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Land Use Conflict Risk Assessment

Hilltops Free Range Egg Farm

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LIST OF ACRONYMS

BAR	Basic Right Access
BAL	Basic Left Access
DPI	Department of Primary Industries
EIS	Environmental Impact Statement
LUCRA	Land Use Conflict Risk Assessment
MSDS	Material Safety Data Sheets
POEO Act	*Protection of Environment & Operations Act*

1 INTRODUCTION

This Land Use Conflict Risk Assessment (LUCRA) has been prepared as part of an Environmental Impact Assessment (EIS) to accompany a Development Application seeking Development Consent for the construction of Hilltops Free Range Eggs poultry farm at 1056 Lachlan Valley Way, Boorowa, NSW.

The subject site is formally described as Lot 1 DP789023, Lot 133 DP754585. Specifically, this development application is seeking approval for the following components and elements:

- The maximum bird population on Site is 30,000 laying birds, split into caravans holding a maximum of 900 birds.
- Caravans will be rotated on a regular basis with, the distance between mobile caravans is a minimum of 150 metres.
- Ancillary buildings and supporting infrastructure, being manager residences, water tanks, access road and other services; and
- Access road for deliveries and operation management.

The proposed farm is intended to produce eggs which are for human consumption.

DPI Agriculture recommended that the Applicant prepare a Land Use Conflict Risk Assessment (LUCRA) as part of the Secretary's Environmental Assessment Requirements for the project.

The purpose of this LUCRA is to identify the compatibility and potential conflicts between the proposed development and neighbouring land uses and the identification of appropriate avoidance and mitigation measures.

The assessment aims to:

- Accurately identify and address the efficacy of risk of conflict between the proposed use and adjoining land uses before a new land use proceeds or before dispute arises;
- Objectively assess the effect and level of the proposed land use on neighbouring land uses;
- Increase the understanding of potential land use conflict to inform and complement development control and buffer requirements; and
- Highlight or recommend strategies to help minimise conflict and contribute to the development of separation strategies.

(Source: NSW DPI Land Use Conflict Risk Assessment Guide, 2011)

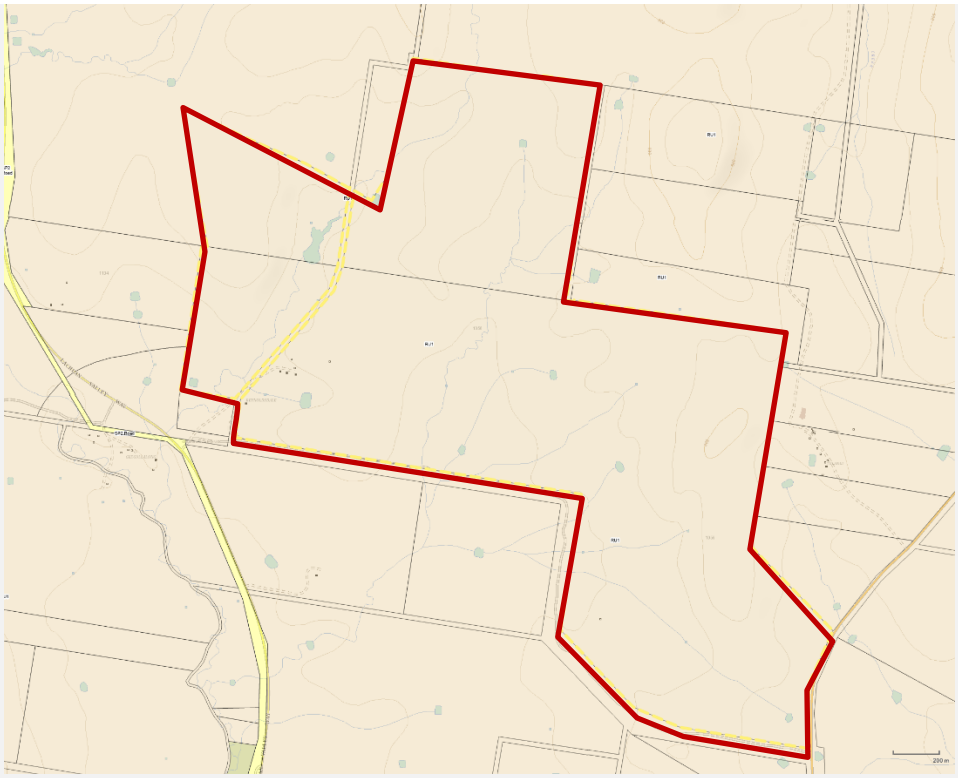
The assessment comprises four-stages, including:

1. Information gathering - site characteristics, the nature of development proposed and surrounding land uses.
2. Risk Level Evaluation - identification and recoding of activities and conflict analysis.
3. Identification of Risk Mitigation Strategies - assess strategies to manage risk of potential conflict.
4. Review and recommendations - recommendations and management strategies.

2 INFORMATION GATHERING

2.1 THE SITE

2.1.1 Site Details

ADDRESS	Reynoldsdale, 1056 Lachlan Valley Way, Boorowa NSW 2586
REAL PROPERTY DESCRIPTION AND LAND OWNERS	Lot 1 DP789023, Lot 133 DP754585
APPLICANT	Hilltops Free Range Eggs
CONSENT AUTHORITY	Minister for Planning
ZONING	RU1 Primary Production (Hilltops Local Environmental Plan 2022)
TOTAL SITE AREA	380 ha
BRIEF HISTORY	The site has been historically cleared and used for agricultural uses.
CURRENT LAND USE	The current site has traditionally been used for cropping, grazing and agriculture.
LOCATION	The site is located at 1056 Lachlan Valley Way, Boorowa, approximately 9.7km north of Boorowa.
CONTEXT	 **Figure 1: Site Locality and Context (Hilltops Local Environmental Plan 2011)**

STRATEGIC CONTEXT	The site is located within an agricultural area and is appropriately zoned as RU1 Primary Production. The proposed poultry farm is **Permitted with Consent** within the RU1 Zone.

2.2 SURROUNDING LAND USES

2.2.1 Land Use Summary and Proposed Activities

The site is situated approximately 9.7km north of Boorowa, approximately 36km east of Forbes and within the Hilltops Council area. The site is surrounded by rural properties and agricultural activities. The nearest sensitive receptors (rural dwellings) is located immediately to the south west of the subject site at 1134 Lachlan Valley Way and the next closest is located at 115 Rugby Road, Boorowa.

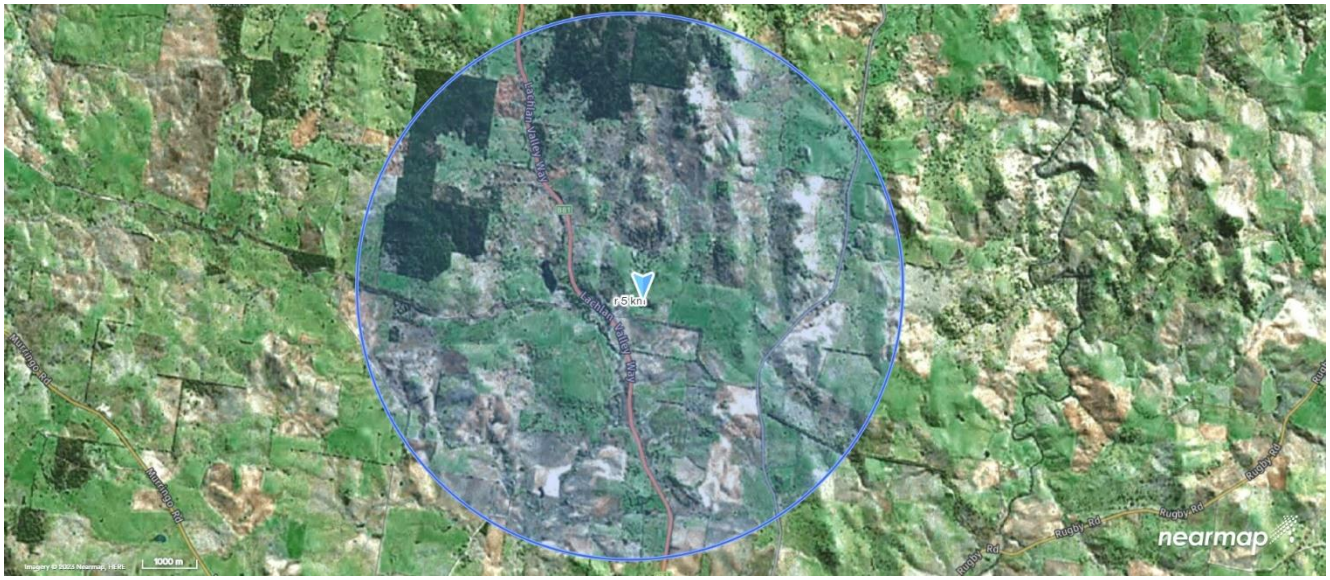


Figure 2: **Land uses within 5km of the subject site (Nearmap, 2023)**

2.3 POTENTIAL LAND USE CONFLICTS

2.3.1 Compatibility with Adjoining Activities

The subject site adjoins rural and agricultural land uses. The subject site has been historically cleared and used for a variety of agricultural uses including cropping and grazing. There are no historic development applications for agricultural use on the site but it is known to have been used for general agricultural actions

The site has been subject to multiple technical investigations which have confirmed that there are no site based, biophysical, cultural or operational constrains which would limit the physical development or operations proposed at the site.

As demonstrated below, the proposed development aligns with the proposed zoning for the subject site. The objectives for the RU1 Primary Production are as follows:

- *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.*
- *To encourage competitive rural production and associated economic development by maintaining and enhancing—*
  - *(a) local and regional transport and communications connectivity, and*
  - *(b) accessibility to national and global supply chains.*
- *To maintain areas of high conservation value vegetation.*
- *To encourage development that is in accordance with sound management and land capability practices, and that takes into account the natural resources of the locality.*
- *To protect and enhance the water quality of receiving watercourses and groundwater systems and to reduce land degradation.*
- *To encourage the development of non-agricultural land uses that are compatible with the character of the zone and sustain high quality rural amenity.*

The proposed farm falls under Hilltops LEP definition of ***intensive livestock agriculture*** which means "*the keeping or breeding, for commercial purposes, of cattle, poultry, pigs, goats, horses, sheep or other livestock, and includes any of the following – dairies (restricted), feedlots, pig farms, poultry farms; but does not include extensive agriculture, aquaculture or the operation of facilities for drought or similar emergency relief".*

In accordance with the Land Use Table of the Hilltops LEP, development of an intensive livestock agriculture within the Primary Production Zone (RU1) is permitted with consent.

The site is located amongst other agricultural activities, with the nearest sensitive receptors (rural dwellings) located immediately to the southwest of the subject site at south west of the subject site at 1134 Lachlan Valley Way and the next closest is located at 115 Rugby Road, Boorowa. The proposal is anticipated to be low impact in terms of visual amenity and environmental risks, particularly when mitigative measures are applied – as such, it is consistent with its surrounding activities and the provisions of the Hilltops LEP.

2.3.2 Odour and Dust

Astute Environmental Consulting Pty Ltd (Astute) was engaged to prepare a Level 1 Odour Impact Assessment (separation distance study) for the HFRE operation. A copy of the Assessment is included as **Appendix 6** of the EIS.

When siting a potentially odorous operation, the distance between the operation and nearby neighbours is critical to ensure that the risk of odour impacts is minimised. In New South Wales, a Level 1 assessment can be used to derive a separation distance between an operation and nearby sensitive locations. The associated technical notes provide methodologies for broilers (meat chickens), feedlots and piggeries. Although the proposed operation is a layer farm, the broiler methodology can be conservatively adopted in that it is recognised that meat chicken farms emit more odour than layer farms (McGahan & Galvin, 2018).

The S Factor method in the technical notes uses an equation that includes the following inputs:

- Number of animals – N (for meat chickens N is the total number of birds divided by 22,000);
- Shed type (S1);

- Receptor type factor (S2);
- Terrain factor (S3);
- Vegetation Factor (S4); and
- Wind Frequency (S5).

Each of the S factors is input into Equation 1to calculate a buffer in metres. The factors applied to this operation as

Table 1: S-Factor Inputs (Astute, 2023)

FACTORS		INPUT
N	Number of animals	For meat chickens N is the total number of birds divided by 22,000. The proposed development includes 30,000 chickens which equates to 0.71. (30000/22000=0.71)
S_1	Shed Type	The assessment has applied an S1 of 690 for a naturally ventilated shed. It is considered a conservative amount as the caravans can be moved around and manure does not accumulate like a naturally ventilated shed.
S_2	Receptor type factor	There are 5 sensitive land receptors which have been identified in Figure 3. All receptors are dwelling houses. The S2 factor (receptor type) was set to 0.3 as the receptors are single rural residences and do not fall into other categories, including small towns.
S_3	Terrain factor	The S3 factor is used to incorporate terrain into the assessment. The terrain for each receptor has been noted below:

Receptor	Slope	Up/Down	Factor	Description
1	-2.4%	Down	1.2	Low relief
2	1.1%	Up	1.0	Flat
3	2.3%	Up	1.0	Flat
4	0.5%	Up	1.0	Flat
5	-3.9%	Down	1.2	Low relief

S_4	Vegetation Factor	There are five options for vegetation factors in the method. As all the receptors can be described as “few trees long grass”, an S4 factor of 0.9 was adopted.
S_5	Wind frequency	A “normal” value was adopted for the site (S5 = 1) as a site in an open area like this will not have a high or low frequency of winds (as defined by ±40°) toward the receptors. High or low frequencies are typically only seen in narrow valleys or areas where terrain can significantly channel winds.

Using the above calculations, the minima setbacks to the nearest sensitive receptors have been calculated and are shown in Table 2. The necessary buffers to each surrounding residence are also shown in Figure 3.

Table 2: *Calculated Distances*

RECEPTOR	AVAILABLE DISTANCE (M)	REQUIRED DISTANCE (M)	% OF AVAILABLE	COMPLIES
1	648	279	43%	Yes
2	1013	232	23%	Yes
3	795	232	29%	Yes
4	1799	232	13%	Yes
5	560	279	50%	Yes

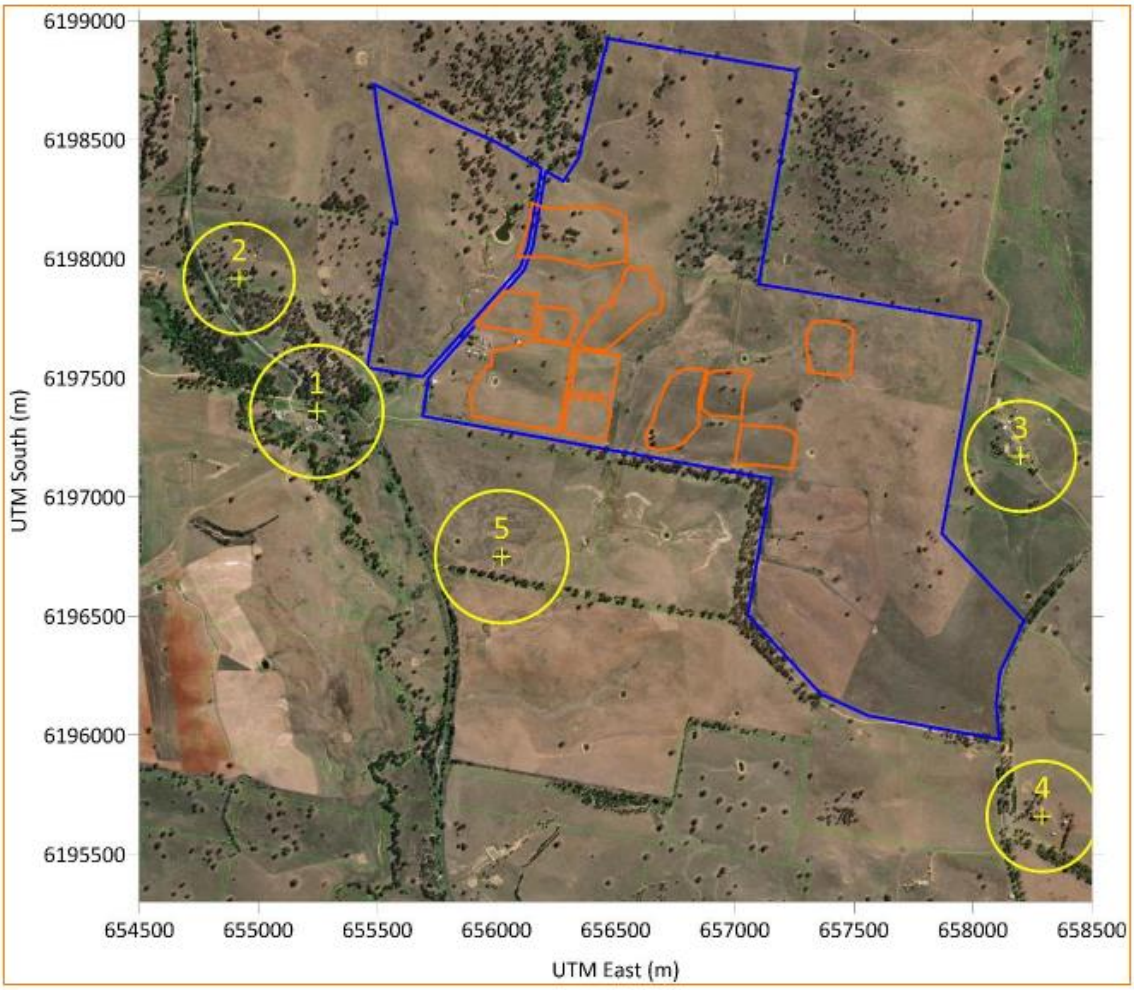


Figure 3: Sensitive Land Receptors and Buffers

As demonstrated above, each receptor is provided with a compliant buffer distance to the HFRE and are not expected to experience any unacceptable odour impacts. It is also noted that the buffers are considered conservative as the calculations assumed that 30,000 birds are condensed in a single location at the closest point to each receptor. Given this assumption, it only further supports compliance and demonstrates that the proposed free range egg farm will not have any unacceptable odour impacts on nearby residents.

2.3.3 Noise

A Noise Impact assessment has been prepared by SoundIn to assess the potential noise impacts of the HFRE farm against the relevant acoustic criteria. A copy of this report is included as The subject site and proposed operation is low density, free range farming and is in keeping with the rural nature of activities on this and surrounding properties. The proposed farm is setback 510m from Lachlan Valley Way, which is a road with 100km speed limit and is sporadically lined with trees. Given the low scale of the mobile caravans, the rural nature the of the site and surrounding activities, as well as the significant setback from public vantage points, the visual impacts of the are anticipated to be negligible.

of the EIS**.** A summary of the acoustic assessment is provided below.

2.3.3.1 Methodology

The overall use is minor in nature and as such, Operational noise emissions from the Proposal have been modelled using SoundPLAN v8.2. The selected noise calculation method is International Standard ISO 9613-2:1996 Acoustics -Attenuation of sound during propagation outdoors – Part 2: General Method of Calculation (ISO 9613-2).

2.3.3.2 Existing Acoustic Environment

The nearest sensitive receptors to the operation which have been considered in the assessment are **Figure 4**. The background noise levels have not been measured in the area, therefore the lowest possible Rating Background Levels (RBLs)

have been adopted, which are in accordance with table 2.1 of the NSW Environment Protection Authority's Noise Policy for Industry (NPfI).

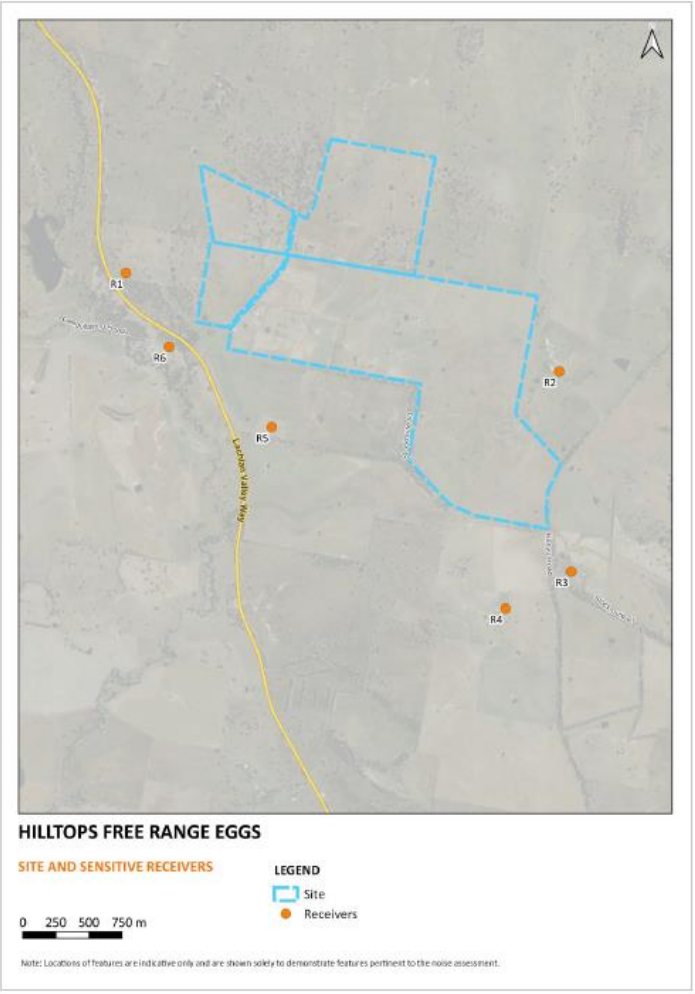


Figure 4: Locality plan of the nearest residential receivers (SoundIn, 2023)

2.3.3.3 Noise Criteria

The NPfI stipulates that project noise trigger levels are determined for the daytime (7am – 6pm), evening (6pm – 10pm) and night time (10pm – 7am) periods, as relevant. The determined trigger levels typically apply at the most affected point on or within the receiver property boundary. The assessment has considered the projected intrusiveness noise level, amenity noise level and noise trigger levels as summarised below:

The NPfI stipulates that project intrusiveness noise levels should not be set below 40 dBA during the daytime and 35 dBA in the evening and night time. Additionally, the NPfI recommends that the project intrusiveness noise level for evening is set at no greater than that for the daytime, and that the project intrusiveness level for night time is set at no greater than that for the evening and daytime.

Project amenity noise levels aim to set a limit on continuing increases in noise levels from all industrial noise sources affecting a variety of receiver types; that is, the ambient noise level in an area from all industrial noise sources remains below recommended amenity noise levels.

Due to different averaging periods for the $L_{Aeq,15min}$ and $L_{Aeq,period}$ noise descriptors, the values of project intrusiveness and amenity noise levels cannot be compared directly when identifying noise trigger levels i.e. the most stringent values of each category. To make a comparison between descriptors, the NPfI assumes that the $L_{Aeq,15min}$ equivalent of an $L_{Aeq,period}$ noise level is equal to the $L_{Aeq,15min}$ level plus 3dB.

The project intrusiveness noise levels and project amenity noise levels for sensitive receivers are summarised in Table 3. The project noise trigger levels (PNTL) – which are the lower values of the project intrusiveness noise levels and the project amenity noise levels – are highlighted in bold.

Receiver	Time of Day	Project intrusiveness noise level – $L_{Aeq,15min}$ (dBA)	Project amenity noise level – $L_{Aeq,15min}$ (dBA)
R1 – R6	Day	40	48
	Evening	35	43
	Night	35	38

Table 3: Intrusiveness and Amenity Noise Levels

2.3.3.4 Assessment

Truck movements are the only significant noise sources identified for the operation of the Proposal. A typical worst-case operating scenario has been developed whereby, in any 15-minute period, a single truck could enter the site, deliver and/or collect goods and leave the site. The truck could travel on any part of the Site where eggs are produced.

Results from the acoustic modelling shows that noise levels from the operations, even in the unlikely event that truck movements occur in the night time period, are expected to be compliant with the Project noise trigger levels.

Receiver	Predicted LAeq,15min noise level (dBA)	Project noise trigger level (dBA)			Complies?
		Day	Evening	Night	
R1	28	40	35	35	Yes
R2	29	40	35	35	Yes
R3	<20	40	35	35	Yes
R4	<20	40	35	35	Yes
R5	34	40	35	35	Yes
R6	35	40	35	35	Yes

Table 4: Predicted $L_{Aeq,15min}$ Noise Levels

2.3.4 Visual Impacts

The subject site and proposed operation is low density, free range farming and is in keeping with the rural nature of activities on this and surrounding properties. The proposed farm is setback 510m from Lachlan Valley Way, which is a road with 100km speed limit and is sporadically lined with trees. Given the low scale of the mobile caravans, the rural nature the of the site and surrounding activities, as well as the significant setback from public vantage points, the visual impacts of the are anticipated to be negligible.

2.3.5 Stormwater and drainage

2.3.5.1 Stormwater Quantity

The operation of a free range egg farm requires minimal alteration to the landscape which would impact on the stormwater quantity. Stormwater runoff from the caravans and other impervious areas will be directed to existing overland flow paths and drainage lines. Due to minimal size and temporary nature of the caravans, no modifications to the landform, and the size of the rural property, the operation will have negligible impacts on stormwater runoff and will not result in any nuisance to upstream or downstream environments.

2.3.5.2 Stormwater Quality

With respect to stormwater quality, Rangelands Assessment has been undertaken by Scolexia to assess the potential impacts of stormwater quality from the land use. A copy of this report is included in **Appendix 8** of the EIS**.**

As noted above, the production system accommodates a maximum of 30,000 birds in a free-range system, housed in 33 caravans which have a mesh floor. The caravans and associated infrastructure (water and feed stations) are moved every week in summer and every 2 weeks in winter to evenly distribute the manure and maintain groundcover. The distance between caravans is maintained at approximately 150m and the birds have unrestricted access to the caravans at all times.

The site is not subject to flooding/inundation or wetlands but is subject to overlays relating to drinking water catchment and groundwater vulnerability. The groundwater vulnerability mapping is identified on a small portion of the property and is not located in the range areas (see Figure 5below). The drinking water catchment is identified across a majority of the site.

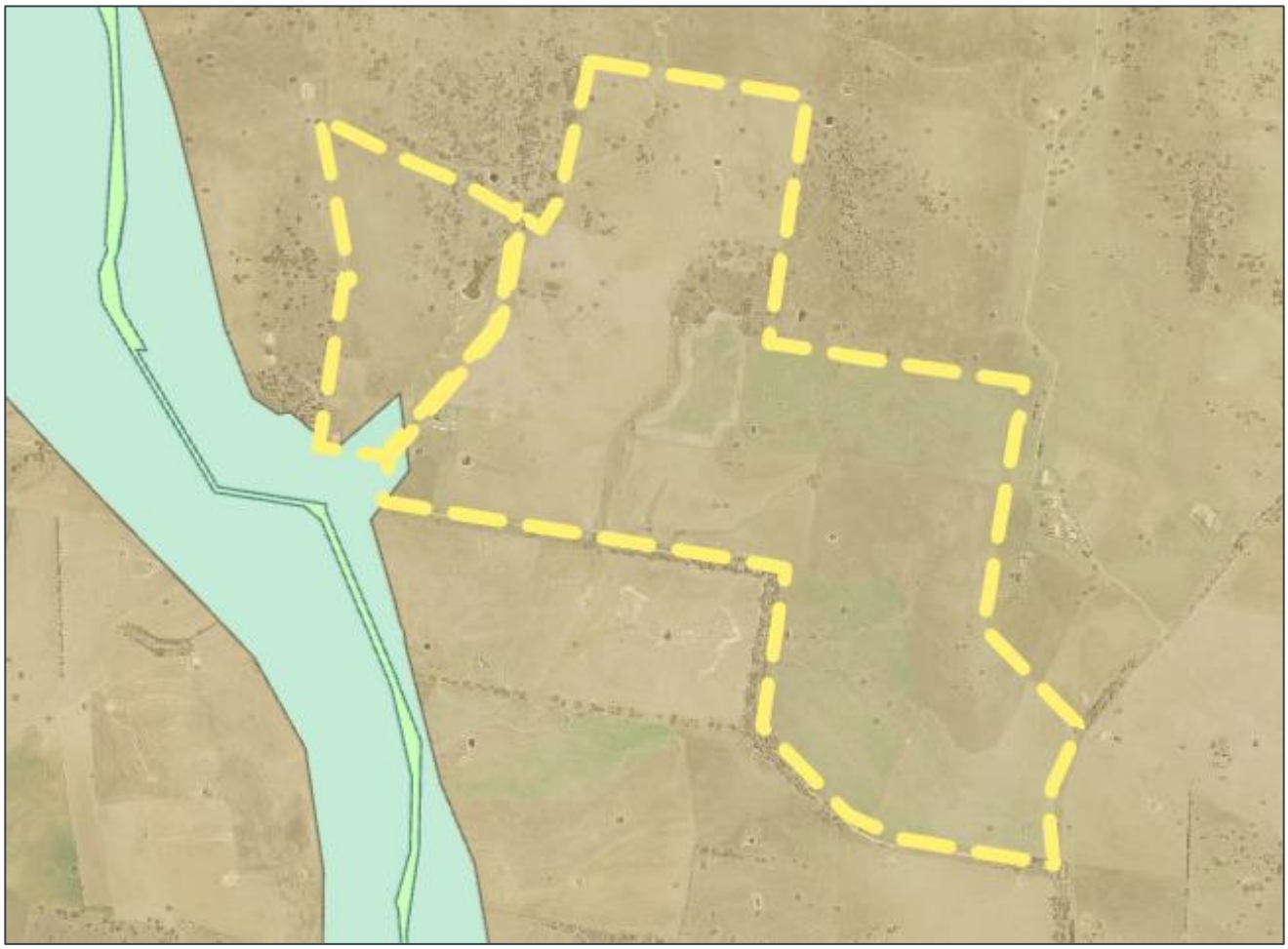


Figure 5: Groundwater Vulnerability Area (E-Spatial NSW, 2023)

As identified in the Rangelands Assessment, all of the manure from the birds will be deposited onto the paddocks due to mesh floor of the caravans and unfettered free range access. The nutrient levels associated with the operation have been conservatively estimated as 4-8kg of Nitrogen and 3kg of Phosphorus per week per caravan (900 birds). Overall, the use is very low compared to other livestock and each caravan is comparable to 4 cows (i.e. each cow deposits ~1.1kgN and 0.6kg P per week).

With the overall operations of the development utilising mobile caravans, the risk of hotspots is quite low and can be easily managed with continuous movement of caravans and rotation within the paddocks.

As part of the Scoping Report (included as **Appendix 3** of the EIS), a Nutrient Risk Assessment was undertaken by the Applicant in accordance with the Australian Eggs Ltd guidelines. The nutrient risk assessment considered soil profile, depth to groundwater, rainfall factor, pasture type, farm size and stocking rate. The risk assessment undertaken demonstrates that the risk of the operation to surface water and groundwater quality is low, the site is suitable for continued pasture-raised, free range farming.

In addition to the Scoping Report, Scolexia have prepared a Rangeland Assessment Report (included as **Appendix 8** of the EIS) to review the current practices undertaken on the site, identify bird behaviours that influence manure and nutrient deposition, identify potential nutrient loss pathways and review the risks to surface and groundwater based on site specific

characteristics. Management and Mitigation strategies to assist in minimising the potential risks to surface and groundwater have also been identified, as well as identify the overall risk to the surface and groundwater and subsequent drinking water catchment.

Scolexia have reviewed the inputs provided in the scoping report and confirmed that the reasonably reflect the site values. Some minor changes to the criteria were suggested by Scolexia, however these changes do not affect the overall outcomes and the operations still maintain a low-risk outcome. The key factors in maintaining the operations low risk include the following physical and operational factors:

- Range Areas have low slope of ~3% which facilitates drainage but reducing the velocity of water movement across the surface allowing infiltration and reduced run-off.
- Soil mapping indicates that soils appear to be moderate to well-draining yellow chromosols which will minimise the potential for overland flow.
- Annual mean rainfall in Boorowa according to BOM (accessed 24/04/23) is 612mm. Lower rainfall climates are more suitable for free range systems as this minimises overland run-off, reduces nutrient pooling and minimises soil displacement.
- The free range operation has low stock density which limits nutrient deposition.
- The caravans will be moved every 1 to 2 weeks to avoid hot spots, provide fresh pasture for the birds, and enable ground cover recovery.
- Groundcovers are maintained at over 80% which minimise nutrient movement via both overland flow and through erosion. Grass cover is the most effective vegetation to create vegetative filter systems/strips that also trap the soil particles and reduce the velocity of flow allowing water and nutrient infiltration and uptake rather than run-off.
- No caravans or infrastructure are to be located within 100m of the waterways further reducing the risk of nutrient movement from the site.
- 15m wide vegetation filter strips (strips of denser / longer grass) between the operations and creeks are to be used and has been shown to reduce TKN by 81% and TP by 91% (AEL, 2018).

Scolexia conclude in their assessment that, with consideration the site characteristics, low stocking densities and nutrient outputs of the production system as estimated, it is my professional opinion that if the management practices and buffers (scoping document and within) are maintained, there is minimal risk of nutrients and other contaminants migrating off site to the adjacent waterways and groundwater and subsequently impacting on the drinking water supply catchment.

2.3.5.3 Ground Water Quality

The risk to groundwater is influenced by a range of features of the site such as hydro- geology, depth to groundwater, soil type and the existing quality of the ground water. Nutrients in ground water can also influence surface water where shallow aquifers are linked to the surface water system. (AEL, 2018)

There is an area on the farm mapped as groundwater vulnerable, however no range areas are located in this area. A bore on site is said to be 20m. Groundwater is mapped as low to moderate productivity (national maps, 2023). Sandy loam soils underlain with clays will reduce leaching potential into the groundwater.

Ensuring low nutrient levels (through monitoring) coupled with the indicative soil type on site, along with deposition distribution (regular rotations) and low rainfall (as indicated by BOM) will minimise manure/nutrient build up and subsequent leaching potential into groundwater.

2.3.6 Traffic

The operations of HFRE is well established and generate minimal trips beyond which is typical for a active rural property. Access to the Site is achieved via Lachlan Valley Way which is classified Road (MR56) and approximately 500m of council-maintained stockroad from Lachlan Valley Way to the Hilltops Free Range Eggs farm gate.

Weekly traffic movements associated with the operation of the farm include the following:

- Eggs are transported twice a week, in two small rigid trucks owned by the Applicant, directly from the farm to customers and markets in Sydney and Canberra.

- Feed is delivered twice a week in a small rigid truck owned by the Applicant, directly from the mill to the farm.
- Supplier services are picked up on the way back from Sydney and Canberra egg deliveries in the same trucks, and brought to the farm.
- Waste products are removed from the site by a tipper truck owned by the Applicant once every two to three weeks.

Assuming a waste collection week, the total number of heavy vehicles trips per week will be 14 trips (7 incoming, 7 outgoing trips). With respect to Light vehicles, the HFRE farm employs 5 full time and 12 part time staff to run their operation. Assuming all staff are access the site on a single day, this equates to 32 car trips (17 incoming / 17 outgoing) per day.

Lachlan Valley Way (MR56) is a rural which was estimated by Council in the Hilltops Freight and Transport Study to carry 1600 vehicles per day. Given the location of managers residences on the site, peak hour trips associated with the development are conservatively estimated as 5 light vehicles and 1 heavy vehicles.

Given, the minimal traffic generated by the development, and that a majority of the trips are not expected to occur within the peak hour, the operation of the HFRE is expected to have a negligible impact on existing traffic conditions and will function in manner consistent with other rural properties with direct access to Lachlan Valley Way.

The existing intersection between Stockroute 63 and Lachlan Valley Way provides clear access and egress point, with sight lines in excess of 170m, and is sufficient to service the low volume of rural traffic associated with the operation. No additional intersection treatments or access upgrades are proposed for the low traffic impact of the development.

3 LAND USE CONFLICT RISK ASSESSMENT

3.1 INTRODUCTION

Table 5 shows the LUCRA matrix which identifies risk rankings from 1 to 25 for each set of probabilities (A-E) (refer to **Table 6**) and consequences (1-5). A rank of 25 is the highest magnitude of risk, i.e. a highly likely and very serious event. A rank of 1 represents the lowest magnitude of risk, i.e. an almost impossible and very low consequence event. Priority is given to those activities listed as high risk. This helps to rank multiple effects and provide a priority list when developing management strategies.

Table 5: Risk Ranking Matrix (Department of Primary Industries, 2011)

CONSEQUENCE	PROBABILITY				
	A	B	C	D	E
1	25	24	22	19	15
2	23	21	18	14	10
3	20	17	13	9	6
4	16	12	8	5	3
5	11	7	4	2	1

Table 6: Probability Table (Department of Primary Industries, 2011)

Level	Descriptor	Description
A	Almost certain	Common or repeated occurrence
B	Likely	Known to occur
C	Possible	Could occur
D	Unlikely	Could occur in some circumstances, but not likely to occur
E	Rare	Practically impossible

Table 7: Measure of Consequence (Department of Primary Industries, 2011)

LEVEL 1	DESCRIPTOR: SEVERE
Description	• Severe and/or permanent damage to the environment • Irreversible • Severe impact on the community • Neighbours are in prolonged dispute and legal action involved
Example or Implication	• Harm or death to animals, fish, birds or plants • Long term damage to soil or water • Odours so offensive some people are evacuated or leave voluntarily • Many public complaints and serious damage to Council's reputation • Contravenes *Protection of Environment & Operations Act* (POEO Act) and the conditions of Council's licences and permits. Almost certain prosecution under the POEO Act.
LEVEL 2	**DESCRIPTOR: MAJOR**

Description	• Serious and/or long term impact to the environment • Long-term management implications • Serious impact on the community • Neighbours are in serious dispute
Example or Implication	• Water, soil or air impacts, possibly in the long term • Harm to animals, fish, birds or plants • Public complaints. Neighbour disputes occur. Impacts pass quickly • Contravenes the conditions of Council licences, permits and the POEO Act • Likely prosecution
LEVEL 3	**DESCRIPTOR: MODERATE**
Description	• Moderate and/or medium-term impact to the environment and community • Some ongoing management implications • Neighbour disputes occur
Example or Implication	• Water, soil or air known to be affected, probably in the short term • No serious harm to animals, fish, birds or plants • Public largely unaware and few complaints to Council • May contravene the conditions of Council's licences and the POEO Act • Unlikely to result in prosecution
LEVEL 4	**DESCRIPTOR: MINOR**
Description	• Minor and/or short-term impact to the environment and community • Can be effectively managed as part of normal operations • Infrequent disputes between neighbours
Example or Implication	• Theoretically could affect the environment or people but no impacts noticed • No complaints to Council • Infrequent disputes between neighbours
LEVEL 5	**DESCRIPTOR: NEGLIGIBLE**
Description	• Very minor impact to the environment and community • Can be effectively managed as part of normal operations • Neighbour disputes unlikely
Example or Implication	• No measurable or identifiable impact on the environment • No measurable impact on the community or impact is generally acceptable

3.2 INITIAL RISK IDENTIFICATION AND RISK RANKING

Table 8 lists the initial risk evaluation for the project.

Table 8: Initial Risk Identification and Risk Rating

POTENTIAL CONFLICT/SOURCE	EXPLANATION	RISK ASSESSMENT WITHOUT MITIGATION		
		PROBABILITY LEVEL	CONSEQUENCE LEVEL	RISK RATING
TRAFFIC	Additional traffic movements causing a nuisance	D	5	2
ODOUR	Odour creating a nuisance	D	4	5
PARTICULATE MATTER	Dust creating a nuisance	D	4	5
NOISE	Operational noise creating a nuisance Traffic noise creating a nuisance	D	4	5
ECOLOGICAL	Ecological impacts	D	3	9
CULTURAL HERITAGE	A Cultural Heritage artefact is found/disturbed	C	3	13
STORMWATER	Stormwater runoff causing impacts downstream impacts	C	3	13
WASTE	Storage of waste causing odour or vermin impacts	D	4	5
CHEMICAL USE	Chemical spill	D	4	5

3.3 Risk Reduction Controls and Management Strategies

Table 9 outlines the proposed mitigation and measurement measures.

Table 9: Proposed Risk Reduction Controls and Management Strategies

IDENTIFIED IMPACT	MITIGATION MEASURES AND MANAGEMENT MEASURES

TRAFFIC	• Weekly traffic movements are limited to:
	  ○ Eggs are transported twice a week, in two trucks owned by the Applicant, directly from the farm to customers and markets in Sydney and Canberra.
	  ○ Feed is delivered twice a week in a truck owned by the Applicant, directly from the mill to the farm.
	  ○ Supplier services are picked up on the way back from Sydney and Canberra egg deliveries in the same trucks, and brought to the farm.
	  ○ Waste products are removed from the site by tipper truck owned by the Applicant once every two to three weeks.
	• All traffic movement will be via the existing intersection with the Site (near Stockroute 63) and Lachlan Valley Way.

ODOUR	• All caravans will be rotated on a regular basis to reduce build up of manure. • Dead birds will be collected from the range areas / caravans on a daily basis and stored in on-site freezers prior to removal from site. • Cracked or damaged eggs are to be collected from the range areas / caravans on a daily basis and stored in on-site freezers prior to removal from site.

IDENTIFIED IMPACT	MITIGATION MEASURES AND MANAGEMENT MEASURES
	• The insides of the caravans are to be maintained times to ensure a clean and sanitary environment. • Manure is not to be stockpiled or spread on site.
PARTICULATE MATTER	• The feed silos will be fully enclosed to minimise emissions of particulate matter when loading/unloading. • Vehicles will not exceed a general speed limit of 40 km/hr within the Development and on the access road to minimise dust emissions. • Internal access roads will be appropriately maintained at all times. • Range Areas to
NOISE	**Operations** • Vehicles will not exceed a general speed limit of 40 km/hr within the Development and on the access road to minimise noise emissions. • All access roads should be kept in good condition, i.e. no potholes, etc. • A regular maintenance schedule should be adopted for all mobile and fixed plant to ensure unnecessary noise sources are repaired. • All staff and employees directly involved with the facility should receive informal training with regard to noise control procedures. Additional ongoing on the job environmental training should be incorporated with the introduction of any new process or procedure. • Trucks and other machines should not be left idling unnecessarily. Machines found to produce excessive noise compared to industry best practice should be removed from the site or stood down until repairs or modifications can be made.
ECOLOGICAL	• No clearing of paddock trees is to be undertaken as part of the operation. • Caravans will be moved every 1 to 2 weeks to provide fresh pasture for the birds and enable ground cover recovery. • Groundcovers are maintained at over 80% which minimise nutrient movement via both overland flow and through erosion.
CULTURAL HERITAGE	• There is a low likelihood that the proposed development will adversely harm Aboriginal cultural heritage items or sites. However, during operations, if Aboriginal artefacts or skeletal material are noted, all work should cease and the procedures in the Unanticipated Finds Protocol should be followed. • Work crews should undergo cultural heritage induction to ensure they recognise Aboriginal artefacts AAA and are aware of the legislative protection of Aboriginal objects under the NPW Act and the contents of the Unanticipated Finds Protocol
STORMWATER	• Ensure buffer distances of 100m are maintained to between the caravans and the waterway. • Ensure caravans and infrastructure are located approximately 25m or greater from the drainage lines. • Provided minimum 15m wide Vegetated Filter Strips (VFS) as per Table 37 of AEL, 2018 between paddocks and the waterway. • Maintain groundcover of over 80%. • Regularly move caravans, waterers and feeders every week in summer and every 2 weeks in winter to encourage nutrient distribution and pasture recovery. • Undertake regular soil testing to ensure range areas remain within agronomic recommended rates. If required (elevated nutrient levels) consider cropping range areas periodically to remove nutrients from the area.

IDENTIFIED IMPACT	MITIGATION MEASURES AND MANAGEMENT MEASURES
	• Areas around caravans and infrastructure can be spread if required to distribute nutrients more evenly across an area. • If an area becomes denuded, consider spreading materials such as straw to minimise soil loss. • If nutrient levels start to rise, consider using alternative range areas on other parts of the property taking into consideration the above buffers and practices and/or fit bases to the caravans and spread over wider areas.
WASTE	• Solid waste o Day to day general waste will be placed into enclosed bins and removed from the farm on a regular / as needed basis. o Collection bins for collection of recycling material such as plastic, paper, cardboard, and waste metal will also be provided on site and removed from the farm on a regular basis. o The paddocks and caravans will be checked regularly inspected for deceased birds which will be promptly removed and transferred to cold storage. o Dead birds will be collected weekly from the farm and transported to Jugiong Landfill. o Cracked or damaged eggs are collected and stored in sealed containers and disposed of at the Jugiong landfill. o No waste materials are to be disposed of on-site. • Wastewater o Effluent water from the amenities will be treated on site; a septic system with pump out provided as required basis by local contractors.
CHEMICAL USE	• Chemical handling and storage procedures will be undertaken in accordance with the relevant Material Safety Data Sheets (MSDS) and all relevant Australian Standards.
ENVIRONMENTAL MANAGEMENT	• The farm will be operated in accordance with the following standards: o Egg Industry Environmental Guidelines Edition II (Australian Eggs Limited Publication, May 2018) o Food Standards Australia New Zealand (FSANZ) o National Standard 4.2.5 – Primary Production and Processing Standard for Eggs and Egg Products o Standard 3.2.1 – Food Safety Programs of the Food Standards Code o Food Act 2003 (NSW) o Food Regulation 2015 and the national Food Standards Code o Prevention of Cruelty to Animals Act 1979 o Code of Practice for Biosecurity in the Egg Industry – 2nd Edition (Grimes and Jackson, 2015) o National Farm Biosecurity Technical Manual for Egg Production (AHA, 2015) o National Water Biosecurity Manual: Poultry Production (DAFF, 2009b).

3.4 Mitigated Risk Ratings

Table 10 sets out the mitigated risk ratings after the mitigation and measurement measures have been put in place.

Table 10: Mitigated Risk Ratings

POTENTIAL CONFLICT/SOURCE	RISK RATING (BEFORE MANAGEMENT STRATEGY IS APPLIED)			REVISED RISK RANKING (AFTER MANAGEMENT STRATEGY IS APPLIED)		
	PROBABILITY LEVEL	CONSEQUENCE LEVEL	RISK RATING	PROBABILITY LEVEL	CONSEQUENCE LEVEL	RISK RATING
TRAFFIC	D	5	2	D	4	5
ODOUR	D	4	5	D	4	5
PARTICULATE MATTER	D	4	5	D	4	5
NOISE	D	4	5	D	4	5
ECOLOGICAL	D	3	9	D	3	9
CULTURAL HERITAGE	C	3	13	C	3	13
STORMWATER	C	3	13	D	4	9
WASTE	D	4	5	E	4	3
CHEMICAL USE	D	4	5	D	4	5

4 CONCLUSIONS AND RECOMMENDATIONS

The LUCRA to support the proposed Hilltops Free Range Egg farm demonstrates that with appropriate management and mitigation measures in place, the proposal is able to proceed with a reduced impact on the surrounding properties. Each of the mitigated risk ratings for all of the matters are within the accepted risk ratings.

As such, the proposed management and mitigation strategies should be adopted as part of the development consent.