



Planning &  
Environment

***ENVIRONMENTAL ASSESSMENT REPORT  
Euroley Poultry Production Complex  
(SSD 6882)***



Environmental Assessment Report

Section 89E of the *Environmental Planning and  
Assessment Act 1979*

October 2015

## ABBREVIATIONS AND DEFINITIONS

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ABARES	Australian Bureau of Agricultural and Resource Economics
AHD	Australian Height Datum
Applicant	ProTen Limited
AS	Australian Standard
BAL	Basic Left Turn
BAR	Basic Right Turn
BCA	Building Code of Australia
Broiler	A breed of chicken bred and raised specifically for chicken meat production
Bund	A watertight wall designed to prevent liquid escaping or entering as a result of seepage or leaks, or to reflect noise
CEMP	Construction Environmental Management Plan
CIV	Capital Investment Value
Commission	Planning Assessment Commission
Construction	The demolition of buildings or works, carrying out of works, including erection of buildings and other infrastructure covered by this consent
Council	Narrandera Shire Council
Department	Department of Planning and Environment and its successors
Development	The Development as described in the EIS and RTS for the construction of a poultry production complex for the rearing of broiler chickens for human consumption
DPI	Department of Primary Industries
EIS	Environmental Impact Statement titled “Euroley Poultry Production Complex – SSD 6882”, prepared by SLR Consulting Australia Pty Ltd, dated 20 May 2015
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
LPG	Liquefied Petroleum Gas
Minister	Minister for Planning
NOW	New South Wales Office of Water
Odour Units (OU)	Units used to measure the concentration of odorous mixtures
OEH	Office of Environment and Heritage
PM <sub>10</sub>	Particulate matter up to ten micrometres in size
PPU	Poultry Production Unit, a group of 16 poultry sheds
RMS	Roads and Maritime Services
RTS	Response to Submissions titled “Euroley Poultry Production Complex (SSD 6882), Response to Submissions”, prepared by SLR Consulting Australia Pty Ltd, dated 1 September 2015.
SEARs	Secretary’s Environmental Assessment Requirements, previously known as Director-General’s Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning and Environment
SRD SEPP	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>

Cover Photograph, Plate 3 - Existing Poultry Production Unit at Rankin Springs, Carrathool LGA (Source: EIS).

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## EXECUTIVE SUMMARY

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ProTen Limited (the Applicant) specialises in the design, construction and operation of chicken broiler meat farms and currently operates eight poultry farms throughout Australia. The Applicant's operations currently produce over 40 million broilers per annum, representing approximately seven percent of broiler chicken production in Australia. The Applicant has contracts with Baiada Poultry Pty Ltd (Baiada) to supply chickens for the sale of a range of chicken products under the Steggles and Lilydale brand names.

The Applicant is proposing to construct and operate a poultry production complex at Euroley, off the Sturt Highway approximately 26 kilometres (km) north west of the town of Narrandera and 48 km south east of Griffith in the Narrandera LGA. The development site is approximately 1,160 hectares in area. The footprint of the development would occupy approximately 90 hectares.

The proposal involves the construction of five broiler farms, with each farm termed a Poultry Production Unit (PPU). Each PPU includes:

- 16 fully enclosed, tunnel ventilated, climate controlled poultry sheds with evaporative cooling;
- two dwelling houses for farm manager accommodation;
- feed silos and four water storage tanks;
- four detention dams each with a capacity of 7,500m<sup>3</sup>; and
- eight LPG tanks.

In addition, each PPU would incorporate ancillary development including staff amenities, change rooms, office space, an engineered water management system, closed cycle effluent treatment, workshops, emergency diesel generators and site landscaping.

The project also requires the construction of internal site roads, dead broiler storage, poultry bedding storage, four new groundwater bores to be located in pairs, electricity reticulation from the Coleambally sub-station and the construction of an upgraded intersection at the sites access road with the Sturt Highway.

The proposed development would operate on an approximate nine week production cycle in which a maximum of 3.92 million broilers would be received on-site, grown to their desired processing weight and removed live for off-site processing. An average of 5.7 production cycles would take place per year. Due to the nature of the poultry meat industry, the Applicant proposes to operate the development on a 24 hour a day 7 day a week basis. However, the majority of the operational activities for the site would take place during normal weekday working hours, with the exception of broiler removal from the site.

The proposed development has a Capital Investment Value of approximately \$63 million and is expected to create 30 full time jobs and 20 construction jobs at the site.

The Proposed development is classified as State Significant Development under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) because it involves development with a Capital Investment Value of over \$30 million for an intensive livestock agriculture operation meeting the criteria in Clause 1 of Schedule 1 in *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). Consequently, the Minister for Planning is the consent Authority for the application.

The Department exhibited the Environmental Impact Statement (EIS) for the application from Tuesday 26 May 2015 until Friday 26 June 2015. The Department received a total of 24 submissions. This included nine submissions from Councils and government agencies, two from special interest groups and 13 from the general public. Of the 15 submissions received from the general public and special interest groups, three provided comment (20%) and 12 submissions objected to the proposal (80%).

Key issues raised in submissions included:

- air quality impacts with respect to odour and dust;
- water impacts regarding flooding, water consumption and groundwater infiltration;
- impacts on Aboriginal Cultural Heritage;
- biodiversity impacts from clearing;
- traffic and access impacts; and
- solid waste management, noise, visual amenity and animal welfare.

The Department's assessment of the application has considered all relevant matters under Section 79C of the EP&A Act, the objects of the EP&A Act and the principles of ecologically sustainable development. The Department's assessment concluded that the design of the development and the proposed management measures would appropriately mitigate the environmental impacts of the development. In addition, the proposed development would support the chicken meat industry in the region and existing poultry supply chains, as well as provide additional employment opportunities in the Riverina region. While there may be some short term noise and dust impacts associated with construction works, the operation of the development is not expected to result in any additional flood risk to surrounding properties and would have minimal impact on air quality, groundwater resources and the regional road network.

The Department has recommended a number of conditions including measures to manage and monitor air quality and odour, noise limits, traffic, animal welfare, flooding, water, waste, disease management, biodiversity and heritage. The Department has also recommended conditions for on-going environmental management, including regular and incident reporting as well as regular independent environmental audits.

The proposed development would help meet current and forecast demand for chicken meat and chicken meat products. With the implementation of the recommended conditions, it is considered that the impacts of the development can be appropriately managed and/or mitigated.

Consequently, the Department considers that the development meets all relevant environmental and amenity criteria and that the development is in the public interest and is recommended for approval, subject to conditions.

## 1. BACKGROUND

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### 1.1. The Proposal

ProTen Limited (the Applicant) is seeking development consent to construct and operate an intensive livestock agriculture operation consisting of a poultry production complex at Euroley in the Narrandera Local Government Area (LGA). The poultry production complex will be used to rear broiler chickens for human consumption. The development would consist of five 'farms' termed poultry production units (PPU). Each PPU consists of 16 tunnel ventilated, climate controlled sheds (a total of 80 sheds). Each shed is proposed to contain a maximum of 49,000 broilers, creating a maximum PPU population of 784,000 broilers and a maximum farm population of 3,920,000 broilers at any one time. The development would operate on an approximate nine week production cycle, with an average 5.7 cycles taking place each year.

The application also proposes the construction of supporting infrastructure including ten dwellings to be used as farm manager's accommodation, civil works (including internal roads, water, gas and electricity services), back up diesel generators, staff amenities, chemical, rice hull and dead broiler storage, feed silos, LPG storage, PPU workshops and wheel wash facilities to support the operation of the farm.

ProTen specialises in the design, construction and operation of chicken meat farms throughout Australia and currently operates eight poultry farms, including seven in NSW near the township of Griffith and Tamworth, and one in Western Australia near the township of Serpentine. ProTen's existing farms represent approximately seven percent of broiler chicken production in Australia. The Applicant has contracts with Baiada Poultry Pty Ltd (Baiada) to supply chickens for the sale of a range of chicken products under the Steggles and Lilydale brand names.

### 1.2. Site and Surrounding Land Uses

The subject site is located in Euroley in south western NSW on a large rural property off the Sturt Highway in the Narrandera LGA. The site is approximately 26 kilometres (km) north west of the town of Narrandera and 48 km south east of Griffith. A locality plan of the subject site is in **Figure 1** overleaf.

The site is approximately 1,160 ha in area and is mostly flat, ranging between 133 metres and 138 metres Australian Height Datum (AHD) and consists of heavily grazed rural land with a history of clearing and traditional agricultural activities. The Murrumbidgee River is 9 km north of the site at its nearest point. Yanco Creek is located approximately 8 km to the east. The site is located in a sparsely populated area with a low density of existing dwellings. Three existing dwellings are located within five km of the site, with the nearest one located 2.1 km to the north of PPU1. One approved but unconstructed dwelling is located near the eastern boundary, approximately 2 km from PPU2 (see **Figure 2** for nearby receptors).

The majority of the surrounding land is zoned RU1 Primary Production and includes agricultural activities such as traditional grazing, cropping, irrigated cropping and horticulture. Existing almond farms are located to the north of the site. Part of the western boundary of the site is adjacent to the South West Woodland Nature Reserve within the Murrumbidgee Valley National Park, both of which are zoned E1 National Parks and Nature Reserves. The site also contains several unformed Crown Roads (see **Figure 3**).

The site is legally described as part lot 39 DP 750876, part lots 12 and 15 DP 750898, lots 1, 41, 42, 44, 45 and 54 in Deposited Plan 750898, and Lot 1 in Deposited Plan 1054064.





Figure 1: Site Context (Source: EIS)



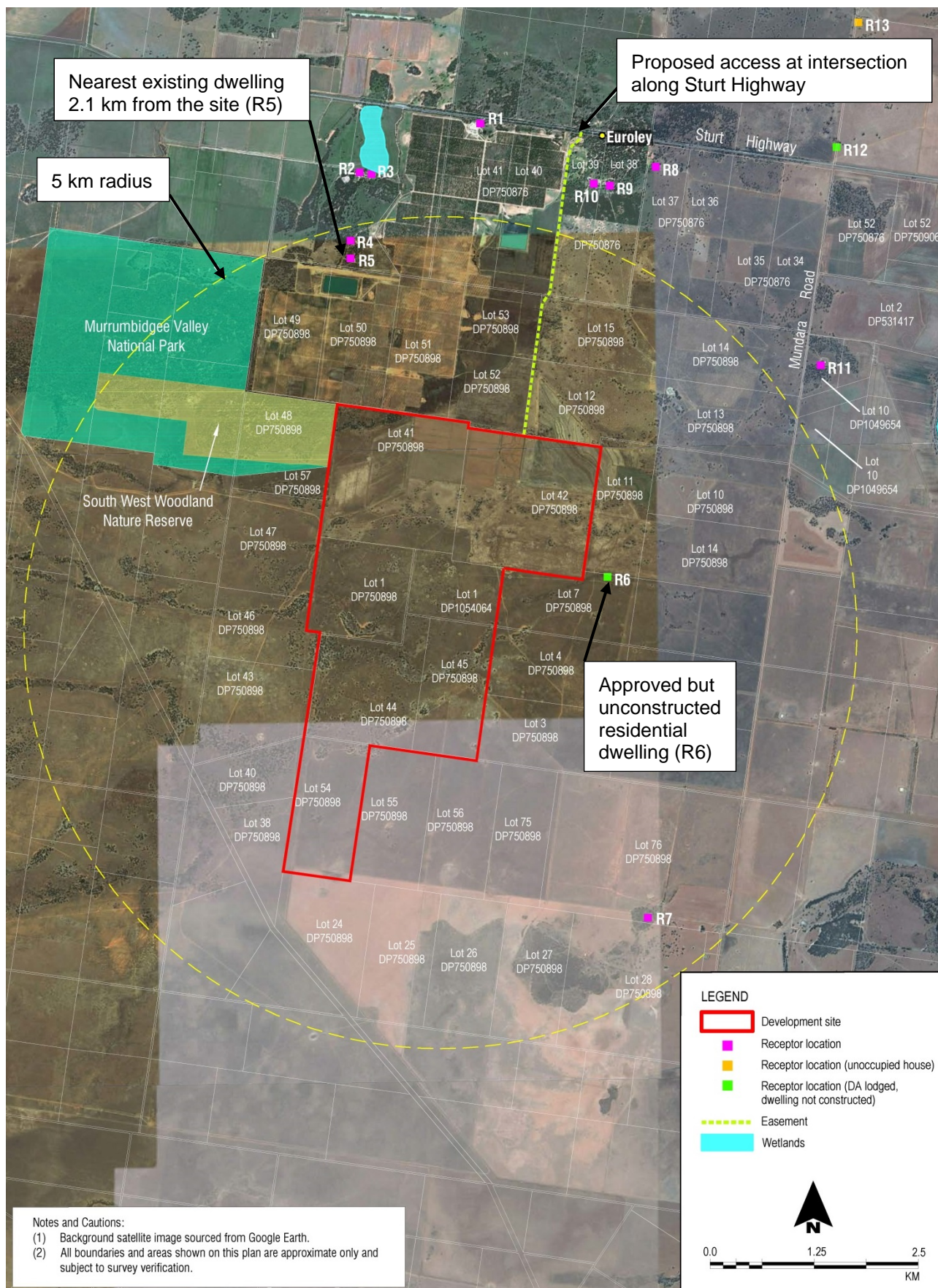


Figure 2: Site Extent (Source: EIS)



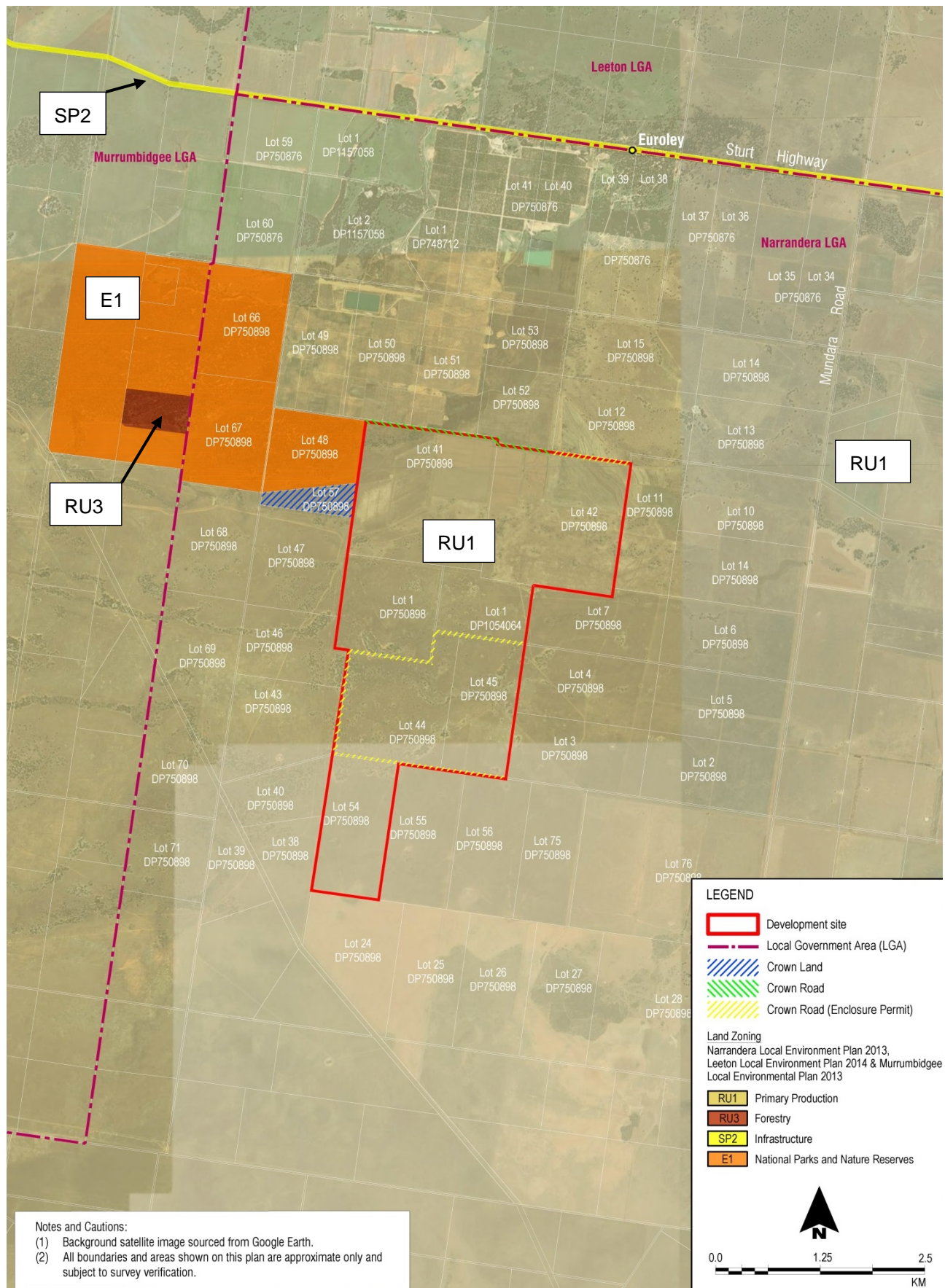


Figure 3: Site Zoning Context (Source: EIS)

### 1.3. Chicken Meat Production Systems

The chicken meat industry consists of a number of vertically integrated operations that combine to produce a range of chicken meat products including fresh chicken pieces, whole fresh chicken, processed chicken and frozen raw chicken. Components in the production chain consist of breeding farms, hatcheries and growing farms.

#### *Breeder Farms*

Breeder farms are specialist, independent operations that house grandparent and parent broiler chickens to provide fertile eggs to be used in the commercial meat process. Broiler stock at breeder farms are housed in high biosecurity farms, typically at lower densities in large deep-litter sheds. The day old progeny of the eggs produced at breeder farms are collected on a daily basis and transported to a hatchery to ultimately supply chicken meat production farms with broilers<sup>a</sup>.

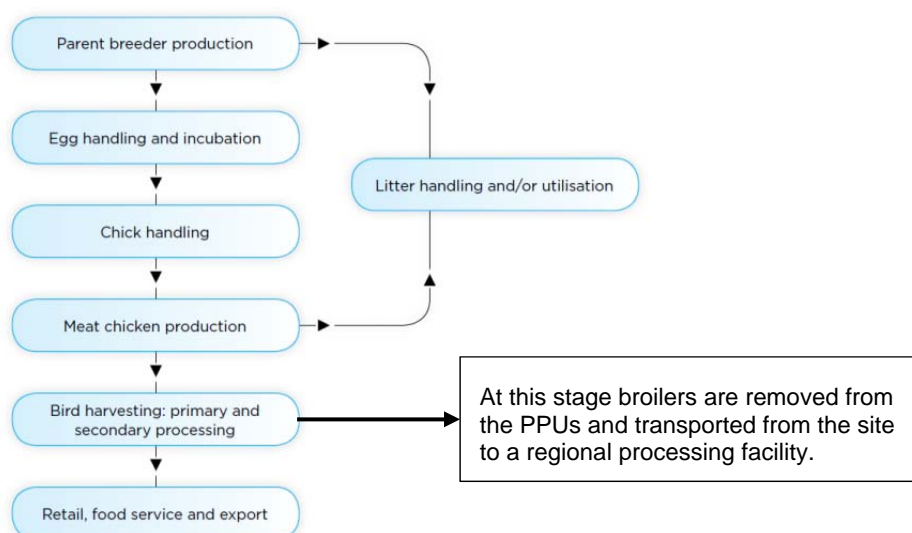
#### *Hatcheries*

Eggs taken from breeder farms are incubated for 21 days until they hatch. Hatcheries are physically separated from other related poultry operations to maintain biosecurity standards. The day old chicks are graded for quality and sex, are vaccinated and then dispatched to a meat production facility<sup>b</sup>.

#### *Chicken meat production farms*

The development proposal subject to this report is a chicken meat production farm for the growing of broiler chickens. Broiler chickens are a domesticated fowl, selectively bred for meat production. **Figure 4** below provides a flow diagram of the meat production process. Day old broiler chicks are delivered from hatcheries and raised in large ventilated sheds to their desired processing weight. The proposed development would have a production cycle of approximately nine weeks, with broiler occupation lasting eight weeks with a one week for cleaning and preparation for the start of the next production cycle.

In the poultry industry, the design of modern poultry sheds has moved away from naturally mechanically ventilated sheds, to an enclosed tunnel ventilated design that uses computerised controls to monitor temperature, humidity and air quality conditions<sup>c</sup>. All poultry growers have contracts with large meat chicken processors. Poultry growers contract to provide labour, farm management, plant and equipment and bedding to rear the broilers. The processor provides the day old chicks, feed, medication and chicken delivery/pickup crews and transport.



**Figure 4:** Flow diagram of the poultry meat production process (Source: DPI, 2012)

<sup>a</sup> DPI 2012, Best Practice Management for Meat Chicken Production in New South Wales, Manual 1 (Site Selection & Development). 4

<sup>b</sup> Ibid – Note Ibid refers to a references taken from the same document listed previously.

<sup>c</sup> Ibid

## 2. PROPOSED DEVELOPMENT

### 2.1. Development Summary

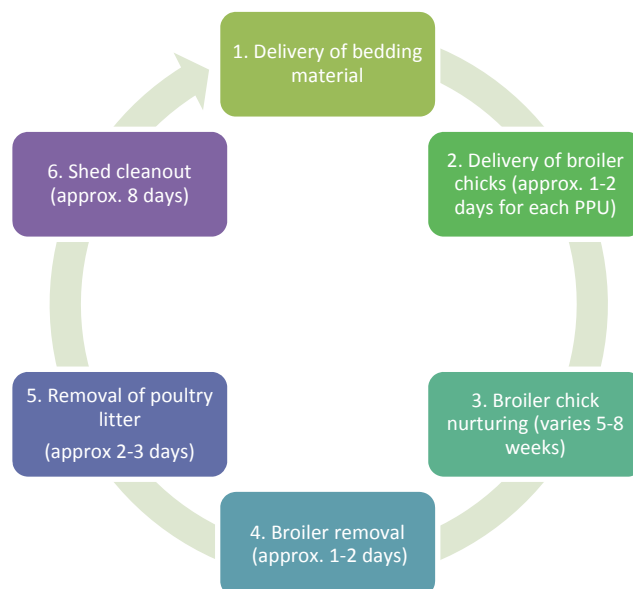
ProTen Limited (the Applicant) is seeking development consent to construct and operate an intensive livestock agriculture operation in the form of a poultry production complex. The major components of the development are summarised in **Table 1** and depicted in **Figure 6** to **Figure 7**. Indicative images of one of ProTen's existing poultry operations at Rankin Springs (approximately 50 km north of Griffith) are shown in **Figure 8** to **Figure 11**. The proposed development is described in full in the Environmental Impact Statement (EIS) (**Appendix D**), and in the RTS (**Appendix F**).

**Table 1:** Key development components

Aspect	Description				
<b>Development Summary</b>	Construction and operation of an intensive livestock industry consisting of a poultry production complex comprising of five groups of 16 sheds for the rearing of broiler chickens for human consumption				
<b>Site area and development footprint</b>	<ul style="list-style-type: none"> <li>The site is approximately 1,160 hectares in area</li> <li>Development footprint of around 90 hectares</li> </ul>				
<b>Poultry sheds</b>	<ul style="list-style-type: none"> <li>80 tunnel ventilated, fully enclosed, climate controlled poultry sheds measuring 160 metres long by 17 metres wide and 4.5 metres high</li> </ul>				
<b>Poultry Production Units (PPU)</b>	<ul style="list-style-type: none"> <li>Five PPUs each containing 16 poultry sheds</li> </ul>				
<b>Farm population statistics</b>	<ul style="list-style-type: none"> <li>49,000 broilers per shed, with a maximum PPU population of 784,000 broilers for a total farm population of 3,920,000 broilers at any one time</li> </ul>				
<b>Maximum broiler density</b>	<ul style="list-style-type: none"> <li>1 broiler per 0.055m<sup>2</sup> of floor space</li> <li>40 kilograms of live weight per square metre</li> </ul>				
<b>Production cycle length</b>	<ul style="list-style-type: none"> <li>Approximately nine weeks with a maximum of eight weeks of broiler occupation and a cleaning/washout period of one week</li> </ul>				
<b>Production cycles per year</b>	<ul style="list-style-type: none"> <li>Approximately 5.7 cycles on average</li> </ul>				
<b>Road Traffic</b>	<table> <tr> <th>Construction - daily, two-way trips</th><th>Operation - daily, two way trips</th></tr> <tr> <td> <ul style="list-style-type: none"> <li>Light vehicles: 36</li> <li>Heavy vehicles: 32</li> <li>Total: 68</li> </ul> </td><td> <ul style="list-style-type: none"> <li>Light vehicles: 34</li> <li>Heavy vehicles: 62</li> <li>Total: 96</li> </ul> </td></tr> </table>	Construction - daily, two-way trips	Operation - daily, two way trips	<ul style="list-style-type: none"> <li>Light vehicles: 36</li> <li>Heavy vehicles: 32</li> <li>Total: 68</li> </ul>	<ul style="list-style-type: none"> <li>Light vehicles: 34</li> <li>Heavy vehicles: 62</li> <li>Total: 96</li> </ul>
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<b>Road Works</b>	<ul style="list-style-type: none"> <li>Intersection upgrades at the Sturt Highway and internal access roads involving the creation of an easement through privately owned land</li> </ul>				
<b>Development Timing</b>	<ul style="list-style-type: none"> <li>Construction is anticipated to take 18 months</li> </ul>				
<b>Earthworks</b>	<ul style="list-style-type: none"> <li>Internal access roads and construction pads for poultry sheds, detention dams, wheel washes, farm manager accommodation and ancillary infrastructure</li> </ul>				
<b>Landscaping</b>	<ul style="list-style-type: none"> <li>planting of 20,000 trees (in total) around the PPUs</li> </ul>				
<b>Supporting Infrastructure</b>	<ul style="list-style-type: none"> <li>10 dwellings for farm manager accommodation (one farm manager and one assistant farm manager per PPU)</li> <li>Construction of four new groundwater bores</li> <li>20 detention dams (7,500m<sup>3</sup> each)</li> <li>Four water storage tanks</li> <li>Drainage swales between sheds</li> <li>Electricity reticulation from the Coleambally sub-station</li> <li>Eight (8) above ground LGP storage tanks per PPU, with a capacity of 7,500 litres each (300,000 litres and 40 storage tanks in total)</li> <li>Automatic feed storage</li> <li>Dead broiler chilled storage</li> <li>Bedding material storage sheds</li> <li>Workshops and four emergency diesel generators at each PPU</li> </ul>				
<b>Hours of Operation</b>	24 hours a day, seven days a week, with the majority of activity occurring between 7:00 am and 7:00 pm				
<b>Capital Investment Value</b>	Approximately \$63 million				
<b>Employment</b>	<ul style="list-style-type: none"> <li>20 construction jobs</li> <li>30 full time jobs</li> </ul>				

## 2.2. Proposed Operations

In a chicken meat production farm (including this development), the production cycle typically lasts for nine weeks, with a maximum period of broiler occupation of eight weeks with one week of 'down-time' used to clean and prepare the sheds for the next batch of broilers. There are approximately 5.7 production cycles per year, with each cycle progressing through the steps outlined in **Figure 5** and detailed below:



**Figure 5:** Poultry farm production process

- 1. Delivery of bedding material.** An absorbent bedding material such as wood shavings, rice hulls and/or soft chopped straw is delivered and placed in each poultry shed, prior to receiving broiler chicks.
- 2. Delivery of broilers.** Day-old broiler chicks are delivered to the site from Baiada's hatchery operation in ventilated boxes by air-conditioned rigid trucks. On arrival, they are unloaded and placed into a hot air brooding section occupying one third to half of each shed.
- 3. Chick nurturing.** The broilers are nurtured to their desired live-weight which is typically achieved between five and eight weeks of age.
- 4. Broiler removal.** Periodic flock thinning occurs during the cycle as the broilers develop to maintain stocking density limits. Remaining broilers are collected from the sheds at the end of the cycle and transported to Baiada's processing facility at Hanwood.
- 5. Removal of poultry litter.** Following broiler removal, spent bedding material is removed from the sheds and transported off-site for disposal and/or potential re-use.
- 6. Shed cleanout.** "Total Clean" detergent and high pressure water is used to sanitise each poultry shed in preparation of the next production cycle. The washout water drains into grassed swales between each poultry shed.

To facilitate a single age flock and to minimise the risk of disease transfer, the development is proposed to operate on an all-in/ all-out basis, with each PPU being populated with broilers over one to two days. All PPUs would be populated over 11 days, or on average 2.2 days apart. Each PPU would be separated by a minimum of 1,000 metres to further reduce biosecurity risks. Biosecurity risks are also minimised through site layout, with separation distances of over 1 km between each PPU.

### Farm Manager Accommodation

Consistent with standard poultry farm practices, farm managers and assistant farm manager accommodation will be located on the site, in close proximity to the PPUs, due to the 24 hour, seven day a week nature of poultry farm operations. This is to ensure that changes to the environmental conditions of the sheds and external environmental impacts to the rearing process are minimised and any adverse impacts to broiler growth are mitigated immediately.



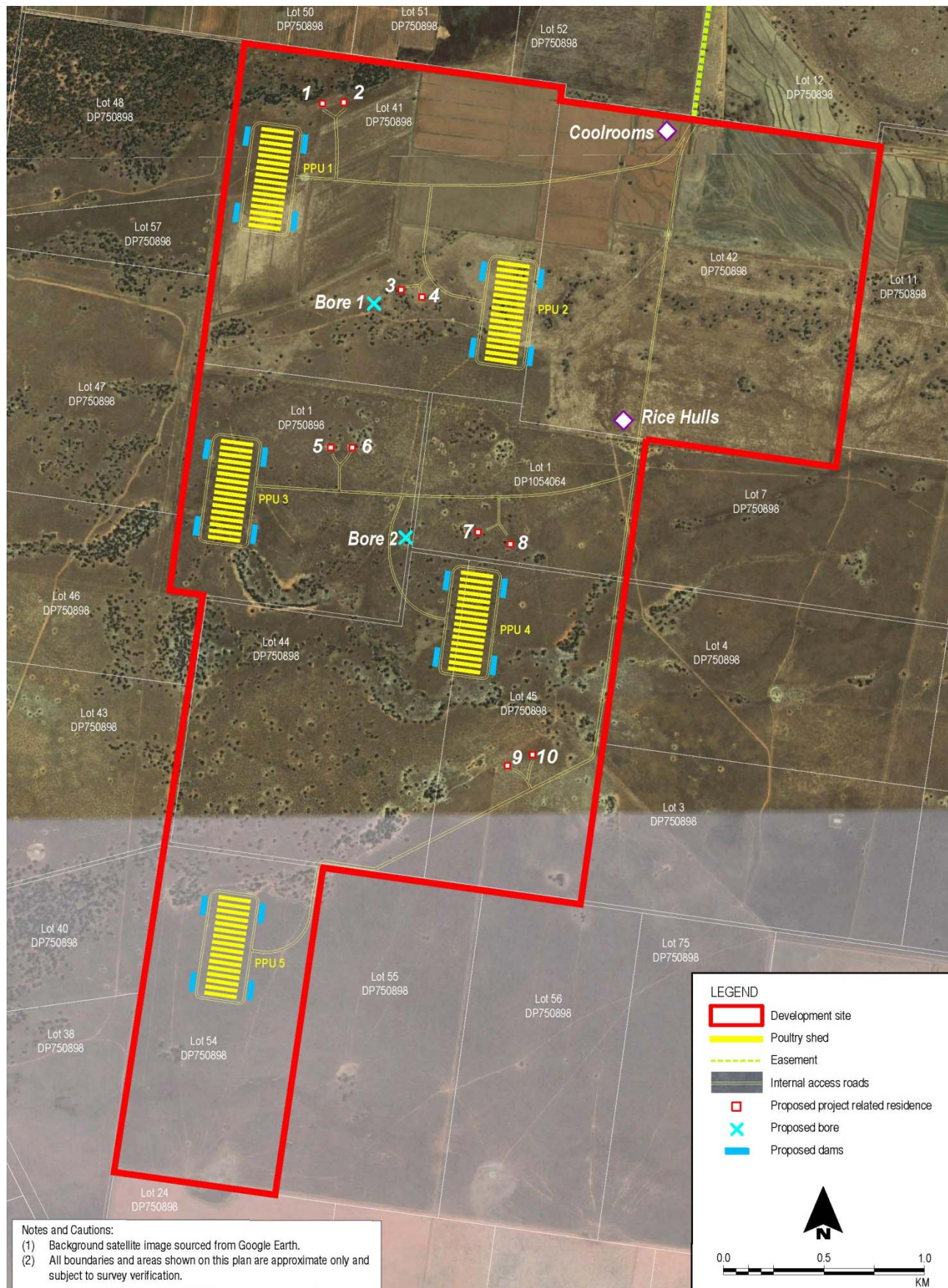
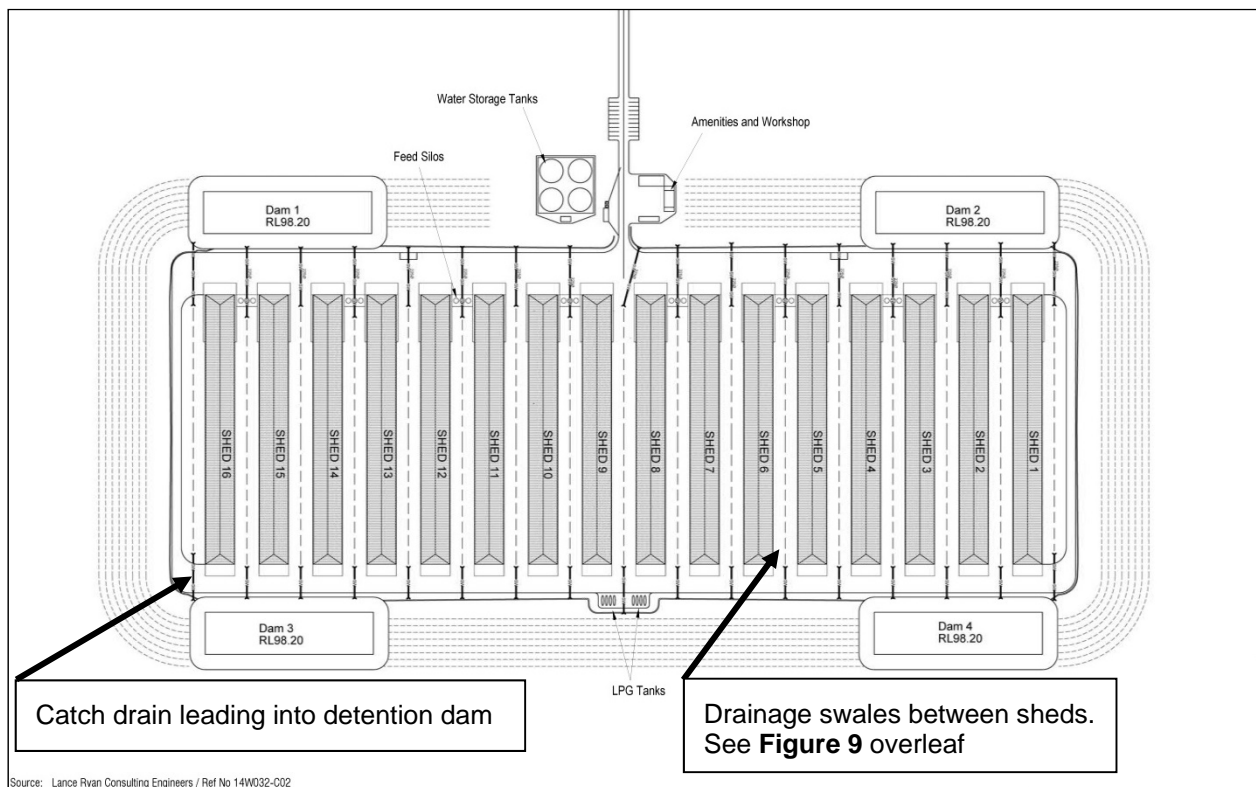
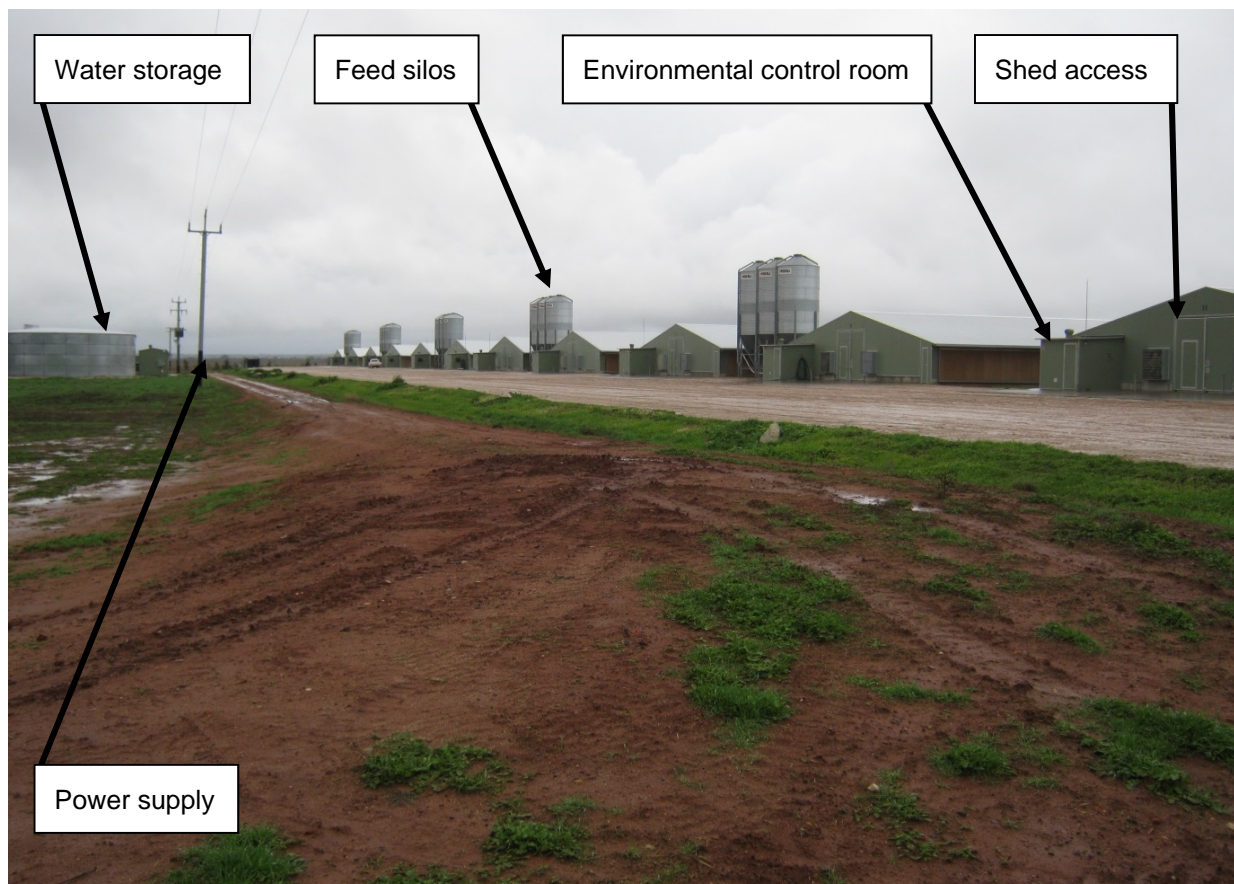


Figure 6: Conceptual Layout Plan (Source: RTS)



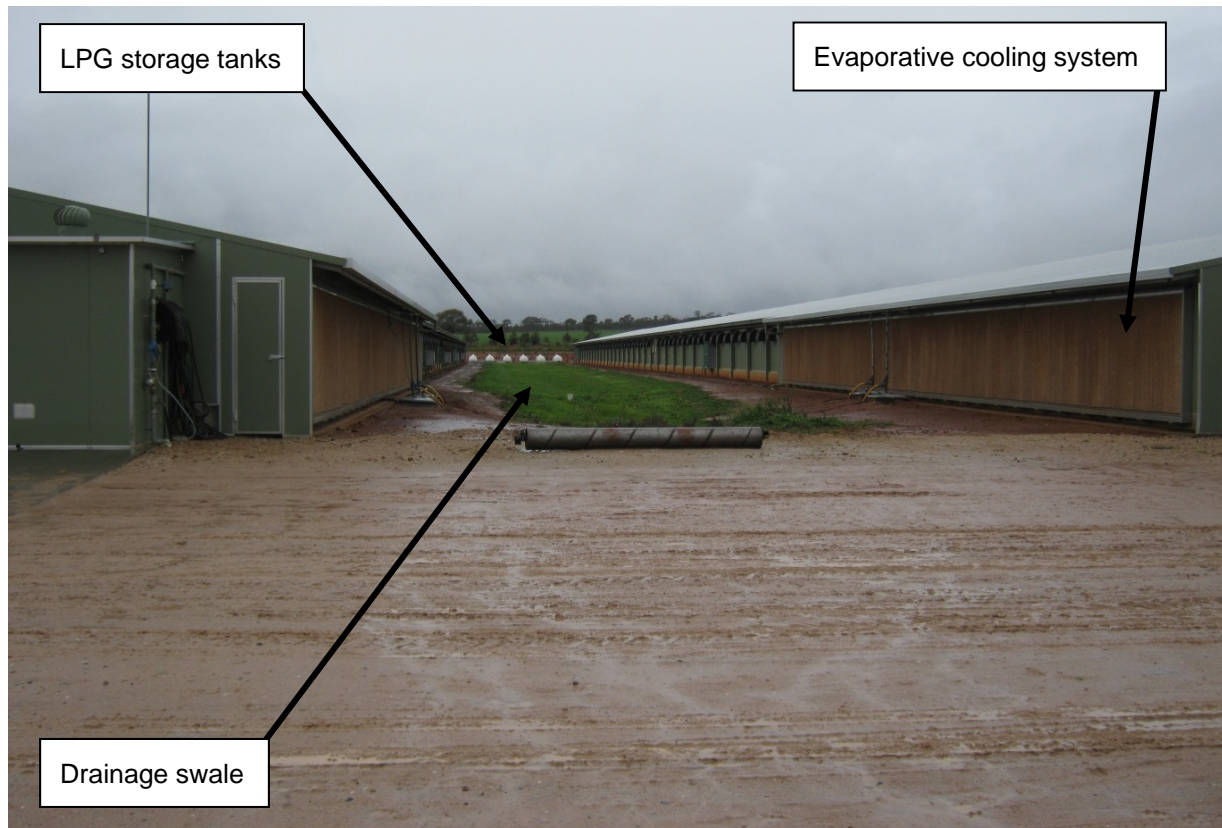


**Figure 7:** Indicative PPU layout (Source: EIS)



**Figure 8:** Front view of poultry sheds at Rankin Springs, Carrathool LGA (Source: DPE, 2015)





**Figure 9:** Drainage swales and LPG storage (Source: DPE, 2015)



**Figure 10:** Rear view of poultry sheds (Source: DPE, 2015)



**Figure 11:** Internal view of a poultry shed (Source: EIS)

### 2.3. Project Need and Justification

Chicken meat production and consumption in Australia has grown consistently over the last decade up to 2013-14. Consumption has averaged five percent growth per year and is currently the most consumed meat in Australia and accounts for nearly one-quarter of meat production in Australia<sup>d</sup>. In 2013-14, 1.08 million tonnes of chicken meat was produced in Australia<sup>e</sup>. In 2015-16, total chicken meat production is forecast to increase by four per cent to 1.16 million tonnes, in response to strong domestic demand<sup>f</sup>.

NSW is the largest chicken meat producing state having produced 358,000 tonnes in 2014-15, which is a two percent increase from 2010-11 production levels with chicken meat consumption anticipated to rise by two percent in 2015-16 to 46.2 kilograms per person<sup>g</sup>. This growth in domestic demand is largely price driven, with chicken meat being on average 50 percent cheaper than pork, 59 percent cheaper than lamb and 65 percent cheaper than beef on a per kilogram basis over the last five years to 2014-15<sup>h</sup>. The increase in chicken meat consumption is also supported by consumers viewing chicken as a lean source of protein<sup>i</sup>.

ProTen operates eight poultry production complexes throughout Australia with a combined capacity of 42 million broilers, representing seven percent of broiler chicken production in Australia. ProTen has contracts with Baiada Poultry Pty Ltd (Baiada) to supply chickens for the sale of a range chicken products under the Steggle's and Lilydale brand names.

ProTen therefore proposes to construct and operate the new broiler facility at Euroley to meet the immediate and projected long-term increase in the demand for broiler chickens and chicken meat products.

<sup>d</sup> ABARES 2015, Agricultural commodities: March quarter 2015. CC BY 3.0. 129

<sup>e</sup> Ibid

<sup>f</sup> ABARES 2015, Agricultural commodities: September quarter 2015. CC BY 3.0. 104

<sup>g</sup> Ibid

<sup>h</sup> Ibid 105

<sup>i</sup> Ibid

The chicken meat industry is well established in NSW both within the Sydney metropolitan basin and in the NSW regions including the Central Coast, Hunter Valley, Tamworth, North Coast and Griffith. Tamworth and Griffith are the two key regional chicken meat production areas in NSW. Regions like Griffith have centralised feed, hatchery and processing facilities operated by one entity that oversee the entire supply chain of chicken meat.

To operate effectively, broiler farms need to be located in close proximity to supporting operations and utilities, typically within a few hours drive, to minimise transportation costs and ensure broiler welfare. Other considerations include adequate transport routes, a secure water supply and access to electricity. Site selection is also guided by the Department of Primary Industries *Best Practice Management for Meat Chicken Production in NSW* which advises on land use zoning and separation distances to urban areas, residencies, existing poultry farms, water courses and waterbodies.

ProTen considers the site is suitable for a new production farm as the following chicken meat related facilities are already operating in the Griffith region:

- Baiada's chicken hatchery facility located approximately three km west of Griffith on Snaldero Road;
- Baiada's feed mill facility located to the south of the township of Hanwood on the corner of Kidman Way and McWilliams Road; and
- Baiada's poultry processing complex, which includes a protein rendering/recovery plant, is also located approximately one km south of Hanwood along Kidman Way and Murphey Road.

The site and its internal layout provides minimum separation distances of 2.1 km from existing residencies, 9.7 km from the Yanco Creek (nearest watercourse), 20 km from the nearest poultry farm. The Sturt Highway provides access to the regional road network. The site has a reliable groundwater supply from the Murrumbidgee Groundwater Management Area and the Applicant is proposing to service the site with electricity from the Coleambally sub-station.

### 3. STRATEGIC AND STATUTORY CONTEXT

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#### 3.1. Strategic Context

The NSW Government's main priority in *NSW 2021* is to restore economic growth by improving the performance of the economy to deliver jobs, opportunities and increased prosperity to the State (Goal 1) through a number of specific targets. These targets include increasing business investment and economic output and ensuring that employment growth continues at a steady state and is shared by all of the community.

The proposal strongly correlates with the aims and objectives of the *Riverina Regional Action Plan*, which supports *NSW 2021*. The action plan aims to promote a skilled and competitive workforce, coordinate service delivery and deliver infrastructure to communities with the Riverina area.

The Department considers that the proposal achieves the aims of the applicable State plans, through the following:

- the objectives of *NSW 2021* via the investment of \$63 million in the proposed development which would have flow on economic benefits and create 20 jobs during construction and 30 full time jobs during operation;
- generating an estimated \$33 million in feed sales per annum;
- provide increased work for independent contractors involved in the poultry industry including chicken collection and processing and chicken feed;
- providing cyclical employment with each production cycle; and
- the planning objectives of the Riverina Regional Action Plan, in support of *NSW 2021* which promotes:
  - the support of businesses and industries with a competitive advantage in the Riverina Region;
  - the Riverina Region as an attraction for new businesses and residents;
  - the poultry industry in the Riverina region; and
  - the responsible management of natural resources to achieve environmental and economic sustainability in the region.

#### 3.2. State Significant Development

The proposal is State significant development pursuant to section 89C of *Environmental Planning and Assessment Act 1979* (EP&A Act) because it involves development with a Capital Investment Value (CIV) of



more than \$30 million for the purposes of livestock intensive agriculture. The proposal has a CIV of approximately \$63 million. As such, the proposal triggers the criteria in Clause 1 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). The Minister for Planning is the consent authority for State significant development.

### 3.3. Consent Authority

On 14 September 2011, the Minister delegated the functions to determine SSD applications to the Planning Assessment Commission (the Commission) where reportable political donation applications have been made under section 147 of the EP&A Act.

Under the Ministerial Delegation, the Commission can determine the SSD application as a reportable political donation application was disclosed in a submission received from the general public during the exhibition period of the development application and the accompanying EIS.

### 3.4. Permissibility

Under the *Narrandera Local Environmental Plan 2013* (LEP), the site of the proposed development is zoned RU1 Primary Production. Intensive livestock agriculture, including the keeping or breeding of poultry for commercial purposes, including poultry farms is permissible with consent.

Clause 4.2C of the LEP aims to minimise unplanned rural residential development and enable the replacement of lawfully erected dwelling houses in rural and environmental protection zones. The clause states that the minimum lot size for the erection of rural residential development is 400 ha. The site currently consists of land parcels smaller than 400 ha and no existing dwellings are located on the site. This clause does not apply to ancillary development.

Ten dwelling houses would be constructed as part of the application. Two dwellings would be associated with each PPU and would be occupied by a farm manager and assistant farm manager who would be on-call 24 hours a day, 7 days a week.

The Applicant provided legal advice, concluding that as the development is for the purposes of intensive livestock agriculture, the ten dwellings for farm manager's accommodation are considered to be ancillary development, and therefore clause 4.2C of the LEP is not a relevant consideration under section 79C of the EP&A Act.

The Applicant has further advised that the dwellings houses will remain in the ownership of the Applicant and that the occupation of the dwellings by farm managers forms part of their remuneration package under a tenancy arrangement. Lastly, the dwellings would be periodically inspected by the Applicant.

The Department is satisfied that the dominant purpose of the development proposal is for intensive livestock agriculture, of which the residential dwellings for manager's accommodation is an ancillary component of the development required to facilitate its operation. The Department considers that the proposed development is permissible and has recommended conditions to ensure the managerial accommodation is restricted to persons employed by the Applicant, their spouse and dependents. This issue and is discussed further in **Appendix C** of this report.

### 3.5. Considerations under Section 79C of the EP&A Act

Section 79C of the EP&A Act sets out the matters to be considered by a consent authority when determining a development application. The Department's consideration of these matters is provided for this report in **Appendix B**. In summary, the Department is satisfied that the proposed development is consistent with the requirements of section 79C of the EP&A Act.

### 3.6. Environmental Planning Instruments

The following Environmental Planning Instruments (EPIs) were considered in the assessment of the proposed development:

- *SEPP (State and Regional Development) 2011*;
- *SEPP (Infrastructure) 2007*;
- *SEPP No. 33 – Hazardous and Offensive Development (SEPP 33)*;

- SEPP No. 55 – Remediation of Land (SEPP 55);
- SEPP (Rural Lands) 2008; and
- Narrandera Local Environmental Plan 2013.

Detailed consideration of the provisions of all EPIs that apply to the proposed development is provided in **Appendix C** of this report. The Department is satisfied that the proposed development complies with the relevant provisions of these EPIs.

### 3.7. Objects of the EP&A Act

In determining a development application, the consent authority must consider whether the proposed development is consistent with the relevant objects of the EP&A Act. These objects are detailed in Section 5 of the EP&A Act, and include:

- (a) to encourage:
  - (i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,
  - (ii) the promotion and co-ordination of the orderly and economic use and development of land,
  - (iii) the protection, provision and co-ordination of communication and utility services,
  - (iv) the provision of land for public purposes,
  - (v) the provision and co-ordination of community services and facilities, and
  - (vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and
  - (vii) ecologically sustainable development, and
  - (viii) the provision and maintenance of affordable housing, and
- (b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and
- (c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

The Department has fully considered the objects of the EP&A Act, including the encouragement of Ecologically Sustainable Development (ESD), in its assessment of the application.

The Department considers that objects 5(a) (i), (ii), (vi) and (vii), 5(b) and 5(c) are most relevant to the merit assessment of this application. The Department has given due consideration to these objects in its assessment of the proposed development (see **Table 2**).

**Table 2:** Objects of the EP&A Act and Relevance to the Proposed Development

Object	Consideration
5(a)(i)	The proposed development would ensure the proper management and development of suitably zoned (i.e. primary production) land for the economic enhancement of the community including the provision of 30 full-time equivalent jobs within the Griffith region. The proposed development has been designed to meet current best practice environmental standards against the relevant codes of practice for the poultry industry. The potential impacts of the proposed development have been minimised through appropriate site selection, site layout, design and proposed environmental control measures.
5(a)(ii)	The proposed development is located on suitably zoned primary production land and would be used economically to ensure the employment of 30 operational staff and cyclical employment during the production cycles of each PPU.
5(a)(vi)	The Department's assessment in <b>Section 5</b> of this report demonstrates that with the implementation of the recommended conditions of consent, the impacts of the development can be mitigated and/or managed to ensure the environment is protected.
5(a)(vii)	The Department's assessment of the Applicant's biodiversity assessment in <b>Section 5</b> of this report demonstrates that, with the implementation of the recommended conditions of consent, any biodiversity impacts can be appropriately mitigated and/or managed.
5(b)	The Department has assessed the development in consultation with, and giving due consideration to, the technical expertise and comments provided by other Government

Object	Consideration
	authorities including council on the development. This is consistent with the object of sharing the responsibility for environmental planning between the different levels of government in the State.
5(c)	The application was exhibited in accordance with Section 89F (1) of the EP&A Act to provide public involvement and participation in the environmental planning and assessment of this application. The Department also consulted with the relevant government authorities and council during the preparation of the EIS.

### 3.8. Ecologically Sustainable Development

The EP&A Act adopts the definition of Ecologically Sustainable Development (ESD) found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- (a) the precautionary principle;
- (b) inter-generational equity;
- (c) conservation of biological diversity and ecological integrity; and
- (d) improved valuation, pricing and incentive mechanisms.

The Department's assessment of the proposed development (see **Section 5**) is based on a conservative and rigorous assessment of the likely impacts of the proposed development, with consideration of cumulative impacts.

The Department has considered the need to encourage the principles of ESD, in addition to the need for the proper management and conservation of natural resources, the orderly development of land, the need for the proposed development as a whole, and the protection of the environment including threatened species within **Section 5** of this report.

As a result of this assessment the Department, in consultation with the Office of Environment and Heritage (OEH), has concluded that the biodiversity assessment undertaken by the Applicant and the proposed biodiversity management measures for the proposed development demonstrates that biodiversity impacts of the proposal are minimal and can be appropriately mitigated and/or managed through the recommended conditions of consent.

### 3.9. Environmental Planning and Assessment Regulation 2000

Subject to any other references to compliance with the EP&A Regulation cited in this report, the requirements for notification (Part 6, Division 6) and fees (Part 15, Division 1AA) have been complied with.

### 3.10. Integrated Approvals

Section 89K of the EP&A Act requires further approvals to be obtained, considered or determined in a manner that is consistent with any Part 4 approval for SSD projects under the EP&A Act. In the case of the proposed development, an Environment Protection License (EPL) will need to be applied for and issued by the Environment Protection Authority (EPA) under the *Protection of the Environment Operations Act 1997*. The Applicant will also need to obtain approval from the Roads and Maritime Services (RMS) under section 138 of the *Roads Act 1993* to carry out the intersection upgrades along the Sturt Highway (HW14).

The Department has consulted with the EPA and Roads and Maritime Services and has considered the relevant issues relating to these approvals in the assessment of the development application (see **Section 5** of this report).

## 4. CONSULTATION AND SUBMISSIONS

### 4.1. Public Exhibition

Under Section 89F(1) of the EP&A Act, the Secretary is required to make the Development Application (DA) and EIS and any accompanying information publicly available for at least 30 days. The Department made the DA and EIS:

- publicly available from **Tuesday 26 May 2015** until **Friday 26 June 2015**:

- on the Department's website;
- at the Department's Information Centre (Sydney);
- at the Department's regional office (Dubbo);
- at the offices of Narrandera Shire Council, Leeton Shire Council, Murrumbidgee Shire Council and Griffith City Council;
- notified landowners adjacent and surrounding the proposed development about the exhibition period by letter;
- notified relevant State government authorities;
- invited comments from Narrandera Shire Council, Murrumbidgee Shire Council, Leeton Shire Council and Griffith City Council; and
- advertised the exhibition of the development application in the Narrandera Argus, the Murrumbidgee Irrigator and the Griffith Area News.

The Department received a total of 24 submissions during the exhibition period consisting of nine submissions from Councils and government agencies, two submissions from special interest groups and 13 submissions from the general public. Of the 15 submissions received from special interest groups and the general public, three provided comment (20%) and 12 submissions objected to the proposal (80%).

A summary of the issues raised in submissions is provided within **Sections 4.2, 4.3 and 4.4** below.

## 4.2. Public Authority Submissions

The relevant public authorities have been consulted on the proposed development. Nine submissions from public authorities were received during the exhibition including submissions from Narrandera Shire, Griffith, Murrumbidgee and Leeton Councils, the Environment Protection Authority (EPA), Office of Environment and Heritage (OEH), Department of Primary Industries (DPI), Roads and Maritime Services (RMS) and Essential Energy.

The key issues raised in the public authority submissions are summarised in **Table 3** below and overleaf. The submissions received from government authorities can be found at **Appendix E**.

**Table 3: Key Issues Raised by Council and Agencies**

<b>Agency</b>	<b>Key Issues</b>
<i>Narrandera Shire Council (Council)</i>	The <b>Council</b> raised no objection to the project and provided recommended conditions of consent for the development proposal
<i>Leeton Shire Council</i>	Leeton Shire Council raised no objection to the proposal provided that transport movements are restricted to the classified road network and conditions are imposed to regulate the environmental impacts of the proposal
<i>Murrumbidgee Shire Council</i>	Murrumbidgee Council raised no objection to the proposal and raised no issues
<i>Griffith City Council</i>	Griffith Council raised no objection and noted that it deemed that the proposal would not have any significant environmental impact on the Griffith Local Government Area
<i>Environment Protection Authority (EPA)</i>	The <b>EPA</b> raised no objection to the proposal however requested additional information to clarify the odour and air quality impacts of the development including: <ul style="list-style-type: none"> <li>• a revision to the air quality modelling to estimate the worst case odour emission scenario, overall odour risk of the project and additional sources of particulate emissions;</li> <li>• the presentation and justification of the variables and data sources used in the air quality modelling;</li> <li>• a revised air quality model with an odour criterion of 5 OU;</li> <li>• a revised cumulative assessment for particulate emissions; and</li> <li>• a demonstration of additional odour control options that could be implemented should odour impacts occur once operational</li> </ul>
<i>Office of Environment and Heritage (OEH)</i>	The <b>OEH</b> raised no objection to the proposal but raised concerns regarding biodiversity and aboriginal cultural heritage, including: <ul style="list-style-type: none"> <li>• that the credit calculator for the Framework for Biodiversity Assessment (FBA) is re-run to accurately assess credits and the biodiversity value of the site;</li> <li>• the identification and management of on-site flora, revegetation and landscaping works;</li> </ul>



Agency	Key Issues
	<ul style="list-style-type: none"> <li>establishment of a 100 metre buffer between the construction footprint and the boundaries of remnant vegetation;</li> <li>development of a pre-construction protocol for identification and management of rescued fauna;</li> <li>that a pre-clearance archaeological survey is undertaken for the revised road layout and location of PPU5 prior to construction;</li> <li>that site management plans are revised to include ACH site management; and</li> <li>any future changes to the development footprint outside the ACH study area accompanying the EIS is assessed in accordance with the <i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales</i></li> </ul>
Department of Primary Industries (DPI)	<p>The <b>DPI</b> raised no objection and provided comments relating to water treatment, flooding, groundwater and water supply impacts and provided a number of recommended conditions of consent and requested:</p> <ul style="list-style-type: none"> <li>confirmation that extracted groundwater is to be treated to drinking quality standards in accordance with <i>National Water Biosecurity Manual – Poultry Production</i> (DAFF 2009);</li> <li>clarification on the potential changes to the flood extent, flood velocities and flood depths as a result of the proposed structures of the development;</li> <li>clarification of the location of the proposed groundwater bores and the depth and location of existing groundwater bore users within a 5 km radius of the site</li> <li>a revision to the groundwater model;</li> <li>that a pump test of groundwater bores is carried out to confirm groundwater yields and water supply security;</li> <li>that the EIS establish pre-development depths and groundwater quality of the water table; and</li> <li>that the volume of water extracted from the authorised bores on-site is limited to 460 ML per year</li> </ul>
Roads and Maritime Services (RMS)	<p>The <b>RMS</b> raised no objection subject to the development being undertaken in accordance with the information submitted as part of the EIS and provided the following comments and recommended conditions of consent relating to:</p> <ul style="list-style-type: none"> <li>site access arrangements;</li> <li>that the proposed intersection works are consistent with the technical design standards for a Basic Right Turn (BAR) and Basic Left Turn (BAL) treatment;</li> <li>the design of the intersection upgrades are consistent with the relevant Austroads Standards for sight distances and sweep paths;</li> <li>that the proposed intersection upgrades are completed prior to the commencement of construction of the facility; and</li> <li>that the Applicant will be required to enter into a Works Authorisation Deed (WAD) with the RMS for the proposed road works</li> </ul>
Essential Energy	<b>Essential Energy</b> raised no objection to the proposal and raised no concerns.

The Department has considered the issues raised by government agencies in its assessment of the project in **Section 5** of this report.

#### 4.3. Special Interest Group Submissions

The Department received two submissions from special interest groups objecting to the proposal. The issues raised are summarised in **Table 4** below.

**Table 4:** Summary of Issues Raised by Special Interest Groups

Interest Group	Issues Raised
<b>Voiceless - The Animal Protection Institute (Voiceless)</b>	<p>Voiceless objected to the development proposal and raised several issues regarding animal welfare with respect to natural animal behaviours, disease, chicken growth and mortality management. Further issues raised included:</p> <ul style="list-style-type: none"> <li>consistency of the project with the LEP and RU1 zone;</li> <li>the economic impact assessment of the proposal;</li> <li>land use conflict with the neighbouring woodland reserve and Murrumbidgee</li> </ul>

<b>Interest Group</b>	<b>Issues Raised</b>
	Valley National Park; <ul style="list-style-type: none"> <li>• exceedance of the LPG thresholds under SEPP 33;</li> <li>• amenity impacts for farm manager accommodation;</li> <li>• electricity and water supply for the development;</li> <li>• waste treatment and contamination; and</li> <li>• farm monitoring and control systems for the proposal</li> </ul>
<b>Randren House Pty Ltd</b>	Objected to the proposal and raised issues regarding visual amenity, greenhouse gas emissions, impacts on existing infrastructure and utilities, air quality impacts, groundwater impacts, the accuracy of the meteorological assessment, the prevailing wind direction and site biosecurity

#### 4.4. Public Submissions

The Department received 13 submissions from the general public. These consisted of ten objections (77%) and three submissions providing comments (23%). A summary of the key issues raised in public submissions are listed in **Table 5** below.

**Table 5:** Key Issues Raised in Public Submissions

<b>Key Issue</b>	<b>Summary</b>
<i>Groundwater contamination</i>	<ul style="list-style-type: none"> <li>• potential contamination of groundwater aquifers from mass on-site burial and run-off from chemicals stored on-site</li> </ul>
<i>Flooding</i>	<ul style="list-style-type: none"> <li>• lack of access to the site in a flood event for feed delivery and broiler removal</li> <li>• concern regarding the assessment of flooding impacts on external access roads in the region and the capacity of on-site storage for broiler carcasses where access to the rendering plant is not possible</li> </ul>
<i>Air quality</i>	<ul style="list-style-type: none"> <li>• concern regarding odour and dust impacts on surrounding farms</li> <li>• dispute regarding the prevailing wind conditions in the region and subsequent air quality impacts on nearby receivers</li> </ul>
<i>Traffic and access</i>	<ul style="list-style-type: none"> <li>• turning lanes for site access from the Sturt Highway would need to be provided to reduce traffic risks</li> <li>• the location of the proposed access off the Sturt Highway is within a densely wooded area, potentially increasing the risk of road accidents</li> <li>• lack of consultation for the Traffic Impact Assessment and consideration of traffic impacts for access to Lot 30 DP 750876</li> <li>• concerns regarding site access for B-Doubles, intersection design and ponding of water along northern shoulder of the Sturt Highway</li> <li>• potential impacts to nearby properties for the closure/purchase of Crown roads within the site</li> </ul>
<i>Water supply and servicing</i>	<ul style="list-style-type: none"> <li>• potential impacts of the proposal on local water groundwater resources</li> <li>• potential impacts to the productivity of nearby domestic groundwater bores</li> </ul>
<i>Biosecurity</i>	<ul style="list-style-type: none"> <li>• potential increase of weed infestation on surrounding properties from proposed intersection upgrades</li> <li>• management plan for mass mortality and disposal should implemented</li> <li>• the potential for disease outbreak in broiler populations requiring mass disposal</li> </ul>
<i>Waste management</i>	<ul style="list-style-type: none"> <li>• the storage and disposal of waste from the proposal will result in environmental risk</li> </ul>
<i>Greenhouse gas</i>	<ul style="list-style-type: none"> <li>• the proposal will generate increased levels of carbon dioxide and contribute to greenhouse gas levels</li> </ul>
<i>Infrastructure and services</i>	<ul style="list-style-type: none"> <li>• existing infrastructure and services in the locality will be adversely affected</li> </ul>
<i>Economic impacts</i>	<ul style="list-style-type: none"> <li>• the proposed development would devalue neighbouring properties</li> <li>• impacts to the local tourism industry</li> </ul>
<i>Animal welfare</i>	<ul style="list-style-type: none"> <li>• animal wellbeing and the denial of natural animal behaviours</li> <li>• stocking densities within the development</li> <li>• the use of antibiotics in the production process</li> </ul>
<i>Visual impacts</i>	<ul style="list-style-type: none"> <li>• visual amenity impacts from the proposal</li> </ul>

## 4.5. Response to Submissions

On 1 September 2015, the Applicant submitted a Response to Submissions (RTS) on the issues raised by government agencies and the public during the exhibition of the proposal. As part of the RTS, the Applicant also provided additional information that included:

- civil and engineering drawings;
- addendums to the air quality, traffic, flooding and groundwater assessments;
- technical reports of groundwater bore test drilling and pumping;
- a preliminary site investigation for land contamination;
- a Crown lands license; and
- a revised biodiversity offset strategy.

During the preparation of the RTS, OEH attended a site visit with the Applicant to address its concerns regarding the biodiversity and aboriginal cultural heritage assessments. Following the site visit, OEH advised that issues relating to biodiversity and aboriginal cultural heritage had been progressed and accordingly have been addressed as part of the RTS by the Applicant.

The RTS was referred to the EPA, DPI and OEH to confirm that the issues raised had been adequately addressed.

## 5. ASSESSMENT

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The Department has considered the EIS, the issues raised in the submissions, and the Applicant's RTS in its assessment of the proposed development. The Department considers the key assessment issues are:

- odour and air quality;
- water impacts;
- aboriginal cultural heritage; and
- biodiversity.

Other assessment issues including traffic, animal welfare, groundwater, biosecurity and visual impacts have also been considered. These issues addressed in **Table 8** within **Section 5.5**.

### 5.1. Odour and air quality

Poultry farming is an inherently odour-producing process. There may also be the intermittent release of particulate matter (dust, PM<sub>10</sub>) as a result of farm operations. As such, appropriate siting, design and operational management practices are critical to ensure odour and particulate emissions do not have adverse impacts on the amenity of surrounding sensitive receivers. To evaluate the odour and particulate matter impacts of the proposed operations, the Applicant undertook a quantitative air quality impact assessment (AQIA) in accordance with the NSW EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (NSW EPA 2005).

The Department and the EPA considered the Applicant's assessment and raised some issues with the impact assessment. In particular, the modelling undertaken did not represent the worst case scenario for odour emissions, the odour risk of the project had not been considered (uncertainties in modelling, sensitivity analysis, reliability of mitigation measures) and all sources of particulates had not been included in the assessment. These issues are discussed below.

#### 5.1.1 Odour Emissions

##### *Odour Assessment*

In accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (DEC 2005), an odour criterion of 5 odour units (OU) was adopted for the odour assessment. In order to calculate an estimate of odour emissions from the farm during operations, the Applicant developed an odour emissions model. Odour emissions are primarily expelled from the shed ventilation system and are a factor of bird numbers, density, ventilation rates and farm management practices, particularly those aimed at controlling litter moisture.

Odour emission rates (OERs) for this assessment were based on data from a variety of existing meat chicken farms in Australia under various conditions, as well as theoretical considerations. To be conservative the assessment also assumed that all broilers would be placed into the farm on one day.

A scaling factor (K) was used to rate the design and management of sheds, where a value of 1 represents a very well designed and managed shed operating with minimal odour emissions. A K factor of 4 or 5 is very uncommon, representing a very poorly managed shed. The Applicant used a K factor of 2.2 to be conservative and to be consistent with the Queensland poultry best practice guide for plume dispersion modelling (PAEHolmes 2011). The results of the modelling demonstrated that odour concentrations at all of the nearest receptors are predicted to be at or below the criterion of 5 OU. The closest sensitive receptor, R5, had a predicted odour concentration of 4.7 OU.

The EPA considered that the modelled scenario of assuming all broilers are placed on one day did not account for variations in meteorological conditions over time. As part of the RTS, the Applicant modelled three scenarios to represent the staggered placement of broilers over a 10 day period commencing on Day 1, Day 14 and Day 28 of the modelled year (subsequently referred to as Runs 1, 2 and 3). Rather than rerunning the model for all receptors for all three scenarios, the Applicant chose five discrete representative receptors to model the worst case odour impacts. The results of this modelling are outlined in **Table 6** below.

**Table 6:** Receptor Concentrations for Worst Case Odour Impacts (OU)

<b>Receptor</b>	<b>Original Run</b>	<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>	<b>Maximum of Run 1 to 3</b>	<b>Average</b>	<b>Criteria</b>	<b>Compliance</b>
R5	4.7	4.5	3.6	3.9	4.5	4.0	5.0	Yes
R6 *	4.4	4.1	3.8	4.6	4.6	4.1	5.0	Yes
R7	2.1	2.4	2.3	2.3	2.4	2.3	5.0	Yes
R8	3.8	2.4	2.0	3.2	3.2	2.5	5.0	Yes
R11	2.8	2.2	2.2	2.8	2.8	2.4	5.0	Yes

\* R6 represents the location of a vacant block with DA approval for a dwelling

The project, as modelled by the Applicant, shows compliance with an odour criterion of 5 OU at all sensitive receivers.

However, the EPA considered that the additional modelling did not consider potential meteorological variations on odour impacts by modelling the placement of all broilers in the farm on one day commencing on Day 14 and Day 28 of the modelled year (not just Day 1). The Applicant argues that staging placement of broilers at the same time on Day 14 and Day 28 would not significantly change the modelled concentrations considering the conservatism in the emissions (as a function of the K factor) and that the development complies with the 5 OU contour.

The Applicant further advised that the simultaneous population of sheds across all PPUs would never occur during farm operations as it is inconsistent with its contractual arrangements with Baiada and Baiada's hatchery operations. Baiada's hatchery makes placements of broilers in farms on four days per week on Monday, Tuesday, Thursday and Friday, with no placements on Wednesday. Therefore at peak production, the hatchery will produce approximately 2,400,000 broilers or 600,000 per day. As each PPU will take up to 784,000 broilers, typical timing of broiler placement will occur over 11 days with placement in PPUs being a minimum of 1.5 days (36 hours) apart and on average, 2.2 days apart, as summarised in **Table 7**. Therefore, the Applicant considers the modelling is representative of potential impacts and reflects actual operations and any additional modelling of the simultaneous placement of broilers is unnecessary.

The Department and EPA acknowledge that during farm operations, it is unlikely that placement of broilers in all PPUs would occur simultaneously on one day. Therefore the modelling provides an acceptable representation of worst case odour impacts, with placement of broilers occurring in a staggered manner.

**Table 7:** Typical broiler placement across PPUs

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>TOTAL</b>
<b>PPU1</b>	600,000	184,000	-			784,000
<b>PPU2</b>		416,000	-	368,000		784,000
<b>PPU3</b>			-	232,000	552,000	784,000
<b>PPU4</b>	600,000	184,000	-			784,000
<b>PPU5</b>		416,000	-	368,000		784,000
<b>TOTAL</b>						<b>3,920,000</b>

To address any uncertainties in broiler placement and to ensure that broiler placement occurs in a staggered manner (which the Applicant has modelled as its 'worst case' scenario), the Department has recommended conditions of consent that prevent the simultaneous placement of broilers across PPUs on one day and requires a minimum time period of 36 hours between the commencement of broiler placement in each PPU with population of the entire farm (all five PPUs) limited to a minimum of 10 days. Further to this, the Applicant is required to comply with the stocking density standards detailed in the *National Animal Welfare Standards for the Chicken Meat Industry* (Barnett et al, 2008). The Applicant has accepted these conditions.

With the inclusion of these conditions, the EPA and Department are satisfied that the odour emission estimations are reasonable and worst case odour emissions will be managed through the limits on timing of broiler placement.

#### *Odour Risk and Mitigation*

The AQIA and additional information presented demonstrates the project will comply with the EPA's odour assessment criterion of 5 OU. However, as the ground level concentrations at receptors R5 and R6 are predicted to be just below 5 OU (being 4.5 and 4.6 OU, respectively), the EPA considered the Applicant should consider further odour mitigation measures. This would ensure any potential odour impacts are adequately managed once operational and that no offensive odours are generated as required by Section 129 of the *Protection of the Environment Operations Act 1997*.

The Applicant argued that further mitigation measures were not required as the assessment was conservative, was undertaken in accordance with accepted methodologies and the Applicant would implement best practice for site management and odour mitigation, which includes providing a suitable vegetated buffer around each PPU.

The EPA considered the Applicant's arguments and assessment and maintained its position that the facility poses an additional risk if there are no feasible mitigation measures that could be implemented if the facility emitted more odour than assumed. The EPA has therefore recommended a condition of consent that requires an odour validation audit be carried out by a suitably qualified independent expert to be submitted to the EPA when directed. The audit must include a summary of odour complaints, field odour survey, benchmarking of farm management practices against industry best practice for minimising odour emissions, a report determining compliance against the POEO Act and recommendations and timetable for implementation for additional odour mitigation measures and/or management practices. This has been included as a recommended condition of consent.

#### *Conclusion*

The Department has recommended a number of conditions to ensure that any odour emissions from the development are adequately managed. This includes conditions which require the Applicant to:

- populate the facility in a staged manner to reflect the assumptions of the air quality assessment;
- install a meteorological monitoring station on-site to record environmental data in the locality and manage air quality and odour impacts;
- ensure the development does not cause or permit the emission of any offensive odour (as defined by the POEO Act); and
- undertake an odour validation audit as and when directed by the EPA, which includes consideration of stocking densities as they relate to odour emissions, benchmarking design and management practices

against industry best practice, investigation of new technologies and nomination and implementation of appropriate mitigation measures.

The EPA is satisfied with these controls and the approach to odour management. The Department's assessment concludes that the predicted odour impacts are considered acceptable and with the above recommended conditions of consent, the potential odours generated by the proposed development would be effectively managed. In particular, controls over the timing of the placement of broilers and compliance with industry best practice stocking densities will ensure that odour emissions remain within acceptable limits. Furthermore, to address any uncertainties in the odour risk of the project in the event that the facility emitted more odour than assumed, an odour validation audit would be required. The Applicant has also committed to a range of reasonable and practical measures to prevent and minimise odour emissions through the design of the poultry sheds (fully enclosed and tunnel ventilated to reduce moisture), and associated infrastructure and best practice management and maintenance activities.

### 5.1.2 Particulates

Potential sources of particulate matter (dust, particles  $<10\mu\text{g}$ ) from the poultry farm operations include the shed ventilation system, truck movements on internal roads and the emergency diesel generators (20 backup generators are proposed). As part of the AQIA, the Applicant modelled the predicted 24-hour maximum and annual average  $\text{PM}_{10}$  levels from the sheds. The results of the assessment indicate that the predicted 24-hour maximum particulate emissions ( $\text{PM}_{10}$ ) and annual average  $\text{PM}_{10}$  concentrations from the proposed poultry operations will comply with the relevant EPA criteria ( $50\mu\text{g}/\text{m}^3$  and  $30\mu\text{g}/\text{m}^3$ , respectively) at all sensitive receivers (see **Figure 12** and **Figure 13**).

The assessment did not include particulate emissions from the roads or the generators. As the roads are proposed to be 'constructed' as opposed to being unformed tracks, the Applicant considered that the emission potential of the road would not be significant due to a lower silt loading on the constructed road surface. Similarly, emissions from the generators were not modelled as the Applicant considered that due to the low level of usage and the distance to sensitive receivers, it was not expected that the relevant air quality criteria would be exceeded at nearby sensitive locations.

The Department and EPA considered that the worst case scenario for particulate emissions had not been considered as both dust from roads and the emissions from the generators had not been included in the assessment. In addition, it was unclear how design and management practices were quantified in the shed ventilation modelling. Therefore the Applicant was requested to provide a revision of the dispersion modelling to include internal roads and the emergency backup diesel generators.

#### *Particulate Emissions from Roads*

Based on experience in other poultry operations, the Applicant argued that the modelling of dust from roads was not warranted as the design of internal roads and dust management measures such as speed limits and the use of water trucks adequately minimise dust emissions. Notwithstanding, the EPA was concerned that vehicle movements on internal roads may cause additional dust impacts.

To ensure this is appropriately managed and dust impacts minimised, the EPA has recommended a condition of consent to ensure all operations and activities occurring at the farm are carried out in a manner that will minimise the emissions of dust from the premises. Any materials must also be handled in a way that minimises the emission of dust from the premises.

The Department agrees that there is some potential for farm operations to generate dust as a result of vehicle activities on internal roads. As such, the Department agrees with the EPA that vehicle movements should be controlled via a condition of consent to ensure that all vehicles do not exceed a speed limit of 60 kilometres per hour, all loads are covered and all loaded vehicles are cleaned prior to leaving the site. The Department has also required the Applicant to carry out all reasonable and feasible measures to minimise dust generated from the development. With the recommended conditions of consent, the EPA is satisfied that dust will be adequately minimised and managed on the site. Furthermore, the proposed farm is quite isolated and located some distance from the nearest sensitive receivers, therefore, dust from vehicle movements is unlikely to be a significant issue.



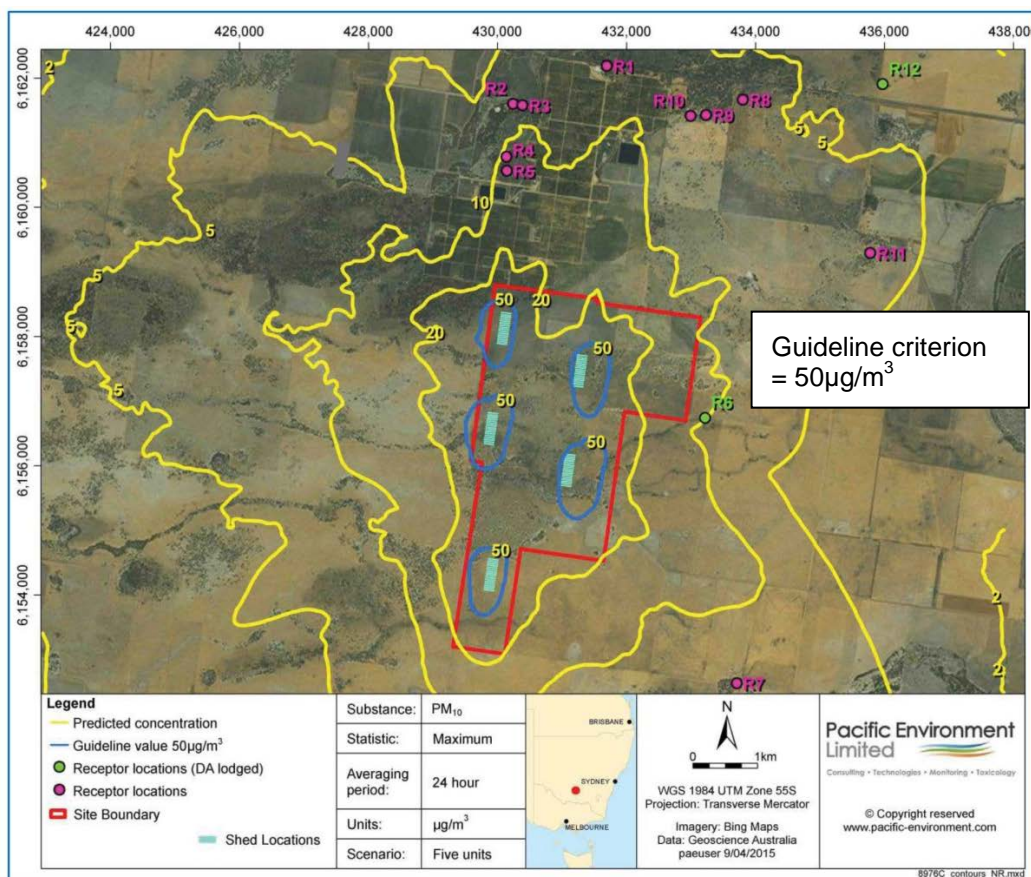


Figure 12: Predicted 24-hour maximum PM<sub>10</sub> concentration (sheds only) (Source: EIS)

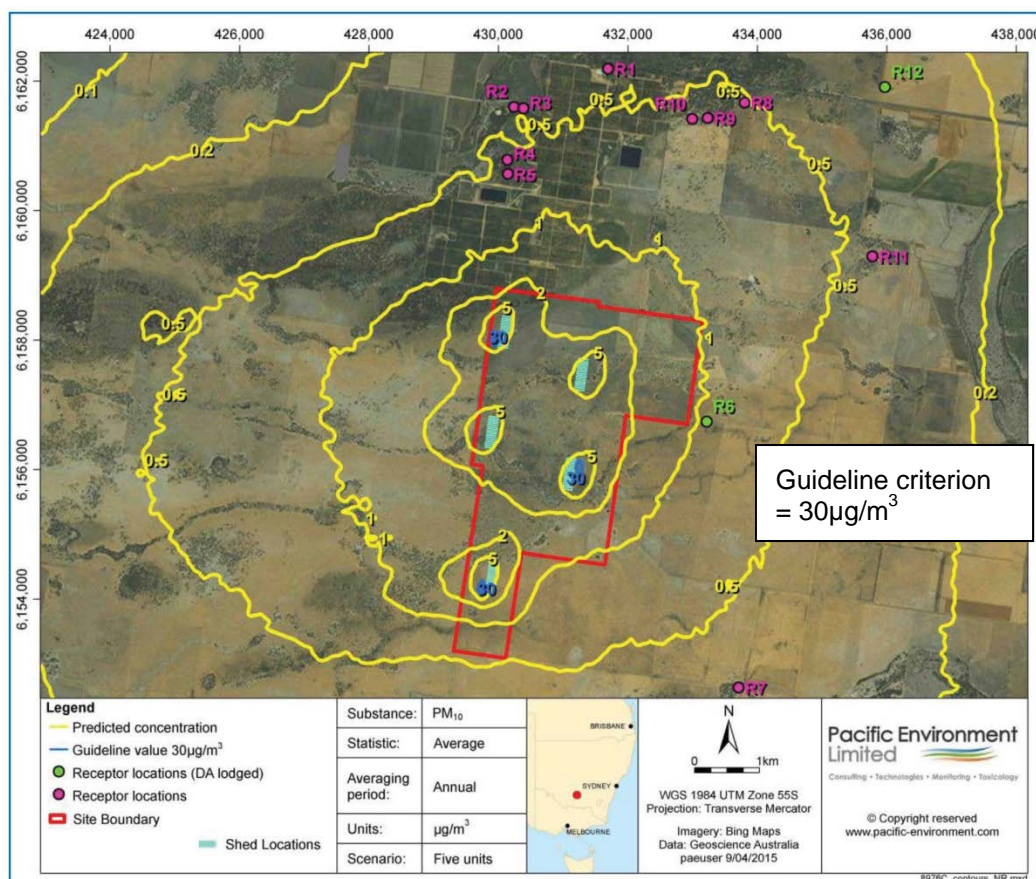


Figure 13: Predicted annual average PM<sub>10</sub> concentration (sheds only) (Source: EIS)



### *Particulate Emissions from Diesel Generators*

With respect to the emergency backup diesel generators, the Applicant carried out additional dispersion modelling to predict ground level concentrations at nearby sensitive receivers with all 20 generators operating simultaneously and continuously. The predicted concentrations for carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and particulate matter (PM<sub>10</sub>) at all nearby sensitive receivers were all below the relevant assessment criteria. The predicted concentrations of CO and PM<sub>10</sub> ranged between 0.01% and 0.45% of the relevant criteria. The maximum concentration of NO<sub>2</sub> for the 1 hour averaging period was predicted to be 105.5 µg/m<sup>3</sup> at R5, which is only 43% of the EPA ground level assessment criteria of 246 µg/m<sup>3</sup>.

The Department considers the risk of emissions from the diesel generators exceeding ground level assessment criteria at any nearby sensitive receiver is low as the generators will only be used in emergency situations when mains power supply from the electricity grid is interrupted or lost to the development site, or in times of particularly hot weather. Based on experience at their other eight poultry production complexes within Australia, the Applicant has advised that the generators are only typically required a couple of days per year.

The Department and EPA considers the additional information provided by the Applicant for the diesel generators adequately assesses the impacts and risks and has demonstrated the impacts meet the relevant ground level criteria.

### *Conclusion*

To ensure the impacts of particulate emissions from the various sources on the farm are considered and managed holistically during operations, the EPA has recommended a condition of consent that requires the development and implementation of an Air Quality Management Plan (AQMP) that includes identifying project particulate emissions from all sources, control measures for each source, a monitoring program and compliance reporting. The Department agrees that this is appropriate and has included this in its recommendation. The AQMP is to form part of the Operational Environmental Management Plan (OEMP) that is required to provide the strategic framework for environmental management of the Development. The EPA has advised that with the imposition of the conditions of consent it is able to support the proposed Development.

The Department's assessment concludes that the recommended conditions of consent for dust management and the requirement for an AQMP will ensure that the impact of particulate emissions on the farm will be appropriately identified and managed and any potential impacts will be mitigated where necessary. The Department has also recommended a condition of consent that requires the Applicant to install and operate equipment in line with best practice to ensure that the development complies with all load limits, air quality criteria and air quality monitoring requirements as specified in the Environment Protection Licence for the site.

## **5.2. Flooding and Water Supply**

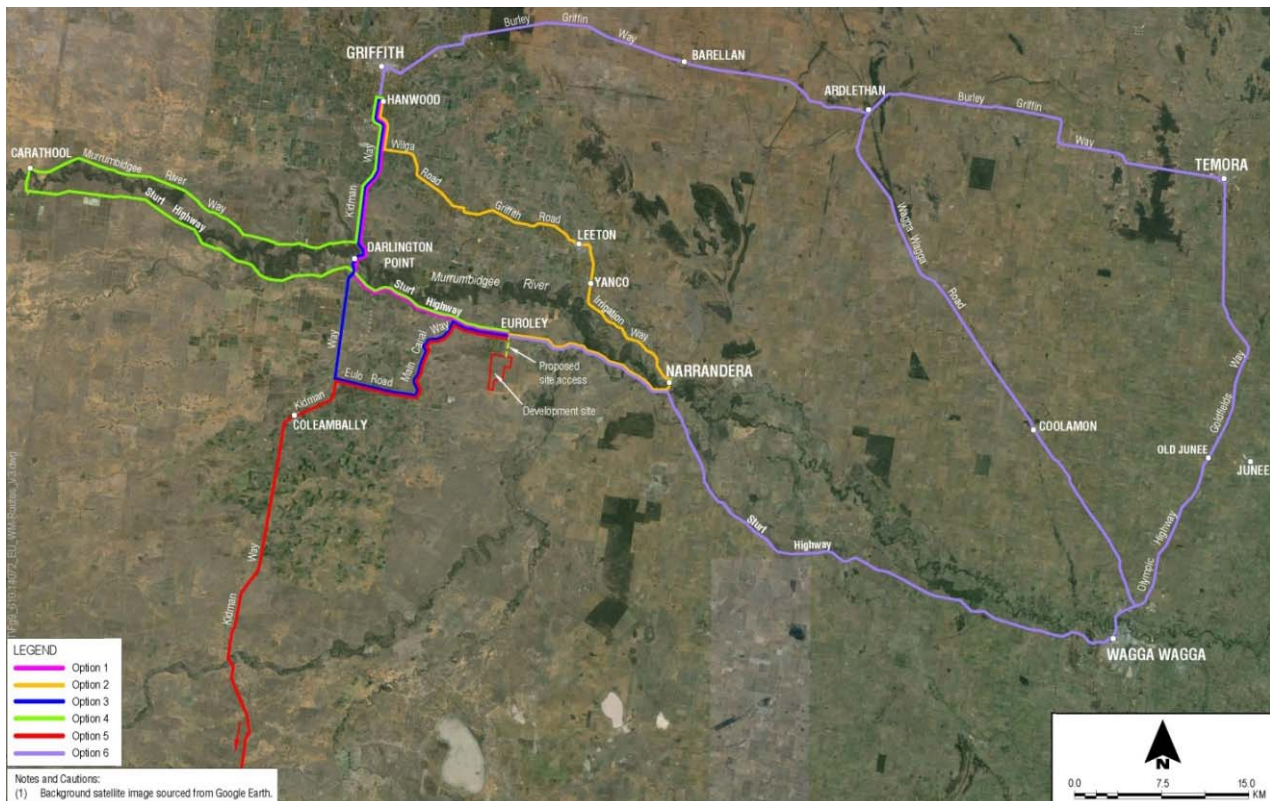
The Applicant undertook a flooding assessment to determine the overland and mainstream flood risk for the proposed development. It also provided a groundwater assessment to assess the potential impacts on groundwater resources as a result of extraction to meet the water supply demands of the development. The Department's assessment of flooding and water supply are detailed below.

### Flooding

#### *Access and Egress*

Mainstream flooding from the Murrumbidgee River to the north may occur during an extreme flood event, but is considered low risk due to the size of the Murrumbidgee catchment, low flow rates (1.8 – 5.8m<sup>3</sup>/s) and minimal flood depths (0.1 to 0.2m). However, overland flooding (runoff which travels as sheet flow across the land) during small and large rainfall events is known to cause road closures on local roads surrounding the site, including the Sturt Highway. This could result in isolation of the site for a period of up to a week or more, potentially restricting the ability to remove fully grown broilers for processing, farm workers being stranded and running out of broiler feed, water and supplies.

Flood warning times are estimated to be in the order of several days, the Applicant therefore considers there is sufficient time for the farm managers to arrange for the removal of broilers and/or bring in extra feed/water for broilers which could be stored in the proposed 'rice hull' in the east of the site. The rice hull has been designed to hold an additional 8 days of feed for a fully populated farm, and if these supplies are exhausted, broilers will be removed off site via one of the routes outlined in **Figure 14** below, subject to road closures.



**Figure 14:** Transport options during a flood event (Source: RTS)

The Applicant confirms that there are six options for access and egress to and from the site during such an event, which have been included as part of a Site Operational Flood Management Plan. The Plan also provides processes for collection and storage of surplus food onsite for birds and workers where a flood event is anticipated and identifies operational policies to reduce the rate of bird growth during a flood event (and thereby need to be transported off site for processing).

As the proposed 'rice hull' is located within an area at risk of shallow slow moving flood waters, feed stored in this structure may be affected by floodwater. Therefore, to ensure that the contents of the building remain dry during a flood event, a condition of consent has been recommended that requires the design of the rice hull to incorporate flood proofing of the structure. The Applicant has agreed to raise floor levels of this structure to 300mm above the 1 in 100 year flood level, which the Department considers is a reasonable means of protecting feed for the broilers during a flood event.

The Department's assessment concludes that the Applicant has demonstrated that adequate access and egress can be achieved during an extreme flood event via one of six routes on the local road network. The access and egress arrangements and the processes for the provision and storage of feed and supplies during a flood event form part of the Applicant's Site Operational Flood Management Plan. A condition of consent has been recommended which requires the Site Operational Flood Management Plan to form part of an overarching Emergency and Evacuation Plan, in which the Applicant must set out assembly and evacuation points, flood recovery measures, procedures for managing flood risks for the protection of infrastructure, staff and broilers, and details the management measures for the supply of fresh feed in the event of a flood.

### Flood Risk

To determine the actual flood risk at the site from overland flooding during the 1 in 100 year and Probable Maximum Flood (PMF) events, the Applicant created a 1D hydraulic model of the development site. During

such large rainfall events, local overland flows occur within two topographical depressions which run through the middle of the site between the proposed location of PPU3 and PPU4 (see **Figure 15**). Minor flooding also occurs in the north of the site between PPU1 and PPU2. Flood levels on the site primarily range between 0.3 metres to 0.6 metres during a 1 in 100 year flood event. Existing depressions in the footprints of PPU2 and PPU3 could result in depths of flooding of up to 1.3 metres in these locations.

To address the risk of flood impacts on the site, the Applicant proposes to construct all PPUs 0.3 metres above ground level and to construct a 0.4 metre high concrete bund wall around each poultry shed. Existing depressions at PPU2 and PPU3 would also be filled during construction as part of bulk earthworks.

The Department and OEH considered that the assessment presents an adequate model of the potential impacts due to overland flooding. However, the assessment shows that some of the PPUs (PPU1, PPU2 and PPU4) are impacted by shallow flows which could result in the inundation of PPU floors as a result of associated afflux (increase in flood water depth on the upstream side of the structure), despite the Applicant's proposal to raise the floor levels of the affected PPUs by 0.3 metres and to construct a 0.4 metre high concrete bund wall surrounding each shed.

Furthermore, the proposed manager's residences 4, 7, 8, 9 and 10 are located in flood risk areas that could be inundated to depths of 0.3 - 0.6 metres in a 1 in 100 year event and up to 1.0 – 1.3 metres in an extreme event. This is considered to be an unacceptable risk for the residents of these buildings.

OEH recommended that the Applicant relocate the PPUs and residences away from the natural drainage lines to reduce the risk of flood impacts to employees and property. The Department agrees that residences should be located away from flood prone areas to ensure safe dry egress during an extreme flood event. With respect to the PPUs, it is acknowledged that biosecurity issues present a restriction to the proximity of one PPU to another; however, the applicant was requested to consider OEH's suggestion to relocate both residences and PPUs where possible.

The Department and NOW also requested that the Applicant provide additional hydraulic modelling data and plans to determine the potential impacts as a result of the construction of structures on the site to flood behaviour, extents and flows from on-site structures to neighbouring properties for the 1 in 100 year and PMF events.

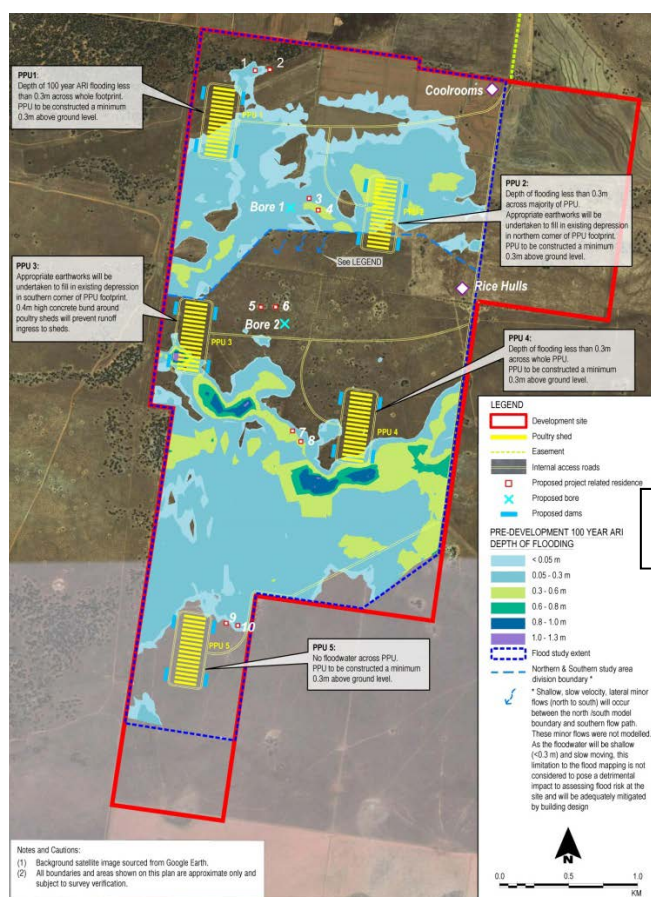
To address the issues raised by the Department, NOW and OEH, SLR undertook the following additional works and provided a response in its RTS:

- one dimensional hydraulic modelling of local overland flood flows for the post-development scenario;
- comparison of flooding behaviour between pre-development and post-development scenarios to identify the impact of the proposed development; and
- preparation of flood maps and reporting.

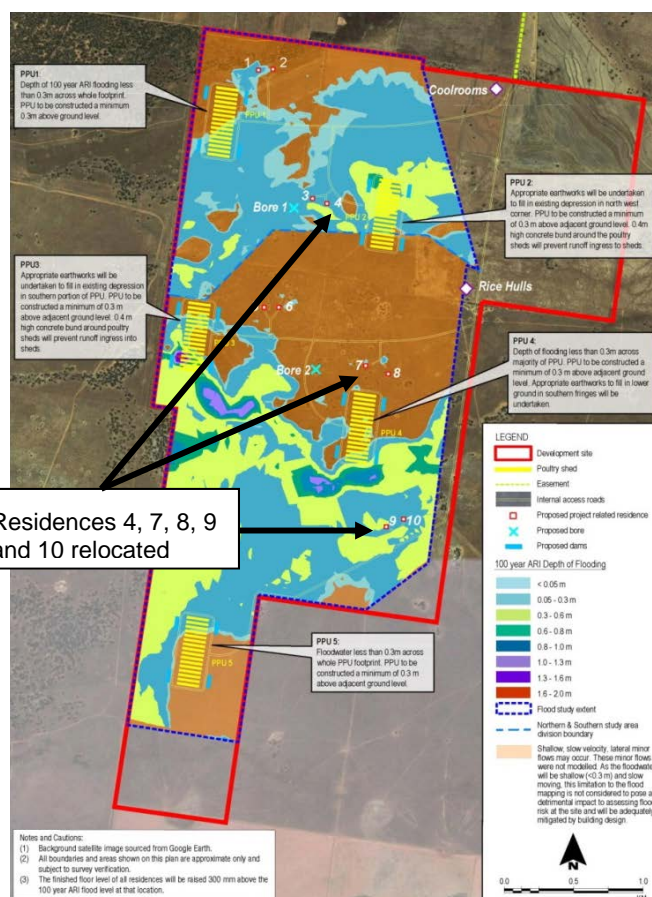
The additional flood modelling shows that there will be a minor increase in flood levels and shallow surface flows across the site following construction of the five PPUs and associated earthworks at the site (refer **Figure 16**). However, the modelling confirms that the proposed development will not result in any additional flood risk to surrounding properties or infrastructure. Flood afflux at the poultry sheds is predicted to be only minor (a maximum of 90mm during a 1 in 100 year event and 110mm during a PMF event at PPU2) and at the site boundary (<50mm during a 1 in 100 year event and 80mm during a PMF event at the eastern boundary). There was also only a minor increase in flood velocities on site or at site boundaries. As such, the Applicant's original proposal to construct PPUs 0.3 m above ground level and to construct a 0.4m concrete bund wall around poultry sheds is considered acceptable to protect the broilers housed within them without increasing flood risk to surrounding properties.

It is noted that PPU2 and PPU3 have not been relocated due to biosecurity restrictions and to minimise clearing of vegetation, however, residences 4, 7, 8, 9 and 10 have been relocated to areas with low flood risk and shallow flood waters (depths < 0.3 m). Notwithstanding, Council has recommended a condition of consent that requires the finished floor levels of all habitable buildings to be based on protection from the 1 in 100 year flood event plus 500mm freeboard. This is to ensure the protection of the farm managers and their families. The OEH and the Department concur with this requirement and as such it has been included as a recommended condition of consent.





**Figure 15: Pre-Development 100 year ARI Flood Extent**  
(Source: EIS)



**Figure 16: Post-Development 100 year Flood Extent**  
(Source: RTS)

The Department is satisfied that the additional modelling and relocation of farm managers' accommodation demonstrates that the flood risk to people and property on and off the site is minor and acceptable. It is also accepted that for reasons related to biosecurity, the relocation of PPU2 and PPU3 is not possible. To ensure that habitable structures on the site are protected from flooding, a recommended condition of consent requires the finished floor levels of all farm managers' accommodation to be constructed to the 1 in 100 year flood level plus a 500mm freeboard. The Applicant's commitment to construct the PPUs a minimum of 300mm above ground level with a 400mm high concrete bund around each PPU will ensure the protection of broilers. As such it is considered that the safety and evacuation of farm employees and broilers will be adequately managed.

### Conclusion - Flooding

The Department's assessment concludes that the risk of mainstream flooding is low, however, the flood risk of flooding from overland flows is likely to impact both the site and the surrounding road network which may impact on site operations. The Applicant's Operational Flood Management Plan satisfactorily addresses transportation and management of broilers during a flood event. However, to ensure the safety of farm managers during a flood event, the provision and protection of feed/water and supplies and safe egress from the site, conditions of consent require the raising of floor levels of habitable buildings and the preparation of a site Emergency and Evacuation Plan. With the implementation of the Applicant's proposed mitigation measures and the recommended conditions of consent, the concerns raised by the Department and the OEH have been satisfied.

### Water supply

Poultry farm operations require a secure water source to operate. The Applicant has advised that the development will require approximately 460 ML per year (approximately 1.26 ML per day) for broiler consumption, shed cooling, cleaning and landscaping. Staff amenities at each PPU and the ten residential

dwellings for managerial accommodation would be supplied with water via rainwater collection, not from potable water sources extracted from the groundwater bores.

The Applicant proposes to supply the site with water via the construction of four new groundwater bores and the transfer of Water Access License (WAL) 11788. This WAL has an entitlement of 488 unit shares (488 ML at full allocation). Two bores would be constructed in pairs at the locations labelled 'Bore 1' and 'Bore 2' (see **Figure 16**), consisting of one production bore and one back up bore.

The bores intend to extract groundwater from the Calivil Formation aquifer, which is a deep aquifer source in the Lower Murrumbidgee Groundwater Management Area (see **Figure 17**). The project site is identified as being located in a groundwater vulnerable area under the Narrandera LEP Groundwater Vulnerability Map. Around 24 existing bores are located within a 5 km radius of the project site. The nearest bore is located around 2.4 km to the north.

As part of the EIS, the Applicant drilled a test bore on-site and undertook groundwater modelling to assess groundwater impacts of the development. This assessment concluded that there would be around a two metre drawdown within 500 m of the proposed bores. The assessment also concluded that the extraction of 460 ML per year would have no net impact on the Calivil Formation and that the impacts of the development are anticipated to be below the criteria of the NSW Aquifer Interference Policy.

Notwithstanding, several public submissions and the DPI raised concerns regarding water supply and drawdown on existing groundwater bores. The issues raised by DPI with respect to water supply included:

- confirmation of the anticipated bore yields on-site;
- that a pump test had not been carried out;
- impacts of groundwater extraction on the aquifer and existing groundwater bore users;
- the assumptions used in the groundwater model; and
- the treatment of groundwater for poultry consumption in accordance with *National Water Biosecurity Manual – Poultry Production* (DAFF 2009).

DPI also requested the preparation of a water management plan, the installation of shallow piezometers to monitor shallow groundwater resources and limiting the development to extract 460 ML of groundwater per year through a condition of consent.

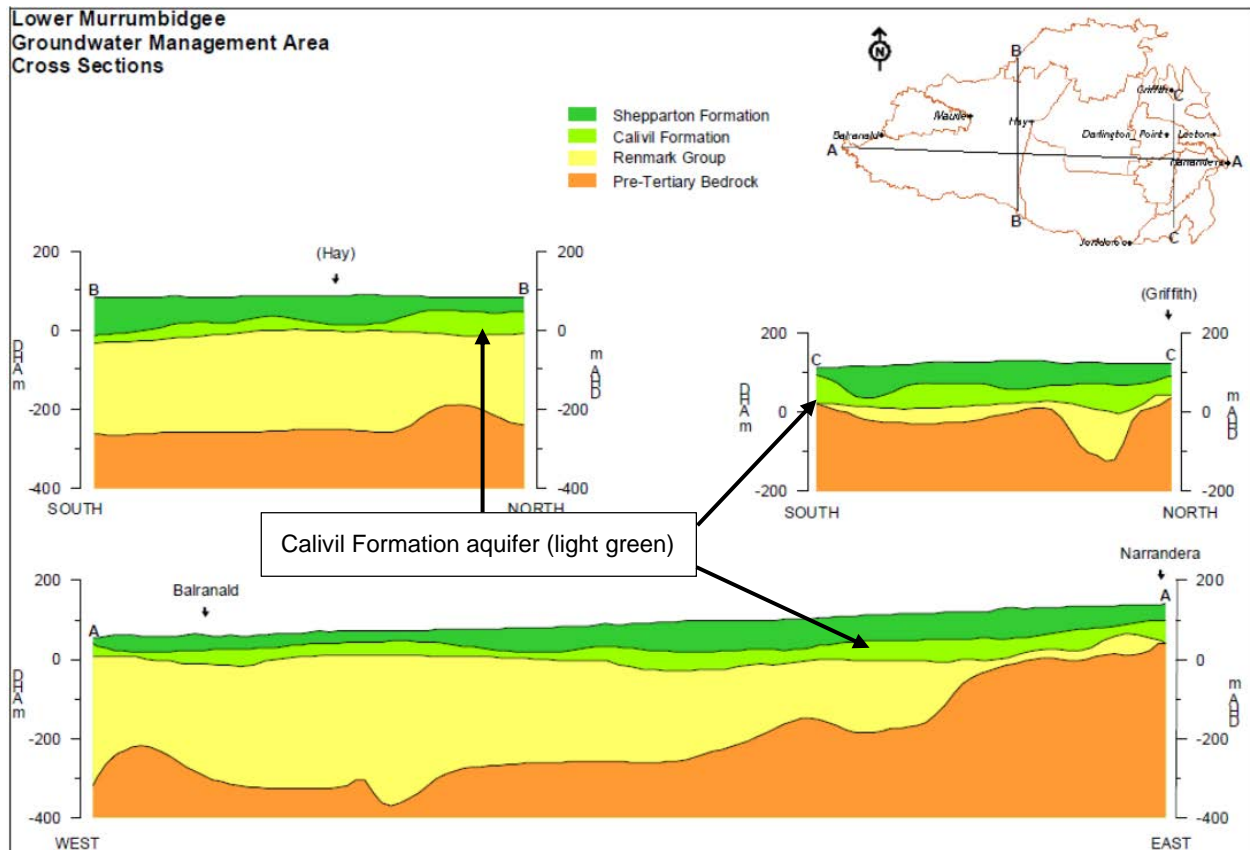
To address the concerns of the DPI regarding bore yields, pump testing and the impacts of groundwater extraction, the Applicant undertook test drilling and pumping involving a constant rate test at 'Bore 1' with drawdown monitored at 'Bore 1' and 'Bore 2' using electronic data loggers to confirm the standing water level, hydraulic properties of the aquifer and drawdown extraction impacts. The Applicant also undertook additional groundwater modelling to assess drawdown impacts.

The test drilling recorded that the standing water level was approximately 24 m below ground level at both bore locations. The revised modelling adopted a longer time period and assumed that the extraction of the full 460ML per year only occurred from 'Bore 1', instead of splitting the extraction volume between the two locations, as would occur in practice, to provide the most conservative estimate of groundwater drawdown.

Whilst the anticipated water demand for the development is 460 ML per year (1.28 ML per day), the pump test was conducted over two days at a rate of 3.89 ML per day. This higher level of extraction from the pump test equates to an approximate extraction volume of 1,142 ML per year. This is over double the anticipated water demand of the development. In addition, an observation bore (drilled by the Applicant) located 1.2 km away recorded a maximum drawdown of 0.44 m at this elevated pumping rate.

The additional information provided in the RTS also demonstrated that:

- the revised groundwater modelling predicted a long term maximum drawdown of 0.8 m in the immediate vicinity of the pumping bore and a drawdown of 0.5 m extending up to a radius of 110 m from the pumping bore;
- the drawdown from the operation of the proposed bores would be less than two metres at any surrounding groundwater bore, satisfying a Level 1 impact under the NSW Aquifer Interference Policy; and
- water extracted from the bores would be treated in accordance with the *National Water Biosecurity Manual – Poultry Production* (DAFF 2009).



**Figure 17:** Hydrogeological Profile of the Murrumbidgee Groundwater Management Area (Source: EIS)

The Applicant concluded that the Calivil Formation aquifer has sufficient capacity to support the long-term water demands of the project and is capable of supporting significantly higher rates of extraction than required for farm operations. The Applicant advised that its contract with Baiada requires it to demonstrate that 690 ML per year can be secured for the operation (approximately 150 percent of the development's water needs). This additional requirement could be met by the Applicant through additional water license transfers.

The DPI has reviewed the RTS and advised that the additional information and groundwater assessment provided by the Applicant demonstrates that the rate of groundwater extraction will result in less than two metres of drawdown, satisfying a Level 1 impact under the NSW Aquifer Interference Policy. DPI also requested that the Applicant continue to liaise with the Leeton office to facilitate the transfer of necessary water requirements and reiterated its request for:

- the preparation of a water management plan detailing the installation of piezometers at locations where there is potential for groundwater contamination to reduce the uncertainty around the soil profile of the shallow groundwater sources and provide ongoing shallow groundwater monitoring;
- details of the data sourced for shallow water quality and volume provided in the RTS; and
- the inclusion of a condition of consent limiting the development to extract 460 ML per year.

The Department agrees that the preparation of a water management plan, detailing the installation of piezometers on-site, would enable proper water volume and quality monitoring to be undertaken during the operation of the project. In addition, the Department considers the groundwater drawdown impacts on existing bores around the site to be minimal as:

- the test pumping was undertaken at an extraction rate over double the anticipated extraction rate;
- a maximum drawdown of 0.44 metres was recorded from an observation bore 1.2 km from the 'Bore 1' test pump site;
- the nearest household bore is located approximately 2.5 km to the east; and
- the nearest irrigation bore is located approximately 2.4 km to the north.

Rather than restricting the volume of extraction via a condition of consent as requested by the DPI, the Department and DPI have agreed that it would be appropriate for this to be controlled and managed through

any water access licence granted for the development. The Department has therefore recommended a condition of consent that requires groundwater extraction for the purposes of the development to be limited to the provisions of any water access licence(s) issued by the DPI. The Applicant has accepted this as a reasonable means of controlling groundwater extraction.

### *Conclusion – Water Supply*

The Department's assessment concludes that Calivil Formation aquifer is capable of providing the long-term water demand of approximately 460 ML per year for the development. In addition, the Applicant has demonstrated that the transfer of an existing water license of 488 ML of groundwater, would provide the development with its water demand under normal operating conditions. Furthermore, the pump test indicated that the Calivil Formation is able to support extraction rates up to 1,142 ML per year, over double the water needs of the development.

The Department considers the need for the Applicant to secure 690 ML per year to satisfy their contractual obligations with Baiada, does not represent the typical water use of the development and notes that the extraction of groundwater is governed by the conditions of the relevant water license issues and managed by the DPI. In addition, the Department considers that the condition requested by the DPI, limiting the development to extract 460 ML per year, would potentially jeopardise the operation of the development and the broilers in an unusually hot year.

Notwithstanding, the Applicant will be required to obtain additional licenses to secure the required 690 ML per year to meet its contractual obligations. The Department notes that the management of water licensing is administered by the DPI, and the Applicant will be required to comply with the conditions attached to any additional license(s) for groundwater extraction. The DPI is satisfied that the recommended conditions will ensure that groundwater extraction will be appropriately controlled and the proposed levels of extraction should not have a negative impact on water resources in the Lower Murrumbidgee Groundwater Management Area.

To reflect the situation regarding water supply, the Department has recommended several conditions to adequately manage impacts of the development on water resources. These include, limiting the Applicant to the provisions of any water licence(s) obtained for the development, requiring the Applicant to prepare a Water Management Plan to monitor and manage water impacts, including groundwater and surface water management and the installation of shallow piezometers to monitor shallow water impacts, in consultation with the DPI. Lastly, the Department has recommended a condition to ensure that water extracted from potable sources for poultry consumption is treated in accordance with the *National Water Biosecurity Manual – Poultry Production* (DAFF 2009).

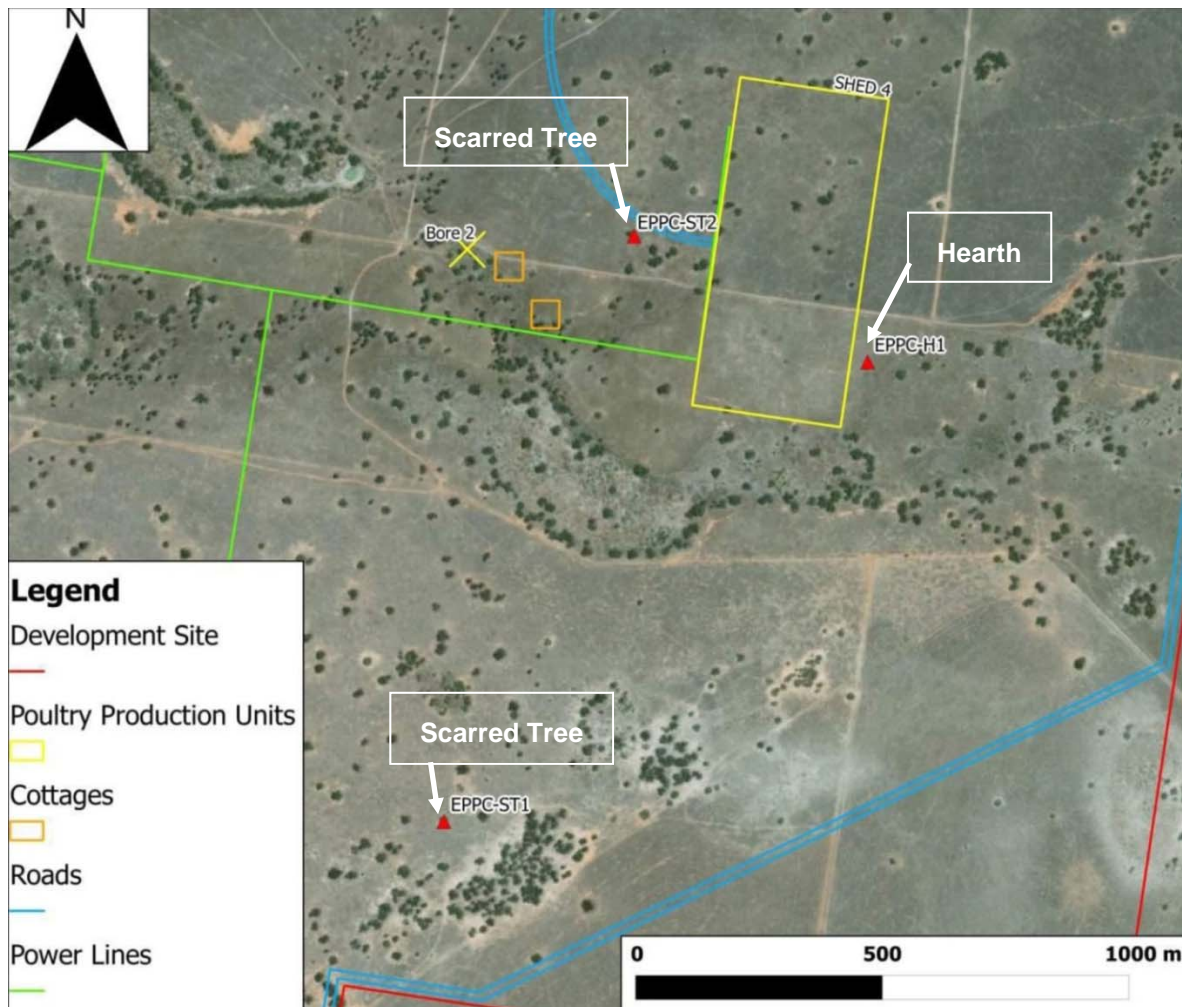
### **5.3. Aboriginal cultural heritage**

The Applicant undertook an Aboriginal Cultural Heritage assessment of the site in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH, 2010a) and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (OEH, 2010b). This included development of a predictive model of the probability of finding sites of Aboriginal heritage. The Applicant's investigation predicted a 'low probability' of Aboriginal sites being present.

Based on this predictive model, the Applicant surveyed the proposed disturbance area using a combination of vehicle and pedestrian survey methods. The more archaeologically sensitive landscape features, such as the fringes of waterways and areas of lower disturbance, were surveyed on foot. The assessment of access roads, internal roads and power infrastructure alignments (collectively known as 'linear alignments') were conducted from a slow moving vehicle. Slow vehicle survey was considered appropriate due to good ground surface visibility, the large site area and the low probability of finding artefacts in these areas.

During the field survey, three Aboriginal sites were found in the study area, including two scarred trees and a hearth (a type of earth oven) in the vicinity of PPU4 (see **Figure 18**).





**Figure 18:** Location of Aboriginal Sites (Source: EIS)

The Applicant's original field survey did not include the footprint and access road for proposed PPU5, as this was relocated due to potential impacts on native vegetation (as requested by OEH) after the original field survey had been undertaken. The movement of PPU5 limited the effectiveness of the archaeological survey, however, the proposed location of PPU5 was witnessed during the Applicant's original field survey and was noted to be similar to other areas within the site that had been subject to grazing and possibly former cropping. As such, the Applicant considered the survey effort in this location was reasonable and the likelihood of finding any further Aboriginal artefacts or sites in the new location for PPU5 was low.

Following inspection of photographic records presented in the EIS (see **Figure 19**), the OEH considered that the site has a relatively 'high probability' of sites being present, which is supported by the discovery of the three Aboriginal sites. As such, it would be appropriate for a pedestrian survey of the environment along the linear alignments and the new location of PPU5 and access road to be undertaken. As this additional work was required to verify the survey already completed, it was agreed that this could be undertaken prior to the commencement of construction as a pre-clearance survey.

As part of the RTS, the Applicant agreed to verify the findings and observations of its original survey prior to construction and provided an outline of its proposed survey methodology. The proposed methodology included a complete pedestrian survey of the relocated PPU5 and access road, and a sampled pedestrian survey (dictated by a set methodology) of the linear alignments. This survey methodology would enable the landforms traversed by the access roads to be characterised, as well as fully surveying all archaeologically sensitive landforms.



**Figure 19:** Photographs showing typical site environment (Source: EIS)

The OEH considered the proposed survey methodology and is satisfied this will provide an adequate means of verifying the original survey. OEH has recommended conditions of consent to require the pre-clearance surveys to be undertaken for PPU5 and access road by foot and the sampled survey for all linear alignments. In addition, OEH has recommended that the Applicant include a set of management actions for the three known Aboriginal sites within the OEMP for the project. This includes a requirement for the three known sites to be fenced during both construction and operation of the poultry farm to exclude vehicles, pedestrians and animals from the sites and to be specifically included in the OEMP.

The Department agrees that the imposition of these conditions is appropriate and has included the requirement for the verification field surveys and an Aboriginal Cultural Heritage Management Plan in the recommended conditions of consent. Surveys are required to be carried out prior to the commencement of a construction for the development. Should any additional sites be discovered, the Applicant would be required to fence these as per the three identified sites and incorporate the management of any additional sites into the OEMP.

A further recommended condition of consent also requires any subsequent alterations to the development footprint that are outside the study areas of the original assessment and pre-clearance surveys to be assessed in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* and for all new Aboriginal sites to be registered in the Aboriginal Heritage Information Management System (AHIMS) database.

### Conclusion

The Department's assessment concludes that it is satisfied that the proposed survey methodology will verify the findings of the original survey and ensure that the entire area of impact as a result of the development will be appropriately surveyed for sites of Aboriginal heritage significance prior to construction and considers that the risk of Aboriginal artefacts and sites being harmed is low. The Applicant has also committed to not disturbing any areas outside of the nominated disturbance footprint and to cease work if any further Aboriginal artefacts are uncovered during construction works. The Department's assessment concludes that the proposed management actions and conditions of consent will ensure that any potential impacts to Aboriginal cultural heritage will be adequately managed. Furthermore, the known sites and any new sites will be appropriately managed and protected during site construction and operation.

## 5.4. Biodiversity

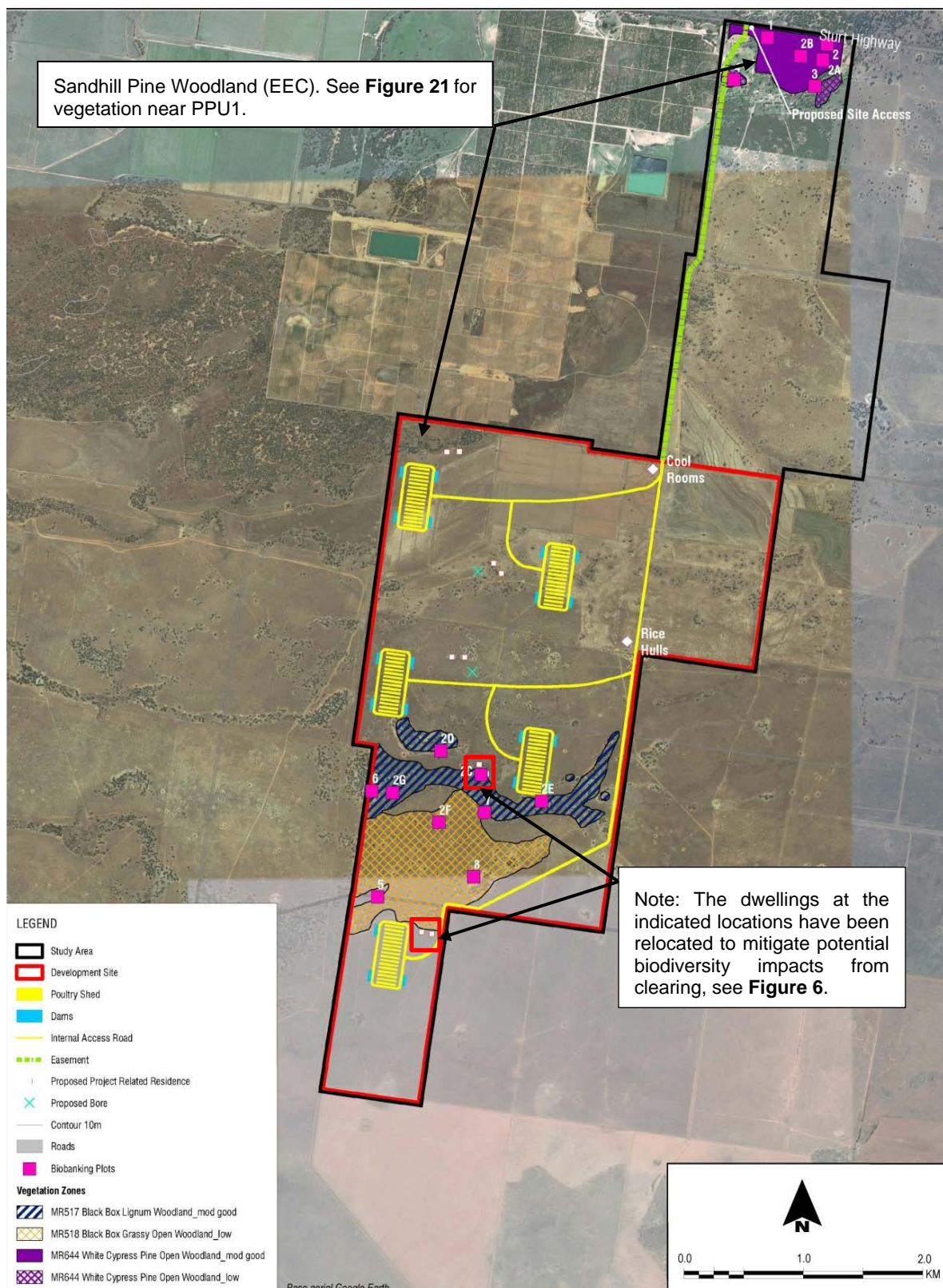
As part of the EIS, the Applicant undertook an assessment of the biodiversity values of the site in accordance with the Framework for Biodiversity Assessment. The assessment indicated that a relatively small area needs to be cleared to undertake the development and that the offset requirement would also be relatively small.

The site largely comprises cleared paddocks as a result of historical and current agricultural use. Scattered stands of native grassy woodlands occur, comprising the following three plant community types (PCTs):

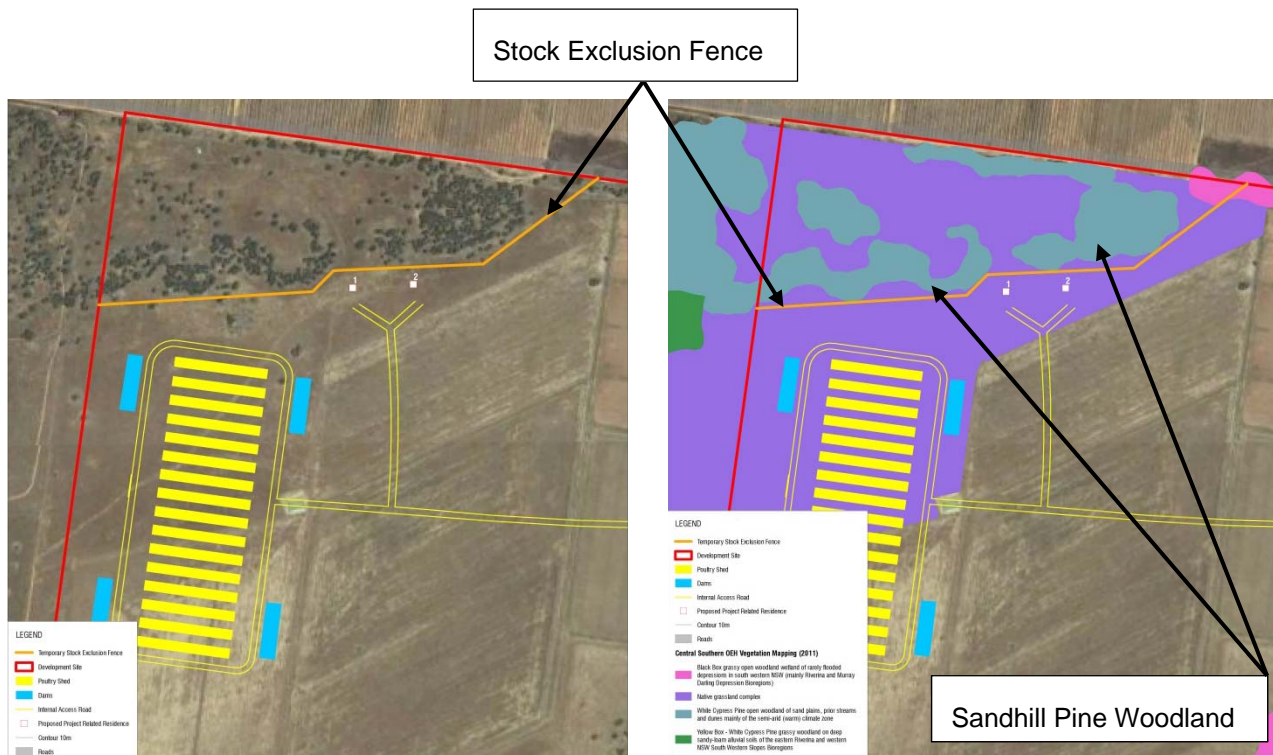
- Black Box Lignum Woodland wetland of the inner floodplains in the semi-arid (warm) climate zone;
- Black Box grassy open woodland wetland of rarely flooded depressions in south western NSW; and
- White Cypress Pine Open Woodland of sand plains, prior streams and dunes mainly of the semi-arid (warm) climate zone (equivalent to Sandhill Pine Woodland in the Riverina, Murray Darling Depression and NSW South West Slopes Bioregions, which is an endangered ecological community (EEC).



The vegetation communities at the site are shown in **Figure 20**.



**Figure 20:** Vegetation Communities (Source: EIS)



**Figure 21:** Sandhill Pine Woodland near PPU1 and proposed fencing (Source: RTS)

As a result of consultation with OEH, a series of amendments were made to the vegetation mapping for the site. The updated vegetation maps informed amendments to the design of the proposed development and resulted in the project components being relocated to avoid impacts to biodiversity as much as possible, thereby minimising clearing of native vegetation (see **Figure 21**). The items primarily relocated were dwelling houses 8 to 10.

The proposed development will result in clearing of 0.46 ha of low quality Black Box Lignum Woodland, 0.08 ha of moderate to good quality Sandhill Pine Woodland and 0.20 ha of low quality Sandhill Pine Woodland. To offset this loss, a total of 16 ecosystem credits are required to be purchased and retired. However, due to the small number of credits required, a lack of 'like for like' credits available and the cost of establishing a biobank site, OEH recommended an approach that includes future retirement of credits via an offset fund (to be established by OEH) and implementation of environmental management measures in the Sandhill Pine Woodland EEC in the north western corner of the site (see **Figure 21**). The offset fund is yet to be established and therefore, the management measures including the erection of fencing to exclude livestock and pests, will be implemented as a short term option in the event the offset fund is delayed or its establishment ceases.

As part of the RTS, the Applicant has adopted a revised biodiversity offset strategy that incorporates the above, that is, fencing of the Sandhill Pine Woodland EEC and purchase and retirement of the 16 credits (if they become available within five years). If the appropriate credits are not available after five years, the Applicant will apply the biobanking methodology to the fenced area and, either consult with National Parks and Wildlife Service as to whether the land can be dedicated to the national park estate (as the area adjoins the South West Woodland Nature Reserve), or make a monetary contribution to the offset fund or other approved conservation fund.

The OEH has reviewed the revised *Biodiversity Offset Strategy* (Appendix K of the RTS, prepared by SLR, dated 31 August 2015) and has advised that it incorporates the agreed approach for offsetting the biodiversity impacts of the project. OEH requested that all management plans related to flooding, biodiversity and aboriginal cultural heritage are developed in consultation with OEH to ensure that impacts associated with these issues are appropriately managed during construction and operation of the project.

## Conclusion

The Department's assessment concludes that the biodiversity impacts for the project are minor and is satisfied that the implementation of the proposed environmental management measures in the Sandhill Pine Woodland in the short term and undertake ongoing investigation into securing appropriate offsets in perpetuity would adequately manage biodiversity values of the site. Notwithstanding, the Department has recommended conditions requiring the Applicant to implement the *Biodiversity Offset Strategy* at Appendix K of the RTS and prepare and implement a Biodiversity Management Plan, in consultation with the OEH. This is to ensure that the areas dominated by Weeping Myall (*Acacia pendula*) are adequately mapped, revegetation works are managed, vegetation plots for the Sandhill Pine Woodland EEC are undertaken and a program to monitor the effectiveness of the biodiversity measures is developed and implemented.

## 5.5. Other Issues

The Department's assessment of other issues relating to the proposed development is provided in **Table 8** below.

**Table 8:** Assessment of Other Issues

Consideration	Recommended Conditions
<b>Traffic and transport</b>	
<ul style="list-style-type: none"> <li>The Applicant proposes to access the site via a newly constructed intersection off the Sturt Highway and along a right of way easement through the site. The intersection and internal roads will be capable of carrying construction and operational traffic up to a B-Double class vehicle. The intersection will be constructed in accordance with relevant Austroads guidelines.</li> <li>The Applicant provided a traffic impact analysis (TIA) to assess the traffic impacts of the proposed development on the local road network. Heavy vehicles would travel between the site and poultry facilities located at Hanwood on a daily basis via the Sturt Highway and Kidman Way through Darlington Point.</li> <li>The TIA advised that as background traffic volumes along the Sturt Highway are low, the exiting road network has sufficient capacity to absorb the anticipated construction and operational traffic volumes of the development, being 68 vehicle trips day during construction (32 heavy vehicles 36 light vehicles) and an average of 96 vehicles trips per day during operation (62 heavy vehicles and 34 light vehicles).</li> <li>Public submissions raised concern regarding sight distances and safety impacts on a driveway located opposite the proposed site access.</li> <li>In terms of the proposed access, the Applicant provided further information in the RTS confirming that its location meets the required safety requirements for intersection design.</li> <li>The Applicant has also advised that access to the driveway opposite the site access on the northern side of the Sturt Highway would be maintained at all times during construction and operation.</li> <li>The RMS raised no objection to the development and requested that the intersection upgrades are constructed prior to any other component of the development.</li> <li>The Department considers that the proposed upgrade works can be undertaken with minimal disruption to existing road users and driveways off the Sturt Highway and that traffic impacts associated with the development are minimal.</li> <li>The Department has recommended conditions to manage construction and operational traffic impacts including the preparation of traffic management plan and to construct the intersection upgrades prior to the commencement of any other component of the development.</li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>consult with the RMS in the design of the intersection upgrade works;</li> <li>construct the intersection upgrade works prior to commencement of construction of any other component of the development to the satisfaction of the RMS; and</li> <li>prepare a Traffic Management Plan and Traffic Control Plan as part of the Construction Environmental Management Plan to ensure that construction traffic impacts are appropriately managed.</li> </ul>
<b>Groundwater Impacts</b>	
<ul style="list-style-type: none"> <li>The development has the potential to impact on the shallow groundwater resource of the Shepparton Formation aquifer.</li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>prepare a Water</li> </ul>



Consideration	Recommended Conditions
<ul style="list-style-type: none"> <li>The potential sources of groundwater contamination to be managed include shed wash down water, rainfall run-off from roofs and hardstand areas, treated domestic effluent and spills from liquid chemical storage.</li> <li>The Applicant is proposing to construct a water management system consisting of dwarf concrete bunds, grassed drainage swales, perimeter catch drains and four detention dams at each corner of each PPU.</li> <li>The Applicant is proposing to discharge shed wash down water, into the grassed drainage swales to assist in nutrient removal.</li> <li>Excess water would be conveyed from the swales to the detention dams at each PPU via the perimeter drain. This water would predominantly be clean run-off, but could also contain low levels of nutrients.</li> <li>Closed cycle aerated wastewater treatment systems would process domestic effluent for disposal over an approximate 200m<sup>2</sup> area around each system.</li> <li>The DPI and public submissions raised concern regarding potential groundwater contamination from water outputs and chemical storage.</li> <li>DPI requested the installation of shallow piezometers to establish pre-development water table depths at water disposal and chemical storage locations to monitor shallow groundwater quality.</li> <li>The EPA raised no objection to the proposed disposal of wash down water and domestic effluent and noted that the risk of groundwater contamination of the Shepparton Formation aquifer was very low and the grassed drainage swales are expected to capture significant amounts of nutrient content.</li> <li>The Department's assessment concludes the proposed water management system is capable of managing and mitigating the impacts of stormwater flows during a storm event and waste water flows during normal operation and that the potential risk of contamination to the Shepparton Formation aquifer is low.</li> <li>Notwithstanding, the Department agrees with the DPI that the Applicant should undertake ongoing groundwater monitoring, including the installation of shallow piezometers.</li> <li>As such, the Department has recommended a number of conditions to ensure measures to monitor and manage groundwater resources are undertaken, including the preparation of a Water Management Plan, minimum design requirements for water and liquid chemical storage structures and that relevant approvals domestic effluent treatment systems are obtained.</li> </ul>	<p>Management Plan for the development in consultation with DPI, detailing surface water and groundwater management and the installation of piezometers,</p> <ul style="list-style-type: none"> <li>construct all stormwater and water storage structures with a permeability of <math>1 \times 10^{-9} / \text{ms}^{-1}</math>;</li> <li>design and construct all liquid chemical storage areas in accordance with the relevant standards and to contain 110% of the single largest volume on-site; and</li> <li>obtain the relevant approvals for the proposed domestic effluent treatment systems from Council under the <i>Local Government Act 1993</i>.</li> </ul>
Animal Welfare	
<ul style="list-style-type: none"> <li>The development would have a maximum population of 3.92 million broilers at any one time, with each shed housing 49,000 broilers.</li> <li>Shed populations would reduce during the production cycle due to broiler mortality and flock thinning, until broilers meet a desired processing weight.</li> <li>The Applicant advised that the maximum broiler density within each shed would be 40 kg/m<sup>2</sup>, which is consistent with the maximum allowable density for tunnel ventilated sheds with evaporative cooling under the <i>Model Code of Practice for the Welfare of Animals, Domestic Poultry</i>, 4th Edition (PISC 2002).</li> <li>The Applicant has committed to meeting all standards for animal care and management under the <i>National Animal Welfare Standards for the Chicken Meat Industry</i> (Barnett et al. 2008) which contain standards based on the Model Codes of Practice for the poultry industry.</li> <li>DPI raised no objection with regards to animal welfare.</li> <li>The Department is satisfied that the proposed stocking densities are in accordance with current industry best practice.</li> <li>The Department has recommended conditions of consent to ensure the development is consistent with the relevant animal welfare standards for all aspects of the operation.</li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>operate the development in accordance with the <i>National Animal Welfare Standards for the Chicken Meat Industry</i> (Barnett et al. 2008) and the <i>Model Code of Practice for the Welfare of Animals – Domestic Poultry</i> (PISC 2002) in addition to other relevant publications for the welfare of broilers.</li> </ul>



Consideration	Recommended Conditions
<p><b><u>Solid Waste Management</u></b></p> <ul style="list-style-type: none"> <li>The Applicant has advised that the primary solid waste streams from the proposed operation are broiler mortalities and bedding and manure from the conclusion of each production cycle.</li> </ul> <p><b><u>Dead broiler disposal</u></b></p> <ul style="list-style-type: none"> <li>The Applicant has advised that mortality of broilers in tunnel ventilated sheds during regular operations is normal. The average mortality rates are: <ul style="list-style-type: none"> <li>Week 1: 1 percent of total site population (approx. 39,200 broilers); and</li> <li>Weeks 2 – 8: 0.6 percent of total site population (approx. 23,520 broilers)</li> </ul> </li> <li>Dead broilers from the development would be collected on a daily basis and stored in on-site chillers prior to removal from the site in rigid trucks on a regular basis for disposal at the rendering plant at Hanwood.</li> <li>The Applicant is not proposing to dispose of dead broilers by burial within the development site and has advised that the on-site chillers would be capable of holding one weeks' worth of broiler mortalities.</li> <li>The EPA also recommended that dead broilers not be disposed of on site, unless directed to do so during a biosecurity event, due to the risk of contamination to the groundwater.</li> <li>The Department is satisfied that the Applicants proposed management measures would ensure that dead broilers are appropriately identified, managed and disposed of during the operation of the proposed development.</li> <li>Notwithstanding, the Department has recommended conditions to ensure dead broilers from the operation of the development are appropriately managed.</li> <li>The management of dead broilers during a mass mortality event are discussed further below in this table.</li> </ul> <p><b><u>Bedding material disposal</u></b></p> <ul style="list-style-type: none"> <li>The Applicant has advised that each poultry shed would generate approximately 200 m<sup>3</sup> of litter consisting of 90 m<sup>3</sup> of wood shavings / rice hulls / chopped straw and 110 m<sup>3</sup> of poultry manure.</li> <li>This waste would not be stored on site and would be transported off-site at the end of each production cycle in order to reduce biosecurity risks and nutrient concentrations in shed wash down water. To further reduce biosecurity risks, the Applicant has stated that the spent bedding and manure would not be applied to land within a five km radius of the site.</li> <li>General waste would be removed from the site by a licensed contractor and disposed of at a local landfill.</li> <li>The EPA raised no objection to the proposed handling of the waste streams and has advised that the spent bedding and manure can be used as fertiliser via the resource recovery exemption and under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i> at other farming locations.</li> <li>The Department is satisfied that the Applicant has suitable management measures in place to dispose of solid waste and has recommended conditions stating that no spent bedding material shall be stored or used on-site.</li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>prepare a Waste Management Plan detailing the classification, treatment, handling and disposal of all waste streams generated on-site;</li> <li>not stockpile dead broilers on-site;</li> <li>not dispose of dead broilers via burial or any other means on-site unless directed to do so during a bio-security emergency; and</li> <li>not stockpile, store or utilise spent bedding material in any way within the development site.</li> </ul>
<p><b><u>Biosecurity and Mass Mortality</u></b></p> <ul style="list-style-type: none"> <li>Disease outbreak and mass mortality is an operational risk of intensive livestock agriculture, including intensive poultry operations.</li> <li>The potential of a mass mortality event and disposal management was raised in public submissions and by the EPA.</li> <li>As part of the EIS and RTS, the Applicant identified four options for the disposal and management of dead broilers in the event of a mass mortality consistent with the DPI's Best Practice Manuals and which include: <ul style="list-style-type: none"> <li>transporting dead broilers to Baiada's rendering plant at Hanwood;</li> </ul> </li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>prepare an Emergency Disposal and Biosecurity Protocol in consultation with Council, DPI and other relevant agencies, detailing the proposed mass mortality</li> </ul>

Consideration	Recommended Conditions
<ul style="list-style-type: none"> <li>– composting the carcasses within the poultry sheds under the supervision of the DPI;</li> <li>– on-site burial of carcasses at ProTen's existing poultry facility at Janella at Goolgowi; and</li> <li>– disposal of broilers under an agreement between Carrathool Shire Council and Baiada at a designated area of Council's landfill.</li> </ul> <ul style="list-style-type: none"> <li>• In the event of an exotic disease or an emergency animal disease being confirmed on-site, the DPI and EPA would take control of the site and oversee disposal management, if required.</li> <li>• In addition, any landfill disposal activity would be supervised by DPI, EPA and Council to ensure quarantine controls and disposal is undertaken in accordance with the relevant AUSVETPLAN disease strategies to ensure effective response to an animal disease emergency.</li> <li>• The EPA raised no objection to the proposed options and contingencies regarding mass mortality events and proposed disposal.</li> <li>• The Department is satisfied with the Applicant's proposed disease management of the site and has recommended several conditions, incorporating the EPA's recommendations to ensure that adequate measures are undertaken to handle a mass mortality event.</li> </ul>	<p>procedures; and</p> <ul style="list-style-type: none"> <li>• dispose of broiler mortalities via burial within the site, unless directed by the DPI.</li> </ul>
Noise	
<ul style="list-style-type: none"> <li>• The Applicant undertook a noise assessment of the potential construction and operational noise impacts of the proposed development.</li> <li>• The assessment was undertaken in accordance with the EPA's <i>Interim Construction Noise Guidelines</i> and the <i>Industrial Noise Policy</i> (INP), respectively.</li> <li>• A background noise level of 30 dB(A) was assumed due to the rural location of the site resulting in a noise management level of 40 dB(A) for construction and a project specific noise level (PSNL) of 35 dB(A) during operation.</li> <li>• The key noise sources are anticipated to be from heavy vehicle movements accessing and moving within the site and the operation of ventilation fans, as these operations are the most likely to occur outside daytime hours.</li> <li>• The noise assessment concluded that construction and operational noise would comply with both the construction and operational noise criteria at all sensitive receptors under worst case conditions.</li> <li>• The sleep disturbance criteria is also predicted to be met.</li> <li>• The assessment also found that if an internal road speed limit of 60km/h is adopted during operation, road traffic noise along the access road at receptor R10 would be below the PSNL.</li> <li>• The issue of noise impacts from the development was raised in several public submissions.</li> <li>• The EPA raised no concerns regarding the noise levels for the construction and operation of the development and recommended that the PSNL of 35 dB(A) be applied as a noise limit for the development.</li> <li>• The Department's assessment concludes that the noise assessment has adequately considered the noise impacts from construction and operation of the development and that the development could comply with the relevant noise criteria.</li> <li>• The Department has recommended a number of conditions, incorporating the EPA's recommendations, to minimise the potential noise impacts to residential amenity and to ensure that the noise criteria of the development are met for its operational life. These include restricting the times that construction activities can be undertaken and the implementation of noise limits for the life of the operation.</li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>• construct the development in accordance with the construction times and noise limits in the <i>Interim Construction Noise Guideline</i>;</li> <li>• operate the development in accordance with the predicted noise criteria adopted in the noise assessment;</li> <li>• ensure that construction and operational traffic within the site adheres to a 60 km/h speed limit; and</li> <li>• restrict the use of engine brakes for heavy vehicles within the site.</li> </ul>

Consideration	Recommended Conditions
<p><b>Visual Impacts</b></p> <ul style="list-style-type: none"> <li>The potential visual impacts of the development were raised in public submissions.</li> <li>The project site is located approximately 4 km south of the Sturt Highway and is predominantly surrounded by land zoned for primary production uses with the nearest existing receptor to the development site being located 2.1 km north of PPU1.</li> <li>The sheds themselves would measure 160 m long by 17 m wide and approximately four and a half metres high with the feed silos and the rice hull storage shed being the tallest components of the development, with approximate heights of nine and seven and a half metres, respectively.</li> <li>Other components of the development such as bedding storage and dead broiler storage structures would be of a smaller scale.</li> <li>External lighting would be located at the front and rear entries to the sheds for loading and unloading of the sheds for farm operations outside of daylight hours.</li> <li>The Applicant has committed to undertaking landscaping works around each PPU involving approximately 20,000 trees in total.</li> <li>The development is considered to be consistent with the rural character of the region.</li> <li>The Department is satisfied that the visual impacts on surrounding existing receptors would be minor due to the low physical profile of the development, the isolation of the site and separation distances to the nearest receptor and from the Sturt Highway.</li> <li>The Department also considers that the development is consistent with the rural character of the area due to the significant presence of the chicken meat industry in the region.</li> <li>The Department also considers that the landscaping and re-vegetation works will further mitigate any potential visual impacts to the surrounding locality. To this effect, the Department has required the Applicant prepare a Vegetation Management Plan to manage revegetation within the site.</li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>prepare a Landscape Management Plan to detailing species to be planted around each PPU and monitoring and maintenance measures to ensure that revegetation and plantings are effectively managed to mitigate potential visual impacts.</li> </ul>
<p><b>Dangerous Goods and Hazardous Substances</b></p> <ul style="list-style-type: none"> <li>The Applicant undertook a Preliminary Hazards Analysis (PHA) to identify hazards associated with the proposal.</li> <li>A total of 300,000 litres of LPG would be stored in above ground storage tanks, with each PPU having eight LPG tanks with a capacity of 7,500 litres per tank (60,000 litres per PPU).</li> <li>The LPG storage tanks are located approximately 1 km apart.</li> <li>The PHA concluded that the proposal would exceed the LPG storage and bulk transport thresholds under <i>State Environmental Planning Policy No. 33</i> (SEPP 33), and the proposal would therefore be potentially hazardous.</li> <li>The Department has assessed the PHA and concludes that it satisfies the <i>Applying SEPP 33 Guidelines</i> (DOPI 2001a).</li> <li>The Department notes that the proposal is located in a sparsely populated area, with the nearest existing residential dwelling approximately 2.3 km to the north of the site boundary.</li> <li>The Department's assessment concludes that the proposal represents a low risk to off-site areas and the control measures for the development predominantly rely on compliance with the relevant codes and standards</li> <li>As such, the Department has recommended several conditions of consent to manage and mitigate hazardous impacts at the pre-construction and pre-commissioning stages of the development.</li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>transport and store LPG consistent with AS/NZS 1596:2014 - The Storage and Handling of LP Gas;</li> <li>prepare a Fire Safety Study and a Final Hazard Analysis prior to commencement of construction; and</li> <li>prepare an Emergency Plan in accordance with <i>Hazardous Industry Planning Advisory Paper No. 1 – Industry Emergency Planning Guidelines</i>.</li> </ul>
<p><b>Crown Lands</b></p> <ul style="list-style-type: none"> <li>Several unformed crown roads exist with the development site.</li> <li>A public submission raised concern with respect to the presence and enclosure of Crown Roads within the project site.</li> <li>As part of the RTS, the Applicant provided a license under the <i>Crown Lands</i></li> </ul>	<p>Require the Applicant to:</p> <ul style="list-style-type: none"> <li>ensure that all licences, permits and approvals are obtained and kept</li> </ul>

Consideration	Recommended Conditions
<p>Act 1989 to undertake works upon the Crown roads on-site.</p> <ul style="list-style-type: none"> <li>• DPI raise no objection to the development with respect to Crown Lands.</li> <li>• The Department is satisfied that the Applicant has obtained the necessary approvals under the <i>Crown Lands Act 1989</i> to undertake works across and on the crown roads identified within the site.</li> <li>• The Department notes that the permit will not impact any nearby landowners and will enable the Applicant to carry out the development within the site.</li> <li>• Notwithstanding, the Department's has recommended a condition requiring the Applicant to obtain and update all relevant licenses, permits and approvals for the development.</li> </ul>	<p>up to date as required throughout the life of the development.</p>
Contamination	
<ul style="list-style-type: none"> <li>• The EIS identified that the development site has historically been used for agricultural grazing and undertook a site investigation confirming that <ul style="list-style-type: none"> <li>– the site has an extensive history of traditional agricultural production, primarily consisting of cropping and grazing;</li> <li>– the potential for widespread on-site contamination is low; and</li> <li>– that the site is suitable for the proposed poultry production facility.</li> </ul> </li> <li>• The Department has reviewed the site assessment and considers that it has been undertaken in accordance with the requirements of SEPP 55.</li> <li>• The Department's assessment concludes that the potential for widespread contamination on-site is low and is satisfied that the site is fit for the proposed operation.</li> </ul>	<ul style="list-style-type: none"> <li>• No additional conditions required.</li> </ul>

## 6. CONCLUSION

The Department has assessed the merits of the development having regard to the objects of the EP&A Act and the principles of ecologically sustainable development.

The proposed development would offer vital employment in the Riverina region of NSW and provide flow on benefits from cyclical employment, increased demand for local contractors and ongoing feed supply requirements for the life of the development. The development would provide an investment of approximately \$63 million while supporting the regions chicken meat industry and supply chains. The development would increase the supply of broiler chickens to satisfy the immediate and projected long-term increase in domestic demand for chicken meat products.

The Department's assessment concluded that the design of the development and the proposed management measures would appropriately mitigate the environmental impacts of the development. Operation of the development would have minimal impact on the local flood regime, groundwater resources and the regional road network.

The Department has recommended a number of conditions including measures to manage and monitor air quality and odour, noise limits, traffic, animal welfare, flood proofing, water, waste, disease management, biodiversity and heritage. The Department has also recommended conditions for on-going environmental management, including regular and incident reporting as well as regular independent environmental audits.

Overall, the Department concluded that the proposed development would appropriately manage risks associated with the intensive rearing of broiler chickens, in line with current best practice.

The Department is satisfied that with the implementation of the recommended conditions of consent, the impacts of the proposed development can be mitigated and/or managed to ensure an acceptable level of environmental performance.

Consequently, the Department considers that the Euroley Poultry Production Complex is in the public interest and recommends that it be approved, subject to conditions.



## 7. RECOMMENDATION

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It is recommended that the Planning Assessment Commission:

- **consider** the findings and recommendations of this report;
- **approve** the development application under Section 89E of the EP&A Act; and
- **sign** the attached instrument of consent at **Appendix A (Tag A)**.

Prepared by:  
Thomas Piovesan  
Planning Officer  
Industry Assessments

Sally Munk  
Senior Environmental Planner  
Industry Assessments

Endorsed by:

  
23/10/15  
Joanna Bakopanos  
Team Leader  
Industry Assessments

  
23/10/15.  
Chris Ritchie  
Acting Executive Director  
Key Sites and Industry Assessments

## **APPENDIX A      CONDITIONS OF CONSENT**

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The Department's recommended conditions of consent can be viewed on the Department's website at the link below:

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=6882](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6882)

## APPENDIX B CONSIDERATION UNDER SECTION 79C OF THE EP&A ACT

Section 79C of the EP&A Act requires that the consent authority, when determining a development application, must take into consideration the following matters:

(a) the provisions of: (i) any environmental planning instrument, and	Consideration of the provisions of all environmental planning instruments (including draft instruments subject to public consultation under this Act) that apply to the proposed development is provided in Appendix C of this report.
(ii) 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 (unless the Director-General has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and	Not applicable. There are no proposed instruments or any instruments subject to public consultation at the time of preparation of this report.
(iii) any development control plan, and	The Narrandera Development Control Plan 2013 is the relevant DCP. Clause 11 of the <i>State Environmental Planning Policy (State and Regional Development) 2011</i> provides that DCPs do not apply to State significant development.
(iiia) any planning agreement that has been entered into under Section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and	Not applicable. No planning agreement or any offer to enter into a draft planning agreement has been made under Section 93F.
(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and	The development application satisfactorily meets the relevant requirements of the Regulation, including the procedures relating to development applications (Part 6 of the Regulations), public participation procedures for SSDs and Schedule 2 of the Regulation relating to environmental impact statements. Refer to discussion at <b>Section 3.9</b> .
(v) any coastal zone management plan (within the meaning of the <i>Coastal Protection Act 1979</i> ) that apply to the land to which the development application relates,	Not applicable.
(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	The impacts of the development have been considered in <b>Section 5</b> of this report.
(c) the suitability of the site for the development,	The Department is satisfied that the site has been appropriately selected in accordance with the DPIs <i>Best Practice Management for Meat Chicken Production in NSW Guidelines, Manual 1</i> and is appropriate in terms of environmental constraints, separation distances, location with respect to supporting industry facilities, water supply, visual impacts and flooding. The suitability of the site for the project is discussed at <b>Sections 2.3</b> and <b>5</b> of this report.
(d) any submissions made in accordance with this Act or the regulations,	The Department received a total of 24 submissions during the exhibition period from Council, the relevant government agencies and the general public. The issues raised in the submissions have been discussed and addressed in <b>Section 5</b> of this report.
(e) the public interest.	<p>The recommended conditions of consent impose a range of controls on the construction and operation of the development, which the Department considers will mitigate any potential environmental impacts of the proposed development.</p> <p>The proposal will generate 30 full time jobs and 20 construction jobs in addition to over \$30 million in feed supply requirements for the site. The proposal is therefore considered to be in the public interest.</p>

## APPENDIX C CONSIDERATION OF ENVIRONMENTAL PLANNING INSTRUMENTS

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### **State Environmental Planning Policy (State and Regional Development) 2011**

The aims of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) are to identify State significant development and State significant infrastructure and provide the necessary functions in determining development applications.

The proposal triggers the criteria in Clause 1 of Schedule 1 of the SRD SEPP as it involves development for the purposes of intensive livestock agriculture with a capital investment value of more than \$30 million. Therefore, the project is considered State significant development and the Minister for Planning is the consent authority for the development.

### **State Environmental Planning Policy (Infrastructure) 2007**

*State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) aims to facilitate the effective delivery of infrastructure across the State by improving regulatory certainty and efficiency, identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, and providing for consultation with relevant public authorities about certain development during the assessment process.

The proposal satisfies the criteria for traffic generating development under Clause 104 of the SEPP and was therefore referred to RMS for comment as required under the ISEPP.

The RMS' comments are summarised in **Section 4.2** of this report. In summary, the RMS raised no objection to the development and requested their recommended conditions relating to intersection design and construction works be included. The proposal is considered to be consistent with the ISEPP given the relevant consultation and consideration of the issues raised by the RMS in the Department's assessment in **Section 5** of this report.

### **State Environmental Planning Policy No. 33 – Hazardous and Offensive Development**

*State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33) aims to identify proposed developments with the potential for significant off-site impacts, in terms of risk and/or offence (odour, noise). A development is defined as potentially hazardous and/or potentially offensive if, without mitigating measures in place, the development would have a significant risk and/or offence impact on off-site receptors.

Consistent with clause 33 of SEPP 33, the Applicant provided a Preliminary Hazard Analysis (PHA) as part of the EIS. The PHA identified that the quantities of LPG to be transported to and stored on-site would exceed the threshold limits established by SEPP 33 and therefore constituted a potentially hazardous development. The Department has assessed the PHA and concludes it has satisfied *Applying SEPP33 Guidelines* (DOP 2001a).

The Department notes that the control measures for the development predominantly rely on compliance with the relevant codes and standards. To the effect, the Department has recommended a number of conditions requiring the Applicant to prepare appropriate safety and emergency plans, consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis' AS/NZS 1596:2014 - The Storage and Handling of LP Gas' to mitigate the risks associated with the transport and storage of LPG on-site.

### **State Environmental Planning Policy No. 55 – Remediation of Land**

*State Environmental Planning Policy No. 55 – Remediation of Land* (SEPP 55) aims to provide a State wide approach to the remediation of contaminated land. In particular, SEPP 55 aims to promote the remediation of contaminated land to reduce the risk of harm to human health and the environment by specifying:

- under what circumstances consent is required;
- the relevant considerations for consent to carry out remediation work; and
- that remediation works undertaken meet certain standards and notification requirements.



The Applicant assessed the potential for site contamination as part of the RTS, which concluded that the land is not contaminated and is suitable for the intended industrial use. The Department reviewed the assessment and considers the development would be undertaken consistently with the aims, objectives and provisions of SEPP 55.

### **State Environmental Planning Policy (Rural Lands) 2008**

*State Environmental Planning Policy (Rural Lands) 2008* aims to facilitate the orderly and economic use and development of rural lands for rural and rural related purposes and minimise land use conflicts. The development would support the chicken meat industry in the Riverina region in response to increasing domestic demand for chicken meat products. Furthermore, the development site is located on unconstrained land and has been designed with regards to minimising impacts to biodiversity, native vegetation and water resources. The development on services and infrastructure would have minimal impacts on the provision of rural housing and is consistent with the *Riverina Regional Action Plan*. As such, the Department is satisfied that the proposed development is consistent with the Rural Planning Principles of the SEPP.

### **Narrandera Local Environmental Plan 2013**

The Narrandera LEP aims to conserve and manage the natural and built resources of the LGA for present and future generations applying the principles of ecologically sustainable development. The site is zoned RU1 primary production under the LEP. Under this zone intensive livestock agriculture is permissible with consent. In addition, the site is identified as being groundwater vulnerable as it is located within the Groundwater Vulnerability Map of the LEP and clause 6.5 - Groundwater Vulnerability of the LEP, applies. In addition, the application of Clause 2.4C was raised in a public submission.

With respect to the aims and objectives of the RU1 zone, the proposal will maintain the natural resource base on site, by facilitating the ongoing grazing of surplus land not included in areas highlighted for biodiversity management. The proposed development will strengthen the presence of the poultry industry in the Riverina region. Furthermore, the site will be under single ownership for the duration of its operation and not fragment or alienate resource lands. Lastly, the site is in a location, and is of a nature that will minimise land use conflict within and outside the RU1 zone.

As discussed in **Section 5** above, the Department considers the risk of groundwater contamination and the potential impacts on groundwater ecosystems from the proposed development to be low. Furthermore, the Department is satisfied that the development has been designed in a manner that avoids any significant environmental impacts to groundwater resources.

With respect to groundwater dependent ecosystems, the Applicant has advised that the vegetation communities in the area are believed to mainly rely on rainfall and periodic flooding from the Murrumbidgee River and have a low dependency on groundwater. The biodiversity assessment provided with the EIS indicated the Calivil Formation from which the development proposed to source its groundwater supply is not known to support any ecosystems. The EIS notes that the White Cypress Pine (Sandhill Pine Woodland) within the site has moderate potential for being dependant on groundwater sources. However, as discussed above, the anticipated water drawdown from groundwater extraction was well below two metres and any significant impact on these communities is not anticipated.

Clause 4.2C of the LEP seeks to minimise unplanned rural development and enable the replacement of existing dwellings houses in particular land use zones. Sub-clause 3 states that the minimum lot size for the erection of a dwelling house in RU1 zoned land is 400 ha. As discussed in **Section 2.1** and **Table 1**, the development requires the erection of ten dwelling houses for farm manager's accommodation, with two dwellings being associated with each PPU. As discussed in **Section 3.4**, the Applicant provided legal advice on whether clause 4.2C was a relevant consideration. The Applicant's legal advice concluded that as the dominant purpose of the development application is for intensive livestock agriculture, of which ten dwelling houses are a part of, clause 4.2C of the LEP was not a relevant consideration. The Department agrees that the dominant purpose of the development application is for intensive livestock agriculture, and considers that the ten dwelling houses are ancillary to the development and are required to enable the development to operate. The Applicant has advised that the dwelling houses would remain wholly in the ownership of ProTen for the life of poultry farm operations and that the dwellings are let to farm managers as part of their remuneration package under a tenancy type agreement and are periodically inspected by the Applicant.

Notwithstanding, the Department has recommended a number of conditions to ensure the proper use of the dwelling houses for managerial accommodation on-site for the life of the project and to mitigate and manage potential groundwater impacts. Conditions specifying no broiler mortalities can be buried on-site during ordinary operations, a restriction on the use of spent poultry litter on the site will ensure that any potential impacts to groundwater resources are minimised. The Department has also required the Applicant to prepare a Water Management Plan in consultation with the DPI to ensure that water impacts of the development are managed to a satisfactory level.

The Department considers that the development proposal is generally consistent with the relevant provisions of the Narrandera LEP.

## **APPENDIX D ENVIRONMENTAL IMPACT STATEMENT**

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The Environmental Impact Statement and associated documentation is located on the Department's website at:

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=6882](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6882)

## **APPENDIX E SUBMISSIONS**

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Submissions are located on the Department's website at:

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=6882](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6882)



## **APPENDIX F      RESPONSE TO SUBMISSIONS**

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The Response to Submissions is located on the Department's website at:

[http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=6882](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6882)