152,745	70,254	82,491	46	Sundry Sales - Library	750	0	0	0	750	409	341	55
Library Staff Travel Expenses	1,000	0	0	0	1,000	159	841	16	Grant Op (State) - Per Capita Grant	73,875	0	5,129	5,129	79,004	79,004	0	100
Insurance - Library	19,580	(852)	0	(852)	18,728	18,728	0	100									
Electricity - Library	10,465	0	0	0	10,465	3,586	6,879	34									
Library Telephone & Comms Charges	4,460	0	0	0	4,460	1,169	3,291	26									
Contributions - North West Library	71,440	0	0	0	71,440	0	71,440	0									
Rates & User Charges - Libraries	4,802	0	0	0	4,802	3,114	1,688	65									
Printing and Stationary - Libraries	5,925	0	0	0	5,925	1,703	4,222	29									
Library Postage	1,000	0	0	0	1,000	187	813	19									
General Expenses - No GST	1,000	0	0	0	1,000	9	991	1									
General Expenses - Library	6,000	0	0	0	6,000	900	5,100	15									
Repairs and Mntce - Libraries	16,200	0	0	0	16,200	12,424	3,776	77									
Subscriptions and M'ships & Licences	2,320	0	0	0	2,320	1,050	1,270	45									
Library - Contract Services	25,745	0	0	0	25,745	12,378	13,367	48									
LSP Grant Expenditure - Library	11,400	1,250	0	1,250	12,650	3,349	9,301	26									
Dolly Parton Imagination Library	9,000	0	0	0	9,000	5,307	3,693	59									
Public Libraries Total =	343,082	398	0	398	343,480	134,317	209,163	39	Public Libraries Total =	74,625	0	5,129	5,129	79,754	79,413	341	100
Museums Operations									Museums Operations								
Insurance - Museum	7,080	(310)	0	(310)	6,770	6,770	0	100	Sundry Sales & Services	200	0	0	0	200	0	200	0
Electricity - Museum	785	0	0	0	785	414	371	53									
Telephone & Comms - Museum	500	0	0	0	500	58	442	12									
Rates & User Charges - Museum	1,700	0	1,065	1,065	2,765	2,765	0	100									
Operations & Maintenance - Museum	13,530	0	(5,608)	(5,608)	7,922	375	7,547	5									
Temporary Museum re-location establishment	0	0	15,608	15,608	15,608	15,608	0	100									
General Expenses	200	0	0	0	200	0	200	0									
Museum Total =	23,795	(310)	11,065	10,755	34,550	25,990	8,560	75	Museum Total =	200	0	0	0	200	0	200	0
Public Hall Operations									PUBLIC HALLS								
Insurance - Public Halls	5,917	(254)	0	(254)	5,663	5,663	0	100									
Electricity - Public Halls	821	0	0	0	821	0	821	0									
Repairs & Maintenance - Public Halls	27,500	0	(10,000)	(10,000)	17,500	4,800	12,700	27									
Public Halls Total =	34,238	(254)	(10,000)	(10,254)	23,984	10,463	13,521	44	Public Halls Total =	0	0	0	0	0	0	0	0
Other Cultural Services									Other Cultural Services								
Contributions - Arts Council	12,535	(355)	0	(355)	12,180	12,180	0	100									
General Exps - Other Cultural Services	2,200	0	0	0	2,200	0	2,200	0									
Other Cultural Services Total =	14,735	(355)	0	(355)	14,380	12,180	2,200	85	Other Cultural Services Total =	0	0	0	0	0	0	0	0

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	
	BUDGET									BUDGET								BUDGET
	2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND	
RECREATION & CULTURE																		
Sporting Grounds Operations									Sporting Grounds Operations									
Electricity - Sporting Grounds	10,000	0	0	0	10,000	2,950	7,050	30	User Charges - Sportsgrounds	20,700	0	0	0	20,700	4,086	16,614	20	
Rates & User Charges Sports Grounds	61,150	0	0	0	61,150	17,011	44,139	28										
Repairs & Mntce - Sporting Grounds	150,510	0	(26,309)	(26,309)	124,201	72,421	51,780	58										
Sportsground - Specific Works	20,000	0	31,309	31,309	51,309	51,309	0	100										
Sporting Grounds Total =	241,660	0	5,000	5,000	246,660	143,691	102,969	58	Sporting Grounds Total =	20,700	0	0	0	20,700	4,086	16,614	20	
Swimming Pools									Swimming Pools									
Salaries and Wages- Swimming Pool	80,860	0	0	0	80,860	30,603	50,257	38	Swimming Pools User Fees	11,000	0	0	0	11,000	4,680	6,320	43	
Insurance - Swimming Pools	46,845	0	0	0	46,845	44,736	2,109	95										
Electricity - Swimming Pools	41,020	0	0	0	41,020	18,201	22,819	44										
Telephones - Swimming Pools	1,545	0	0	0	1,545	369	1,176	24										
Rates & User Charges - Swim Pools	43,625	0	0	0	43,625	39,734	3,891	91										
Pool- EPA Licence Fees	3,000	0	0	0	3,000	2,267	733	76										
Repairs & Mntce - Swimming Pools	205,765	0	0	0	205,765	148,135	57,630	72										
Contractor fees - Swimming Pool Operations	160,000	0	0	0	160,000	95,780	64,220	60										
Swimming Pools Total =	582,660	0	0	0	582,660	379,825	202,835	65	Swimming Pools Total =	11,000	0	0	0	11,000	4,680	6,320	43	
Parks & Gardens Operations									Parks & Gardens Operations									
Insurance & Electricity- Parks and Gardens	16,325	0	0	0	16,325	13,171	3,154	81	Parks & Reserves Fees	1,250	0	0	0	1,250	1,205	45	96	
Rates & User Chgs - Parks & Gardens	70,470	2,000	0	2,000	72,470	56,055	16,415	77	Other Income	0	0	19,991	19,991	19,991	19,991	0	100	
Repairs & Mntce - Parks & Gardens	349,370	0	0	0	349,370	155,848	193,522	45										
Parks & Gardens Total =	436,165	2,000	0	2,000	438,165	225,074	213,091	51	Parks & Gardens Total =	1,250	0	19,991	19,991	21,241	21,196	45	100	
Showground Operations									Showground									
Insurance - Showground	22,500	(32)	0	(32)	22,468	22,468	0	100	Rents & Fees	26,250	0	0	0	26,250	12,211	14,039	47	
Electricity - Showground	13,525	0	0	0	13,525	4,847	8,678	36	Donations - RV Camping	1,500	1,000	500	1,500	3,000	2,086	914	70	
Rates & User Chgs - Showgrounds	34,020	0	0	0	34,020	13,300	20,720	39										
General Exps - Event Preparation	27,560	0	(10,500)	(10,500)	17,060	1,029	16,031	6										
Repairs & Maintenance - Showground	115,920	0	0	0	115,920	57,080	58,840	49										
Rodeo Arena/Showground Total =	213,525	(32)	(10,500)	(10,532)	202,993	98,724	104,269	49	Rodeo Arena/Showground Total =	27,750	1,000	500	1,500	29,250	14,297	14,953	49	
Other Sport & Recreation									Other Sport & Recreation									
Insurance - Other Sport and Rec	25,035	(1,164)	0	(1,164)	23,871	23,871	0	100										
Electricity - Other Sport and Rec	700	0	0	0	700	452	248	65										
Contributions - Coonamble Racecourse	5,000	0	0	0	5,000	0	5,000	0										
Rates & User Charges Other Sport & Rec	5,920	0	0	0	5,920	4,923	997	83										
Repairs & Mntce Other Sport and Rec	2,570	1,164	0	1,164	3,734	2,443	1,291	65										
Town Approaches Maintenance	60,840	0	(5,000)	(5,000)	55,840	25,741	30,099	46										
Other Sport & Recreation Total	100,065	0	(5,000)	(5,000)	95,065	57,430	37,635	359	Other Sport & Recreation Total	0	0	0	0	0	0	0	0	
Recreation & Culture Depreciation																		
Depn - Plant & Equipment	164,554	0	0	0	164,554	82,277	82,277	50										
Depn - Furniture & Fittings	7,260	0	0	0	7,260	3,630	3,630	50										
Depn - Buildings Specialised	242,108	0	0	0	242,108	121,054	121,054	50										
Depn - Buildings Non Specialised	450	0	0	0	450	225	225	50										
Depn - Other Structures	246,700	0	0	0	246,700	123,350	123,350	50										
Recreation & Culture Depreciation Total	661,072	0	0	0	661,072	330,536	330,536	50										
RECREATION & CULTURE TOTAL	2,650,997	1,447	(9,435)	(7,988)	2,643,009	1,418,229	1,224,780	54	RECREATION & CULTURE TOTAL	135,525	1,000	25,620	26,620	162,145	123,672	38,473	76	

EXPENDITURE	ORIGINAL	Sept Review	Dec Review	Total Budget Changes	REVISED Budget	ACTUAL YTD	Remaining Budget	% EXPEND	INCOME	ORIGINAL	Sept Review	Dec Review	Total Budget Changes	REVISED Budget	ACTUAL YTD	Remaining Budget	% EXPEND
	BUDGET 2024/25									BUDGET 2024/25							
MINING, MANUFACTURING & CONSTRUCTION																	
Building Control									Building Control								
General Exps - Building Control	5,000	0	0	0	5,000	320	4,680	6	Fees General- Building Control	35,000	0	0	0	35,000	15,646	19,354	45
									Commissions - Building Control	500	0	0	0	500	0	500	0
									Building Control - Regulatory Fines	5,000	0	0	0	5,000	0	5,000	0
Building Control Total =	5,000	0	0	0	5,000	320	4,680	6	Building Control Total =	40,500	0	0	0	40,500	15,646	24,854	39
Other Mining, Manufacturing & Construction									Other Mining, Manufacturing & Construction								
Quarries, Pits & Crusher Operations									Quarries, Pits & Crusher Operations								
Salaries and Wages - Quarry & Pits and Crusher	726,369	0	(50,000)	(50,000)	676,369	160,700	515,669	24	Fees - Quarry Public Sales	1,861,582	0	100,000	100,000	1,961,582	1,287,263	674,319	66
Quarry - Housing Subsidy	10,400	0	0	0	10,400	2,400	8,000	23	Fees - Quarry Internal Sales	1,660,665	0	50,000	50,000	1,710,665	988,899	721,766	58
Royalties - Quarry & Crusher Ops	119,710	0	0	0	119,710	87,197	32,513	73									
Insurance - Quarry Operations	3,912	0	0	0	3,912	3,754	158	96									
Electricity - Quarry Operations	40,720	0	0	0	40,720	6,861	33,859	17									
Telephone & Comms Quarry Operations	1,555	0	0	0	1,555	525	1,030	34									
Rates & User Charges - Quarry Ops	1,845	(90)	0	(90)	1,755	1,755	0	100	Diesel Fuel Tax Credit	0	0	296,190	296,190	296,190	296,190	0	100
General Exps - Quarry & Crusher Ops	469,680	(100,000)	200,000	100,000	569,680	392,428	177,252	69									
Printing & Stationery - Quarry Ops	500	0	0	0	500	82	418	16									
Quarry & Crusher Operating Costs	388,450	100,000	0	100,000	488,450	197,561	290,889	40									
Repairs & Mntce Quarry & Crush Ops	149,785	0	0	0	149,785	40,004	109,781	27									
Contractors - Quarry Operations	1,149,930	0	0	0	1,149,930	988,484	161,446	86									
Plant and equipment - Quarry Ops	125,000	0	0	0	125,000	44,465	80,535	36									
Quarry Loam Pit Operations	20,000	0	0	0	20,000	0	20,000	0									
Business Case -Quarry Optimization	125,000	0	0	0	125,000	0	125,000	0									
Quarries, Pits & Crusher Operations	3,332,856	(90)	150,000	149,910	3,482,766	1,926,216	1,556,550	55	Quarries, Pits & Crusher Operations	3,522,247	0	446,190	446,190	3,968,437	2,572,352	1,396,085	65
Mining & Const Depreciation									Mining & Const Depreciation								
Depn - Plant & Equipment & Office Equipment	166,693	0	0	0	166,693	83,347	83,347	50									
Depn - Buildings Specialised	5,790	0	0	0	5,790	2,895	2,895	50									
Depn - Other Structures	5,880	0	0	0	5,880	2,940	2,940	50									
Mining & Const Depreciation Total	178,363	0	0	0	178,363	89,182	89,182	50	MINING, MANUFACTURING & CONSTRUCTION TOTAL	3,562,747	0	446,190	446,190	4,008,937	2,587,998	1,420,939	65
MINING, MANUFACTURING & CONSTRUCTION TOTAL	3,516,219	(90)	150,000	149,910	3,666,129	2,015,718	1,650,411	55									

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%
	BUDGET									BUDGET							
	2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	u	Changes	Budget	Budget	EXPEND
TRANSPORT & COMMUNICATION																	
Urban Roads - Local									Operating Grants								
Sealed Urban Roads Maintenance	99,292	0	0	0	99,292	41,570	57,722	42	Financial Assist Grant- Roads	2,170,130	(1,837,414)	0	(1,837,414)	332,716	166,358	166,358	50
Unsealed Urban Roads Maintenance	69,561	0	0	0	69,561	17,348	52,213	25	Roads to Recovery Grant Funds	929,818	706,667	0	706,667	1,636,485	0	1,636,485	0
Regional Emergency Road Repair Fund program	100,000	0	0	0	100,000	0	100,000	0									
Urban Roads M'tce Total =	268,853	0	0	0	268,853	58,918	209,935	22	Operating Grant Funds Total =	3,099,948	(1,130,747)	0	(1,130,747)	1,969,201	166,358	1,802,843	8
Sealed Rural Roads - Local									Sealed Rural Roads - Local								
Sealed Rural Roads Maintenance	309,000	0	0	0	309,000	181,750	127,250	59									
Regional Emergency Road Repair Fund program	450,000	140,000	0	140,000	590,000	94,522	495,478	16									
Sealed Rural Roads - Local	759,000	140,000	0	140,000	899,000	276,272	622,728	31	Sealed Rural Roads - Local	0	0	0	0	0	0	0	0
Unsealed Rural Roads - Local									RURAL ROADS - UNSEALED								
Unsealed Rural Roads Maintenance	739,952	0	0	0	739,952	546,791	193,161	74	Flood Damage Funding	4,839,955	0	0	0	4,839,955	0	4,839,955	0
Roads to Recovery Maintenance	0	500,000	124,522	624,522	624,522	624,522	0	100									
Regional Emergency Road Repair Fund program	300,000	0	0	0	300,000	0	300,000	0									
Unsealed Rural Roads - Local	1,039,952	500,000	124,522	624,522	1,664,474	1,171,313	493,161	70	Unsealed Rural Roads - Local	4,839,955	0	0	0	4,839,955	0	4,839,955	0
Local Bridges - M & R									Bridges - Rural Roads Total =	0	0	0	0	0	0	0	0
Local Bridges Maintenance	25,750	0	0	0	25,750	0	25,750	0									
Bridges - Rural Roads Total =	25,750	0	0	0	25,750	0	25,750	0	Bridges - Rural Roads Total =	0	0	0	0	0	0	0	0
Regional Roads									Regional Roads								
Sealed Rural Roads - Regional									Regional Roads Block Funding	1,403,900	41,100	0	41,100	1,445,000	1,445,000	0	100
Reg Roads Sealed Maintenance	458,107	0	112,540	112,540	570,647	570,647	0	100									
Regional Emergency Road Repair Fund program	300,000	140,000	0	140,000	440,000	0	440,000	0									
Unsealed Rural Roads - Regional									Main Roads Total =	1,403,900	41,100	0	41,100	1,445,000	1,445,000	0	100
Reg Roads Unsealed Maintenance	63,000	41,100	33,145	74,245	137,245	137,245	0	100									
Bridges SRR - Regional																	
Reg Roads Bridges Maintenance	40,000	0	0	0	40,000	11,170	28,830	28									
Main Roads Total =	861,107	181,100	145,685	326,785	1,187,892	719,062	468,830	61	Main Roads Total =	1,403,900	41,100	0	41,100	1,445,000	1,445,000	0	100

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%
	BUDGET									BUDGET							
	2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND
TRANSPORT & COMMUNICATION																	
Aerodromes									Aerodromes								
Aerodrome Insurances	5,212	(236)	0	(236)	4,976	4,976	0	100	Lease Rental Income	2,515	0	0	0	2,515	0	2,515	0
Aerodrome Electricity	5,456	0	0	0	5,456	0	5,456	0									
Aerodrome Telephones & Comms	665	0	0	0	665	47	618	7									
Aerodrome Rates & Charges	15,785	0	0	0	15,785	13,793	1,992	87									
Aerodrome Maintenance	85,000	0	0	0	85,000	46,016	38,984	54									
Aerodrome Contractors Costs	5,000	0	0	0	5,000	0	5,000	0									
Aerodromes Total =	117,119	(236)	0	(236)	116,883	64,833	52,050	55	Aerodromes Total =	2,515	0	0	0	2,515	0	2,515	0
Ancillary Services									Ancillary Services								
Kerb & Guttering																	
Kerb & Gutter Maintenance	23,815	0	0	0	23,815	495	23,320	2									
Footpaths																	
Footpaths Maintenance	139,285	0	0	0	139,285	48,568	90,717	35									
Street Tree Maintenance	50,000	0	0	0	50,000	16,193	33,807	32									
Street Tree - Replacement Program	35,000	0	0	0	35,000	5,337	29,663	15									
Ancillary Services Total =	248,100	0	0	0	248,100	70,593	177,507	28	Ancillary Services Total =	0	0	0	0	0	0	0	0
Bus Shelters & Parking									BUS SHELTERS & SERVICE								
Other Transport Maintenance	5,300	0	0	0	5,300	5,160	140	97									
Bus Shelters & Service Total =	5,300	0	0	0	5,300	5,160	140	97	Bus Shelters & Service Total =	0	0	0	0	0	0	0	0
State Roads - M & R									State Roads - M & R								
State Roads Maintenance & Ordered Works	3,677,100	0	608,000	608,000	4,285,100	3,519,952	765,148	82	State Highways Routine Maint	587,285	0	0	0	587,285	115,472	471,813	20
									State Highway 11 - Work Orders	3,777,774	0	608,000	608,000	4,385,774	1,357,607	3,028,167	31
State Roads Total =	3,677,100	0	608,000	608,000	4,285,100	3,519,952	765,148	82	State Roads Total =	4,365,059	0	608,000	608,000	4,973,059	1,473,079	3,499,980	30
Transport & Communication Depreciation																	
Depn - Sealed Urban Roads	237,359	0	0	0	237,359	118,680	118,680	50									
Depn - Unsealed Urban Roads	14,499	0	0	0	14,499	7,250	7,250	50									
Depn - Sealed Rural Roads	794,145	0	0	0	794,145	397,073	397,073	50									
Depn - Unsealed Rural Roads	1,040,844	0	0	0	1,040,844	520,422	520,422	50									
Depn - Local Bridges	99,187	0	0	0	99,187	49,594	49,594	50									
Depn - Sealed Regional Roads	1,112,591	0	0	0	1,112,591	556,296	556,296	50									
Depn - Unsealed Regional Roads	37,500	0	0	0	37,500	18,750	18,750	50									
Depn - Regional Bridges	55,428	0	0	0	55,428	27,714	27,714	50									
Depn - Aerodrome Buildings	27,518	0	0	0	27,518	13,759	13,759	50									
Depn - Aerodrome Other Structures	78,461	0	0	0	78,461	39,231	39,231	50									
Depn - Kerb & Gutter	84,636	0	0	0	84,636	42,318	42,318	50									
Depn - Footpaths	29,164	0	0	0	29,164	14,582	14,582	50									
Depn - Transport Other Structures	20,269	0	0	0	20,269	10,135	10,135	50									
Transport & Communication Depreciation Total	3,631,601	0	0	0	3,631,601	1,815,801	1,815,801	50									
TRANSPORT & COMMUNICATION TOTAL	10,633,882	820,864	878,207	1,699,071	12,332,953	7,701,903	4,631,050	62	TRANSPORT & COMMUNICATION TOTAL	13,711,377	(1,089,647)	608,000	(481,647)	13,229,730	3,084,437	10,145,293	23

EXPENDITURE	ORIGINAL	Total			REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Total			REVISED	ACTUAL	Remaining	%
	BUDGET	Sept	Dec	Budget						Budget	YTD	Budget	EXPEND				
	2024/25	Review	Review	Changes	Budget					2024/25	Review	Review	Changes	Budget			
ECONOMIC AFFAIRS																	
Farming																	
Rates & User Charges - Farming	4,610	0	0	0	4,610	3,218	1,392	70	Lease Rental - Farming lease	37,660	0	0	0	37,660	27,102	10,558	72
General Expenses - Farming	4,000	0	0	0	4,000	0	4,000	0							0	0	0
Farming Total =	8,610	0	0	0	8,610	3,218	5,392	37	Farming Total =	37,660	0	0	0	37,660	27,102	10,558	72
Commons - Trust																	
Commons Rates & Charges	2,650	112	0	112	2,762	2,695	67	98	Sundry Income - Common Fees	3,530	0	0	0	3,530	0	3,530	0
Repairs & Mntce - Common Operations	42,800	(112)	0	(112)	42,688	10,986	31,702	26	Lease Rental - Common Farming	41,920	0	0	0	41,920	30,170	11,750	72
Commons - Trust	45,450	0	0	0	45,450	13,681	31,769	30	Commons - Trust	45,450	0	0	0	45,450	30,170	15,280	66
Caravan Parks																	
Caravan Park Insurance	10,370	(481)	0	(481)	9,889	9,889	0	100	Caravan Park Site Fees	27,460	0	15,000	15,000	42,460	30,001	12,459	71
Caravan Park Mntce & Repairs	50,000	0	0	0	50,000	1,436	48,564	3									
Caravan Parks Total =	60,370	(481)	0	(481)	59,889	11,325	48,564	19	Caravan Parks Total =	27,460	0	15,000	15,000	42,460	30,001	12,459	71
Tourism & Area Promotion																	
Salaries & Wages - Visitor Centre	215,245	(6,000)	(14,963)	(20,963)	194,282	90,111	104,171	46	Sundry Sales	500	0	200	200	700	400	300	57
Tourism Staff Travel Expenses	4,000	0	0	0	4,000	918	3,082	23	Tourism Sale of Merchandise	12,500	0	800	800	13,300	8,059	5,241	61
Tourism Electricity Charges	5,645	0	0	0	5,645	2,048	3,597	36									
Tourism Telephones	1,000	0	0	0	1,000	52	948	5									
Tourism Insurance	7,445	(320)	0	(320)	7,125	7,125	0	100	Grant Funding - Vision Splendid	0	0	150,000	150,000	150,000	30,000	120,000	20
Tourism Rates & Charges	2,775	0	0	0	2,775	2,118	657	76									
Tourism Advertising & Promotion Exps	49,453	0	0	0	49,453	2,185	47,268	4									
Tourism Printing and Stationery	2,780	0	0	0	2,780	906	1,874	33									
Tourism Sundry Expenses	14,160	0	1,000	1,000	15,160	9,526	5,634	63									
Tourism VIC Maintenance	10,000	6,000	0	6,000	16,000	10,022	5,978	63									
Tourism - Wayfinding Signage package	50,000	0	0	0	50,000	1,861	48,139	4									
Tourism - Contract Services	10,000	0	0	0	10,000	0	10,000	0									
Vision Splendid	0	0	164,963	164,963	164,963	164,963	0	100									
Hello Coonamble	0	0	10,300	10,300	10,300	0	10,300	0									
Community Event - A Night on the Town	0	0	10,500	10,500	10,500	0	10,500	0									
Tourism & Area Total =	372,503	(320)	171,800	171,480	543,983	291,835	252,148	54	Tourism & Area Total =	13,000	0	151,000	151,000	164,000	38,459	125,541	23
Economic Development																	
Salaries and Wages - Economic Development	556,323	(50,000)	0	(50,000)	506,323	114,681	391,642	23									
Edo Travel Expenses	5,000	0	0	0	5,000	1,656	3,344	33									
Economic Promotion Expenses	23,500	40,000	0	40,000	63,500	53,491	10,009	84									
Economic Development - General Expenses	27,500	0	0	0	27,500	10,937	16,563	40									
Financial Support for Local Business Groups	7,000	0	0	0	7,000	239	6,761	3									
Sponsorship of local events and initiatives	12,000	0	0	0	12,000	9,912	2,088	83									
Hosting and facilitating events and initiatives	15,000	0	0	0	15,000	0	15,000	0									
Coonamble CBD - Activation / Revitalisation	20,000	0	(10,300)	(10,300)	9,700	0	9,700	0									
Coonamble CBD - SOTS Prelim & maint costs	75,000	(51,566)	0	(51,566)	23,434	18,089	5,345	77									
CBD - Business Incentive / Activation Fund	35,000	0	0	0	35,000	0	35,000	0									
Subscriptions and Memberships	10,575	0	0	0	10,575	4,492	6,083	42									
Economic Development - Contract Services	20,000	50,000	0	50,000	70,000	14,785	55,215	21									
Winter Festival	50,000	0	(50,000)	(50,000)	0	0	0	0	Grant Funding - Winter Festival	50,000	0	(50,000)	(50,000)	0	0	0	0
Economic Development Total =	856,898	(11,566)	(60,300)	(71,866)	785,032	228,282	556,749	29	Economic Development Total =	50,000	0	0	0	0	0	0	0

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%
	BUDGET									BUDGET							
	2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND		2024/25	Review	Review	Budget	Budget	YTD	Budget	EXPEND
Industrial Development									Industrial Development								
Rates & User Chgs - Indust Estate	4,260	0	0	0	4,260	1,756	2,504	41									
Industrial Promotion Expenses	2,100	0	0	0	2,100	0	2,100	0									
Industrial Estate Maintenance Exps	5,410	0	0	0	5,410	0	5,410	0									
Industrial Develop Total =	11,770	0	0	0	11,770	1,756	10,014	15	Industrial Develop Total =	0	0	0	0	0	0	0	0
Saleyards									Saleyards								
Saleyards Insurances	13,815	0	0	0	13,815	13,177	638	95	Saleyards Fees & Charges - Casual	4,500	0	0	0	4,500	0	4,500	0
Saleyards Electricity Charges	8,000	0	0	0	8,000	3,939	4,061	49	Saleyards Fees & Charges - Sale	55,000	0	35,000	35,000	90,000	72,961	17,039	81
Saleyards Telephone Expenses	645	0	0	0	645	152	493	24									
Saleyards Rates & Charges	11,700	0	0	0	11,700	6,960	4,740	59									
Saleyards Operating Expenses	12,360	0	0	0	12,360	7,645	4,715	62									
Saleyards Maintenance Expenses	69,250	0	0	0	69,250	34,429	34,821	50									
Saleyards Total =	115,770	0	0	0	115,770	66,302	49,468	57	Saleyards Total =	59,500	0	35,000	35,000	94,500	72,961	21,539	77
TRUCKWASH									TRUCKWASH								
Truck wash Insurance	90	0	0	0	90	86	4	95	Truck Wash User Fees	34,000	0	0	0	34,000	28,232	5,768	83
Truck Wash Electricity Charges	3,060	0	0	0	3,060	1,692	1,368	55									
Truck wash Rates and User Charges	10,000	0	0	0	10,000	7,328	2,672	73									
Truck Wash Mntce & Repairs	18,580	0	0	0	18,580	4,870	13,710	26									
Truck wash Total =	31,730	0	0	0	31,730	13,976	17,754	44	Truck wash Total =	34,000	0	0	0	34,000	28,232	5,768	83
Service NSW Agency									Service NSW Agency								
Salaries & Wages Service NSW Agency	92,417	0	0	0	92,417	44,512	47,905	48	Agency Commissions	110,460	0	0	0	110,460	57,309	53,151	52
RMS General Expenses GST	5,500	0	0	0	5,500	0	5,500	0									
Service NSW Agency Total =	97,917	0	0	0	97,917	44,512	53,405	45	Service NSW Agency Total =	110,460	0	0	0	110,460	57,309	53,151	52
Council Property NEI -									Council Property NEI -								
Other Building Mntce & Repairs	5,600	0	0	0	5,600	3,148	2,452	56	Council Leases	1,900	0	4,500	4,500	6,400	6,339	61	99
Council Property NEI Insurances	9,510	11,566	9,460	21,026	30,536	30,536	0	100									
Council Property NEI Rates & Charges	42,470	1,236	0	1,236	43,706	33,949	9,757	78									
Council Property NEI Maintenance	3,620	0	0	0	3,620	2,364	1,256	65									
Council Properties N.E.I. Total =	61,200	12,802	9,460	22,262	83,462	69,997	13,465	84	Council Properties N.E.I. Total =	1,900	0	4,500	4,500	6,400	6,339	61	99
Economic Affairs Depreciation																	
Depn - Caravan Park Buildings Spec	22,720	0	0	0	22,720	11,360	11,360	50									
Depn - Caravan Park Other Structures	1,000	0	0	0	1,000	500	500	50									
Depn - Tourism Buildings Non Spec	30,100	0	0	0	30,100	15,050	15,050	50									
Depn - Saleyards Buildings Spec	11,038	0	0	0	11,038	5,519	5,519	50									
Depn - Saleyards Other Structures	2,744	0	0	0	2,744	1,372	1,372	50									
Depn - Truck Wash Other Structures	10,400	0	0	0	10,400	5,200	5,200	50									
Depn - Council Property NEI Other Structures	24,105	0	0	0	24,105	12,053	12,053	50									
Economic Affairs Depreciation	102,107	0	0	0	102,107	51,054	51,054	50									
TOTAL ECONOMIC AFFAIRS	1,764,325	435	120,960	121,395	1,885,720	795,937	1,089,782	42	TOTAL ECONOMIC AFFAIRS	379,430	0	205,500	205,500	534,930	290,573	244,357	54

EXPENDITURE	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	INCOME	ORIGINAL	Sept	Dec	Total	REVISED	ACTUAL	Remaining	%	
	BUDGET	Review	Review	Budget	Budget	YTD	Budget	EXPEND		BUDGET	Review	Review	Budget	Budget	YTD	Budget	EXPEND	
	2024/25			Changes						2024/25			Changes					
GENERAL FUND NON-OPERATING																		
Corporate Support Services									Corporate Support Services									
Computer Purchase / Operating System	47,300	0	0	0	47,300	15,334	31,966	32	Tfr Reserve - General Reserve	0	1,560,000	670,786	2,230,786	2,230,786	2,230,786	0	100	
Installation of Electronic Document Management System	60,000	0	25,000	25,000	85,000	42,979	42,021	51	Tfr Reserve - Corporate Reserve	107,330	(107,330)	0	(107,330)	0	25,000	(25,000)	0	
Tfr Reserve - Governance Reserve	0	275,000	(275,000)	0	0	0	0	0	Tfr Reserve - Governance Reserve	0	0	104,258	104,258	104,258	104,258	0	100	
Environment									Environment									
Coonamble Waste Depot - Depot Improvements	200,000	0	0	0	200,000	48,035	151,965	24	Tfr Reserve - Domestic Waste Management Reserve	411,520	(140,248)	0	(140,248)	271,272	0	271,272	0	
Coonamble Waste Depot - Training Facility and Carpark	350,000	0	0	0	350,000	1,806	348,194	1	Loan Funds	550,000	0	0	0	550,000	0	550,000	0	
Levee Land - Land Matters	10,000	0	0	0	10,000	1,938	8,062	19	Grant - Stage 4A Levee Program	390,000	0	0	0	390,000	0	390,000	0	
Stage 4A - Levee program	455,000	0	0	0	455,000	0	455,000	0	Grant - Stage 5 Levee Program	0	0	135,123	135,123	135,123	135,123	0	100	
Stage 5 - Levee program	0	0	135,123	135,123	135,123	0	135,123	0										
Public Order & Safety									Public Order & Safety									
Security Camera Upgrade	20,000	0	0	0	20,000	0	20,000	0										
Coonamble SES Station Project	0	130,000	5,764	135,764	135,764	135,764	0	100										
Cemetery									Cemetery									
Cemetery - Capital Improvement Program	30,000	0	0	0	30,000	15,891	14,109	53										
LRCI P4 - Columbarium	52,632	(52,632)	0	(52,632)	0	0	0	0										
Housing									Housing									
Housing Development - Planning & Establishment Costs	30,000	0	0	0	30,000	19,563	10,437	65										
Residential Development Yarran St - Crisis Accommodation	75,000	(75,000)	0	(75,000)	0	0	0	0										
Residential Development Yarran St - Establish Subdivision	0	500,000	0	500,000	500,000	0	500,000	0										
Plant Acquisitions									Plant Acquisitions									
Plant Acquisitions Nett	905,980	0	0	0	905,980	204,954	701,026	23	Tfr Reserve - Transport Reserve	1,065,980	0	0	0	1,065,980	1,065,980	0	100	
Plant Acquisitions - Waste Facilities	1,260,000	0	0	0	1,260,000	774,169	485,831	61	Loan Funds	1,100,000	0	0	0	1,100,000	0	1,100,000	0	
Tfr Reserve - Transport Reserve	1,378,470	93,174	0	93,174	1,471,644	0	1,471,644	0										
Loan Repayments									Loan Repayments									
Principal on Loans (Current)	48,663	0	0	0	48,663	24,684	23,979	51										
Council Buildings									Council Buildings									
Specific Works - Operational Buildings	75,000	40,394	0	40,394	115,394	47,336	68,058	41	Tfr Reserve - Building and Premises.	0	40,394	50,000	90,394	90,394	90,394	0	100	
Library LSP Grant Funds - Upgrades	16,000	27,929	0	27,929	43,929	4,899	39,030	11	Tfr Reserve - Unspent Grant Funds	30,000	29,179	0	29,179	59,179	0	59,179	0	
Renovations / Repairs - Crusher Plant and Change Room (Quarry)	30,000	0	0	0	30,000	0	30,000	0	Tfr Reserve - Mines Reserve	30,000	0	0	0	30,000	0	30,000	0	
Renovations / Repairs - Residential Premises	200,000	0	0	0	200,000	59,440	140,560	30	Grant Program - RYIP Provision of Crisis Accommodation	954,050	960,570	0	960,570	1,914,620	97,795	1,816,825	5	
Grant Program - RYIP Provision of Crisis Accommodation	954,050	1,035,570	0	1,035,570	1,989,620	97,795	1,891,825	5										
Sport and Recreation									Sport and Recreation									
SCCF4 -0492 Grant Program - Construction of Women's Changerooms	450,000	58,196	0	58,196	508,196	194,293	313,903	38	SCCF4 - 0492 Ladies Changerooms	450,000	(41,804)	0	(41,804)	408,196	194,293	213,903	48	
LRCI P4 - facilities upgrades/renewal various	0	144,227	0	144,227	144,227	127,847	16,380	89	Tfr Reserve - Unspent Loan funds	0	200,000	0	200,000	200,000	0	200,000	0	
Coonamble Pool - Capital Renewal / Upgrade Program	100,000	0	0	0	100,000	0	100,000	0	Grant Funds - LRCI P4 - facilities upgrades/renewal various	0	144,227	0	144,227	144,227	127,847	16,380	89	
Grant Program (SCCF 5) - Gulargambone Sportsground Amenities Upgrade	550,000	61,109	0	61,109	611,109	28,740	582,369	5	Grant Funds (SCCF 5) - Gulargambone Sportsground Amenities	520,000	(38,891)	0	(38,891)	481,109	28,740	452,369	6	
Grant Program (SCCF 5) - Coonamble Tennis Court Upgrades	236,728	0	0	0	236,728	206,388	30,340	87	Grant Funds (SCCF 5) - Coonamble Tennis Court Upgrades	236,728	0	0	0	236,728	206,388	30,340	87	
Quambone Tennis Courts - Upgrade to facilities (Joint Project)	45,000	0	0	0	45,000	35,881	9,119	80	Tfr Reserve - General Reserve	20,000	(20,000)	0	(20,000)	0	0	0	0	
Installation of Pioneer Park - Fence & Signage	48,000	0	0	0	48,000	46,659	1,341	97	Community contributions towards court upgrade	20,000	0	0	0	20,000	0	20,000	0	
Update Library Computers	15,000	0	0	0	15,000	0	15,000	0	Tfr Reserve - Youth and Community Development	15,000	0	0	0	15,000	0	15,000	0	

EXPENDITURE	ORIGINAL BUDGET					REVISD Budget	ACTUAL YTD	Remaining Budget	% EXPEND	INCOME	ORIGINAL BUDGET					REVISD Budget	ACTUAL YTD	Remaining Budget	% EXPEND
	2024/25	Sept Review	Dec Review	Total Budget Changes	2024/25						2024/25	Sept Review	Dec Review	Total Budget Changes	2024/25				
Transport & Communication										Transport & Communication									
Urban Roads - Capital Renewal Program	125,000	0	0	0	125,000	0	125,000	0	Tfr Reserve - Transport Reserve	125,000	0	163,409	163,409	288,409	163,409	125,000	57		
Unsealed Rural Roads - Reconstruction program	350,000	0	0	0	350,000	0	350,000	0	Tfr Reserve - Transport Reserve	350,000	0	459,156	459,156	809,156	459,156	350,000	57		
Sealed Rural Local - Heavy Patch and Resealing program	100,000	0	0	0	100,000	0	100,000	0	Tfr Reserve - Transport Reserve	100,000	0	393,595	393,595	493,595	393,595	100,000	80		
Regional Roads - Capital Renewal Program	842,793	(637,600)	(145,685)	(783,285)	59,508	0	59,508	0	Grant Funds - Fixing Country Roads Program	0	340,149	0	340,149	340,149	200,696	139,453	59		
Regional Roads - Capital Renewal Program - Warren Road upgrade	0	814,329	0	814,329	814,329	501,739	312,590	62	Grant Funds - R.O.S.I. - MR7515 Warren Road	0	336,492	0	336,492	336,492	200,696	135,796	60		
Roads to Recovery - Local Roads Renewal	929,818	814,615	(124,522)	690,093	1,619,911	735,349	884,562	45	Tfr Reserve - Unspent Roads to Recovery Grant Funds	0	607,948	0	607,948	607,948	607,948	0	100		
L.R.C.I. - P3 Grant Program - Box Ridge Rd and Gulargambone Rd	0	500,203	0	500,203	500,203	500,203	0	100	Grant Funds - Local Roads & Community Infrastructure -(LRCI-P3)	0	500,203	0	500,203	500,203	500,203	0	100		
L.R.C.I. - P4 Grant Program - Transport Infrastructure Renewal	0	536,339	0	536,339	536,339	7,541	528,798	1	Grant Funds - Local Roads & Community Infrastructure -(LRCI-P4)	0	536,339	0	536,339	536,339	0	536,339	0		
NSW Local Govt Recovery Grant Program - Pilliga Road - Installation of Culverts	0	946,944	0	946,944	946,944	708	946,236	0	NSW Local Government - Recovery Grant	0	946,944	0	946,944	946,944	708	946,236	0		
Regional Emergency Road Repair Fund - Capital Works	0	164,698	176,101	340,799	340,799	340,799	0	100	Grant Funds - Regional Emergency Road Repair Fund	0	164,698	176,101	340,799	340,799	340,799	0	100		
FLR R3 - SR86 Carinda Rd HP & Culverts	0	167,000	(167,000)	0	0	0	0	0	Grant Funds - Fixing Local Roads Rd 3	0	167,000	0	167,000	167,000	0	167,000	0		
FLR R4 - McCullough St Rehab	0	0	8,521	8,521	8,521	8,521	0	100	Grant Funds - Fixing Local Roads Rd 4	0	176,870	0	176,870	176,870	0	176,870	0		
FLR R3/R4 - Carinda Rd	0	0	335,349	335,349	335,349	0	335,349	0	Grant Funds - Tooraweenah Road	13,000,000	0	0	0	13,000,000	89,963	12,910,037	1		
Stormwater Drainage - Improvement Program for Coonamble	100,000	0	0	0	100,000	0	100,000	0	Tfr Reserve - Unspent Grant Funds (RERRF)	1,150,000	280,000	0	280,000	1,430,000	95,422	1,334,578	7		
Tooraweenah Road - Extension of Sealed length	13,000,000	0	0	0	13,000,000	117,059	12,882,941	1	Grant Funds - Receipt of Prior Year Transport Grant Debtors	0	4,164,795	0	4,164,795	4,164,795	1,865,850	2,298,945	45		
Flood Damage - Restoration of Roads Network	4,839,955	0	0	0	4,839,955	1,724	4,838,231	0											
Radio communications network upgrade	200,000	0	0	0	200,000	0	200,000	0											
Mining, Manufacturing & Const.									Mining, Manufacturing & Const.										
Tfr Reserve - Mines Reserve	131,000	0	0	0	131,000	0	131,000	0	Tfr Reserve - Mines Reserve	530,000	14,564	0	14,564	544,564	44,564	500,000	8		
Tfr Reserve - Quarry Remediation	28,345	0	0	0	28,345	0	28,345	0											
Installation of Fuel Pod	30,000	14,564	0	14,564	44,564	44,564	0	100											
Fixed Plant - Refurbishment / Upgrades	500,000	0	0	0	500,000	0	500,000	0											
Ancillary Road Facilities																			
Kerb & Gutter Construction WIP	50,000	0	0	0	50,000	38,720	11,280	77	Grant Funds - Active Transport Program	0	92,183	0	92,183	92,183	0	92,183	0		
Footpaths Construction WIP	50,000	0	0	0	50,000	0	50,000	0											
Active Transport - Construction of Limerick St	0	92,183	0	92,183	92,183	51,965	40,218	0											
Economic Services									Economic Services										
Coonamble Caravan Park Upgrade	200,000	(200,000)	0	(200,000)	0	0	0	0	Tfr Reserve - Unspent Loan Funds	200,000	(200,000)	0	(200,000)	0	0	0	0		
Coonamble CBD - Activation / Revitalisation Design Costs	100,000	0	0	0	100,000	0	100,000	0	Grant Funds (SCCF 5) - Coonamble Region Art Trail	235,035	0	0	0	235,035	0	235,035	0		
SOTS - Preliminary project works	500,000	(500,000)	0	(500,000)	0	0	0	0	Grant Funds - Artesian Bathing Experience	2,475,000	0	0	0	2,475,000	14,698	2,460,302	1		
Grant Program (SCCF5) - Coonamble Region Art Trail	235,035	0	0	0	235,035	0	235,035	0	Grant Funds - Tourism Projects	140,000	0	0	0	140,000	0	140,000	0		
Coonamble Saleyards - Renewal of facilities	50,000	0	0	0	50,000	0	50,000	0	Grant Funds - Receipt of Prior Year Economic Development Grant	0	500,919	0	500,919	500,919	0	500,919	0		
Grant Funds - Artesian Bathing Experience	2,475,000	0	0	0	2,475,000	14,698	2,460,302	1											
Grant Funded Project - Electric Display - GrainCorp Silo	40,000	0	0	0	40,000	0	40,000	0											
Grant Funded Project - Uncle Sootie Light Forrest	80,000	0	0	0	80,000	0	80,000	0											
Grant Funded Project - Development Old Sheep Yards and industrial Land	20,000	0	0	0	20,000	0	20,000	0											
Museum - Project Works	50,000	0	0	0	50,000	0	50,000	0											
General Fund Non Operating Total	32,669,769	4,951,242	(26,349)	4,924,893	37,594,662	4,497,985	33,096,677	12	Total Capital General Fund	24,205,643	11,215,201	#####	13,367,629	37,573,272	9,284,311	28,288,961	25		

EXPENDITURE	ORIGINAL BUDGET					REVISSED Budget	ACTUAL YTD	Remaining Budget	% EXPEND	INCOME	ORIGINAL BUDGET					REVISSED Budget	ACTUAL YTD	Remaining Budget	% EXPEND
	2024/25	Sept Review	Dec Review	Total Budget Changes	2024/25						2024/25	Sept Review	Dec Review	Total Budget Changes	2024/25				
WATER FUND NON-OPERATING																			
Coonamble Water Supply Capital Works										Coonamble Water Supply Capital Works									
Mains Replacement Program - Coonamble										Tfr Reserve - Water Fund	294,649	54,300	0	54,300	348,949	0	348,949	0	
- Wingadee St	300,000	(100,000)	0	(100,000)	200,000	48,741	151,259	24	Tfr Reserve - Unspent Grants Develop IWCM	0	51,667	0	51,667	51,667	0	51,667	0		
Coonamble - Meter replacement program (100 meters)	25,000	0	0	0	25,000	0	25,000	0	Tfr Reserve - Unspent Grants Operational Support	0	50,000	0	50,000	50,000	0	50,000	0		
Bore Meter Replacement	0	22,445	0	22,445	22,445	14,879	7,566	66											
Mains - Yarran Street Subdivision Extension	0	100,000	0	100,000	100,000	0	100,000	0											
Bulk Flow Meter Replacement	0	0	1,761	1,761	1,761	1,760	1	100	Tfr Reserve - Unspent Grants Bulk Water Meter										
Quambone - WATER SUPPLY CAPITAL WORKS																			
Mains Replacement - Quambone																			
- Gidgerah Street	200,000	0	0	0	200,000	0	200,000	0											
Quambone - Chlorine Residual Monitors	20,000	0	0	0	20,000	0	20,000	0											
Reservoir Improvements - Lockable Access water	20,000	0	0	0	20,000	0	20,000	0											
Quambone - Meter replacement program (25 meters)	6,250	0	0	0	6,250	0	6,250	0											
Bore Meter Replacement	0	31,855	0	31,855	31,855	22,188	9,667	70											
Water Filtration Plant upgrade	0	0	24,890	24,890	24,890	24,890	0	100											
GULARGAMBONE - WATER SUPPLY CAPITAL WORKS										GULARGAMBONE - WATER SUPPLY CAPITAL WORKS									
Mains Replacement Program - Gulargambone										Tfr Reserve - Water Fund	187,500	14,734	0	14,734	202,234	0	202,234	0	
- Breealong Street	100,000	0	0	0	100,000	0	100,000	0											
Gulargambone - Chlorine Residual Monitors	35,000	0	0	0	35,000	0	35,000	0											
Gulargambone - Chlorine Scales and Auto changeover	40,000	0	0	0	40,000	0	40,000	0											
Gulargambone - Meter replacement program (50 meters)	12,500	0	0	0	12,500	0	12,500	0											
Bore Meter Replacement	0	14,734	0	14,734	14,734	7,667	7,067	52											
Loan Repayments																			
Principal on Loans	0	0	0	0	0	0	0	0											
Total Water Fund Non-operating program	758,750	69,034	26,651	95,685	854,435	120,125	734,310	14	Total Water Fund Non-operating program	482,149	170,701	0	170,701	652,850	0	652,850	0		
SEWER FUND NON-OPERATING																			
Coonamble Sewerage Capital Works										Coonamble Sewerage Capital Works									
Mains relining	200,000	(60,000)	0	(60,000)	140,000	19,900	120,100	14	Tfr Reserve - Sewer Fund	1,093,185	497,345	0	497,345	1,590,530	0	1,590,530	0		
STP Replacement Option Report and Concept Design	77,300	179,737	0	179,737	257,037	0	257,037	0	SSWP 403 Grant Funding	0	161,763	0	161,763	161,763	0	161,763	0		
STP Step Screen	130,000	40,000	0	40,000	170,000	0	170,000	0											
STP Building Improvements	0	20,000	0	20,000	20,000	0	20,000	0											
Convert two Sewer Pump Stations to a wet config including electric upgrade	200,000	232,608	0	232,608	432,608	301,065	131,543	70											
Coonamble Sewer Treatment Plant - Equipment Renewal	25,000	20,000	0	20,000	45,000	27,371	17,629	61											
Pump Station - Yarran St	700,000	(293,300)	0	(293,300)	406,700	259,116	147,584	64											
Installation of mains & service Connections - Yarran St	150,000	293,300	0	293,300	443,300	0	443,300	0											
Purchase remote controlled slasher	0	65,000	0	65,000	65,000	62,769	2,231	97											
Gulargambone Sewerage Capital Works										Gulargambone Sewerage Capital Works									
Gular Mains - Relining	300,000	(90,000)	0	(90,000)	210,000	0	210,000	0	Tfr Reserve - Sewer Fund	765,000	27,167	0	27,167	792,167	34,765	757,402	4		
Gulargambone Sewer Treatment Plant - Tertiary Ponds	250,000	0	0	0	250,000	0	250,000	0											
Gulargambone Sewer Treatment Plant - Equipment Renewal	25,000	0	0	0	25,000	0	25,000	0											
Gulargambone Sewer Pump Station No 1 - Refurbishment	190,000	27,167	0	27,167	217,167	2,838	214,329	1											
Installation of Laboratory Building & dual tank pressure pump system	0	90,000	0	90,000	90,000	34,765	55,235	39											
Loan Repayments																			
Principal on Loans	0	0	0	0	0	0	0	0											
Total Sewer Fund Non-operating program	2,247,300	524,512	0	524,512	2,771,812	707,824	2,063,988	26	Total Sewer Fund Non-operating program	1,858,185	686,275	0	686,275	2,544,460	34,765	2,509,695	1		