ProTen

Euroley Poultry Production Complex

SSD 6882

Environmental Impact Statement

MAIN REPORT

VOLUME 1

Prepared by:

SLR

Intensive Livestock Agriculture
Euroley Poultry Production Complex
Environmental Impact Statement
SSD 6882

PREPARED BY:

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
2 Lincoln Street
Lane Cove NSW 2066 Australia
(PO Box 176 Lane Cove NSW 1595 Australia)
T: +61 2 9427 8100 F: +61 2 9427 8200
sydney@slrconsulting.com www.slrconsulting.com

SUBMISSION OF ENVIRONMENTAL IMPACT STATEMENT

Prepared under Part 4 of the *Environmental Planning and Assessment Act 1979*

Prepared By:

Name:	Nicole Armit Principal Consultant
Qualifications:	Masters of Environmental Law Bachelor of Environmental Engineering (Hons)
Company:	SLR Consulting Australia Pty Ltd
Address:	10 Kings Road, New Lambton NSW 2305

Development Application

Applicant Name:	ProTen Holdings Pty Limited
Applicant Address:	PO Box 1746, North Sydney NSW 2060
Land to be Developed:	Lots 1, 41, 42, 44, 45 and 54 in DP 750898, and Lot 1 in DP 1054064, Local Government Area of Narrandera
Proposed Development:	Euroley Poultry Production Complex, Sturt Highway, Euroley NSW (SSD 6882)
Description:	Intensive Livestock Industry - Poultry Broiler Production Farm (refer **Section 3**)

Declaration

We hereby certify that we have prepared the contents of this document and to the best of our knowledge:

- It has been prepared in accordance with Clauses 71, 72 and 73 of the *Environmental Planning and Assessment Regulation 2000*;
- It addresses the Secretary's Environmental Assessment Requirements (SSD 14_6882) dated 6 February 2015 provided by the NSW Department of Planning and Environment under Clause 73 of the *Environmental Planning and Assessment Regulation 2000*;
- It contains all available information that is relevant to the environmental assessment of the proposed development to which the document relates; and
- It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.

Name: Nicole Armit

SLR Consulting Australia Pty Ltd

Signature: 

Date: 20 May 2015

EXECUTIVE SUMMARY

INTRODUCTION

ProTen Holdings Pty Limited (ProTen) is seeking Project Approval to develop an intensive poultry broiler production farm, known as the Euroley Poultry Production Complex, within a rural property near Euroley in south western New South Wales (NSW). ProTen specialises in the design, construction and operation of broiler chicken farms throughout Australia, currently owning and operating eight poultry production complexes, including seven in NSW near Griffith and Tamworth, and one in Western Australia near Serpentine. Cumulatively, these complexes represent approximately 7 percent of broiler chicken production in Australia. ProTen has long term extendible contracts to supply chickens to Australia's largest chicken processor, Baiada Poultry Pty Ltd (Baiada), who markets and sells chicken products under the well-established brand names of Steggles and Lillydale

The Euroley Poultry Production Complex will be constructed and operated in accordance with industry best practice guidelines, in particular the *Best Practice Management for Meat Chicken Production in NSW* (DPI, 2012), and will comprise five poultry production units (PPUs) where broiler birds will be grown for human consumption. The proposed development site compromises approximately 1,160 hectares of rural land positioned around 4 kilometres off the Sturt Highway, approximately 26 kilometres north-west of Narrandera and 48 kilometres south-east of Griffith within the Local Government Area (LGA) of Narrandera. The long-standing and existing use of the development site is traditional agricultural production. The site primarily comprises paddocks that have been consistently cropped and grazed for many years.

This Environmental Impact Statement (EIS) has been prepared by SLR Consulting Australia (SLR) on behalf of ProTen to accompany an application for State Significant Development (SSD 6882) to the NSW Department of Planning and Environment (DP&E), seeking Project Approval under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

PROJECT OVERVIEW

The Euroley Poultry Production complex (the Project) comprises the development of five PPUs and associated infrastructure, where broiler birds will be grown for human consumption. Each PPU will comprise 16 tunnel-ventilated fully-enclosed climate-controlled poultry sheds, with associated support infrastructure and staff amenities. Each shed will have the capacity to house a maximum of 49,000 broilers at any one time, equating to a PPU population of up to 784,000 broilers, and a total farm population of 3,920,000 broilers. **Table A** below summarises the key elements of the Project.

The proposed disturbance footprint of the Euroley Poultry Production Complex will be relatively small and the commercial activities associated with the poultry operation will be largely confined to this area. The land outside of the disturbance footprint will continue to be used for agricultural production purposes under some form of lease or share farming arrangement.

Table A - Summary of the Project

Aspect	Details
Purpose	Birds grown for human consumption
Number of PPUs	Five, with a total footprint of around 70 hectares
Number of poultry sheds per PPU	16, each measuring 160 metres long by 17 metres wide
Type of poultry sheds	Tunnel-ventilated, fully-enclosed, climate-controlled
Maximum shed population	49,000 birds
Maximum PPU population	784,000 birds
Maximum farm population	3,920,000 birds
Maximum bird density within sheds	40 kg/m^2
Hours of operation	24 hours a day, 7 days a week
Production cycle length	Approximately 9 weeks, comprising a maximum bird occupation of 8 weeks and a cleaning phase of 1 week.
Number of production cycles per year	Approximately 5.7 on average

In addition to poultry shedding, the Project will also include:

- The construction of farm managers' accommodation. 10 houses will be constructed to accommodate farm managers and assistant farm managers;
- The construction of ancillary infrastructure and improvements required to support the poultry production operation, including:
    - Amenity facilities encompassing office space, toilets, and staff change rooms;
    - Servicing infrastructure to ensure that the Project's electricity, gas and water requirements can be met;
    - An engineered surface water drainage and management system;
    - Dead bird chiller room;
    - Chemical storage;
    - Generator shed, workshop and poultry shed floor bedding material storage shed;
    - Wheel wash facility at the PPU entrance;
    - Feed silos, which will automatically dispense the feed into the poultry sheds; and
    - Water storage tanks, with the capacity to store adequate supply at peak demand.
- Construction of an intersection with the Sturt Highway to a new access road to gain access to the development site. This will include the development of an easement through privately owned land between the development site and the intersection with the Sturt Highway.

KEY ENVIRONMENTAL ISSUES

The assessment of environmental issues associated with the Project has been multi-disciplinary and involved consultation with key local and state government agencies and a pre-project risk assessment. As facilitated by the risk assessment, where a potential environmental impact/risk was considered unacceptable, or where a knowledge gap was identified, a specialist study was commissioned and appropriate management responses nominated. While the risk assessment did not identify any high ranking environmental risks, three medium risks relating to air quality, traffic and transport, and site services were identified.

The Project is not anticipated to pose any significant or long-term adverse impact to the local environment or surrounding populace. While the information presented within the body of this EIS and within the appended specialist reports should be read in their entirety, the following table provides a summarised overview of the significant findings of the EIS.

Table B - Key Findings of the Environmental Assessment

Environmental Aspect	Key Assessment Findings
Land Use Conflict	• The potential for conflict between the Project and the existing surrounding agricultural production activities is considered low. The proposed PPU sites will be relatively small and the commercial activity associated with the development will be largely confined to these areas. • The disturbance footprint within the development site will amount to a total area of approximately 90 hectares, equivalent to just 8 percent of the development site. ProTen intends to continue the use of the residue land within the site for agricultural production purposes under some form of lease or share farming arrangement. On this basis, the Project will not deny access to areas of viable agricultural lands nor significantly reduce the land area available for agricultural production. • The north-west corner of the development site abuts the 'Banandra' portions of the South West Woodland Nature Reserve and Murrumbidgee Valley National Park. The nearest PPU will be located 100 metres from the development site boundary that abuts the National Park. All other project related development will be considerably further away from the site boundary, with the next nearest PPUs to be located 1.3 km and 1.4 km to the south and south-east respectively. • The potential impacts of the Project were assessed in consideration of the document *Guidelines for developments adjoining land and water managed by the Department of Environment Climate Change and Water (DECC (now OEH) 2010*). Given the design of the Project and the mitigation measures to be implemented as described in this EIS, no significant impacts are predicted on the National Park.
Air Quality	Pacific Environment (2015) undertook a detailed assessment of potential air quality issues, including odour and particulate matter, associated with the Project. The assessment concludes the following: • Odour levels at the nearest privately-owned residences are predicted to be below the adopted project-specific criterion of 7 odour units. • The 99th percentile odour concentration at all nearest receptor is predicted to be below 5 odour units, well below the adopted criterion of 7. • Dust concentrations at the nearest privately-owned residences are predicted to be well below the adopted project-specific criteria when the proposal is considered in isolation (without existing background levels).
Noise	Global Acoustics (2015) undertook an assessment of the potential noise impacts associated with the Project. This assessment concludes the following: • No exceedances of the conservatively derived Project Specific Noise Levels are predicted at any of the nearest receptors for any of the scenarios modelled. Three scenarios were modelled: worst case continuous operation, feed silo refilling and bird collection. • Worst-case sleep disturbance during night-time bird collection will not exceed the sleep disturbance criterion. • No exceedance of the construction noise criterion (L_{Aeq},15min 40 dB) is predicted. • The relatively small increase in traffic volumes will not result in any discernible change in existing traffic noise levels.
Traffic and Transport	RoadNet (2015) undertook an assessment of the potential traffic and transport issues associated with the Project. This assessment concludes the following:

Environmental Aspect	Key Assessment Findings
	• The poultry development will generate an average of 96 vehicle trips per day (62 heavy vehicle trips and 34 car trips). • The additional traffic movements on the Sturt Highway is not expected to have any operational impact on the external road network, given that the existing traffic volumes on the Sturt Highway are relatively low and can be easily accommodated. • A new intersection will need to be constructed off the Sturt Highway to provide access to the development site. The new intersection should include BAL and BAR - type turn treatments to cater for the vehicle movements generated by the development. This access type is adequate for the low volume of traffic generated by the Project and existing low volumes on the Sturt Highway. The proposed intersection location meets safe intersection sight distance and stopping distance requirements.
Water Resources	• An engineered stormwater management system will be implemented to ensure stormwater within the PPUs is appropriately managed. The total stormwater storage capacity to be constructed at each PPU of 28,000 m^3 is equivalent to 170% of the capacity required to prevent runoff escaping the retention dams from a 1 in 100 ARI, 72 hour event. • Given the controlled environment in which the Project will operate, along with the environmental licensing conditions it will need to comply with, it poses a low risk to local water resources and no detectable impact is expected. Due to the low risk, no water monitoring program is warranted. • Based upon the 100 year ARI flood map (Lyall & Associates, 2015), aerial photographs of the 1974 flood event and information in SKM (2000), the development site is unlikely to be flood affected during mainstream flood events up to and including the 1 in 100 year ARI event. It is also unlikely that the site will be flood affected by Murrumbidgee River or Yanco Creek out of bank flows during an extreme flood event such as the PMF. • Importantly, flood warnings are likely to be available via the NSW State Emergency Service (SES) at least several days prior to a flood occurring. No significant drainage features transect the site, so minor localised flooding is likely to be isolated to topographical depressions onsite. • In relation to overland flooding, the output of the 1D hydraulic flood model developed for the site, combined with the site design, shows that the site infrastructure will be above the flood depth associated with a 1 in 100 year ARI event. • The Project will require a total water supply of around 460 megalitres per annum, which will be sourced via four new groundwater bores to be constructed on the site, consisting of two bores in two locations. • An existing Water Access Licence will be transferred from a bore located approximately 5 kilometres to the east of the development site, to the new bores to be constructed in the development site to account for the water to be sourced from the Lower Murrumbidgee Deep Groundwater Source. • The groundwater drawdown as a result of groundwater extraction within the development site will be minimal, and will be less than two metres at any nearby water supply work, thereby meeting the minimal impact considerations in the NSW Aquifer Interference Policy (NOW, 2012).
Flora and Fauna	• Significant disturbance of the natural environment within the development site has occurred as a result of historic clearing and long-term agricultural production. The proposed disturbance footprint is highly modified and disturbed having been cleared and consistently cropped for many decades, and is devoid of any significant resources. • The development will be relatively small, with a disturbance footprint of approximately 90 hectares, comprising just 8 percent of the development site.

Environmental Aspect	Key Assessment Findings
	• Unavoidable impacts on native vegetation are relatively minor and include impacting a small area of Sandhill Pine Endangered Ecological Community adjacent to the Sturt Highway (0.28 hectares) to allow construction of the access road from the highway, and a small area of low condition Black Box Grassy Open Woodland (0.46 hectares) in the south of the development site, to allow construction of one of the PPUs. • The total area of mapped vegetation removal required for construction and operation of the Project therefore totals 0.74 hectares, which represents 0.4% of the total area of mapped native vegetation within the study area and 0.06% of the total study area. • Application of the Credit Calculator in accordance with the Framework for Biodiversity Assessment (FBA) reveals that the impacts of the Project correlate to a requirement for just 16 ecosystem credits. Under the terms of the FBA, an appropriate offset strategy will be provided to compensate for vegetation and habitat loss.
Aboriginal Heritage	• Significant disturbance of the land within the development site has occurred as a result of historic clearing and long-term agricultural production. • Consultation with the local Aboriginal community was conducted for the Project in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010). • A field survey found three heritage sites within the development site; two scarred trees and a hearth. • All three sites are outside of the proposed disturbance footprint and will not be impacted upon by the Project.
Visual Amenity	• The proposed PPU sites are relatively small and the commercial activity associated with the development will be largely confined to these areas. • The development site is removed from any urban areas and there is a very low density of surrounding residential dwellings. The nearest populated area is the Narrandera township approximately 26 kilometres to the south-east of the site. • The nearest privately-owned residence is located approximately 2.1 kilometres to the north of the northern-most PPU. • A Landscaping Strategy will be implemented to improve the visual and environmental amenity of the Project. As soon as practical following bulk earthworks and construction of development infrastructure, ProTen will progressively establish landscape plantings in accordance with the Landscaping Strategy.

ProTen will prepare and implement a site-specific Operational Environmental Management Plan (EMP) for the Project to ensure that the commitments made within this EIS, along with relevant statutory obligations and the conditions of development consent (including Environment Protection Licence requirements), are fully implemented and complied with.

JUSTIFICATION AND CONCLUSION

Having observed the continuing expansion of the Australian poultry meat market, ProTen's primary objective is to develop an intensive broiler production complex, adopting best practice in design, operation and management, within the Griffith area to augment the domestic supply of meat chickens. The poultry industry within the Griffith region plays an ever increasing role in the development of local agri-business. It is widely appreciated that the poultry industry has a good strategic fit and high recognition factor within the area.

Finding a site that is both available and meets all of the criteria for a viable poultry broiler production development is very difficult. Selection of alternative sites must be mindful of transport access to the necessary support and servicing facilities. The matter of a reliable water supply is very significant and the cost of satisfying the necessary power requirements is usually prohibitive. The proposed development site represents the preferred option of several considered and the culmination of a site selection process that has considered a range of criteria including economic, social and environmental aspects.

The assessment of ProTen's proposal to establish an intensive poultry broiler production complex within the development site, as detailed in this EIS, has been multi-disciplinary and involved consultation with various government agencies. Emphasis has been placed on anticipation and prevention of potential impacts, with best practice operation and mitigation measures identified to ensure environmental due diligence and minimal potential for adverse impact. On this basis the development will not result in significant or long-term adverse impacts to the local environment and surrounding populace. The development will be operated and managed in accordance with a site-specific Operational EMP, which will ensure that the commitments made in this EIS, along with relevant statutory obligations and conditions of development consent, are fully implemented and complied with.

Furthermore, the Project is justified in socio-economic terms as a catalyst for significant and sustained economic activity within the Griffith region, including positive employment and flow-on benefits.

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Section 1

Introduction



1 INTRODUCTION

1.1 Background

This Environmental Impact Statement (EIS) has been prepared to support an application by ProTen Holdings Pty Limited (ProTen) seeking development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to develop an intensive poultry broiler production farm known as the Euroley Poultry Production Complex, within a rural property near Euroley in south-western New South Wales (NSW).

The Euroley Poultry Production Complex (herein referred to as the Project) comprises the development of five poultry production units (PPU), where broiler birds will be grown for human consumption. Each PPU will comprise 16 tunnel-ventilated fully-enclosed climate-controlled poultry sheds, with associated support infrastructure and staff amenities. Each shed will have the capacity to house a maximum of 49,000 broilers at any one time, equating to a PPU population of up to 784,000 broilers, and a total farm population of 3,920,000 broilers. The complex will employ a total of 30 full time employees, 10 of whom will live on site as farm managers and assistant managers.

1.2 Document Purpose

The purpose of this EIS is to enable consideration of the implications of proceeding with the Project, and has been prepared in accordance with the EP&A Act and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). This EIS has also been prepared to meet the Secretary's Environmental Assessment Requirements (SEARs) for the Project, issued by the DP&E on 6 February 2015 (refer **Section 1.8**), as well as the recommendations of other consulted agencies and relevant stakeholders.

In addition to describing the Project, the EIS presents a comprehensive and focussed assessment of the associated planning and environmental issues to a level of detail commensurate with the scale of the development, and describes the existing characteristics of the proposed development site and the legislative framework under which the Project is to be assessed and determined. The matters dealt with within the EIS are presented in a manner that addresses the specific requirements of the SEARs, as well as the requirements of other consulted government agencies.

1.3 The Applicant

The Applicant for the Project is ProTen, for which the contact details are:

Mr Daniel Bryant, CEO
Level 2, 66 Berry St
North Sydney 2060
Phone: +61 2 9458 1700

ProTen was founded in New Zealand in 2001 to consolidate the broiler chicken farming businesses of four existing operations in New Zealand. Investment into the Australian market commenced in 2002. From 2003 to 2006 all New Zealand assets were sold and the capital reinvested into the Australian market through acquisition and 'green field' development.

Today ProTen continues to specialise in the design, construction and operation of broiler chicken farms throughout Australia, currently owning and operating eight poultry production complexes, including seven in NSW near Griffith and Tamworth, and one in Western Australia near Serpentine. Cumulatively, these complexes comprise 172 poultry sheds and have an annual capacity of close to 42 million birds, representing approximately 7 percent of broiler chicken production in Australia.

ProTen has long term extendible contracts to supply chickens to Australia's largest chicken processor, Baiada Poultry Pty Ltd (Baiada), who markets and sells chicken products under the well-established brand names of Steggles and Lillydale. ProTen currently employs close to 60 people in NSW and WA.

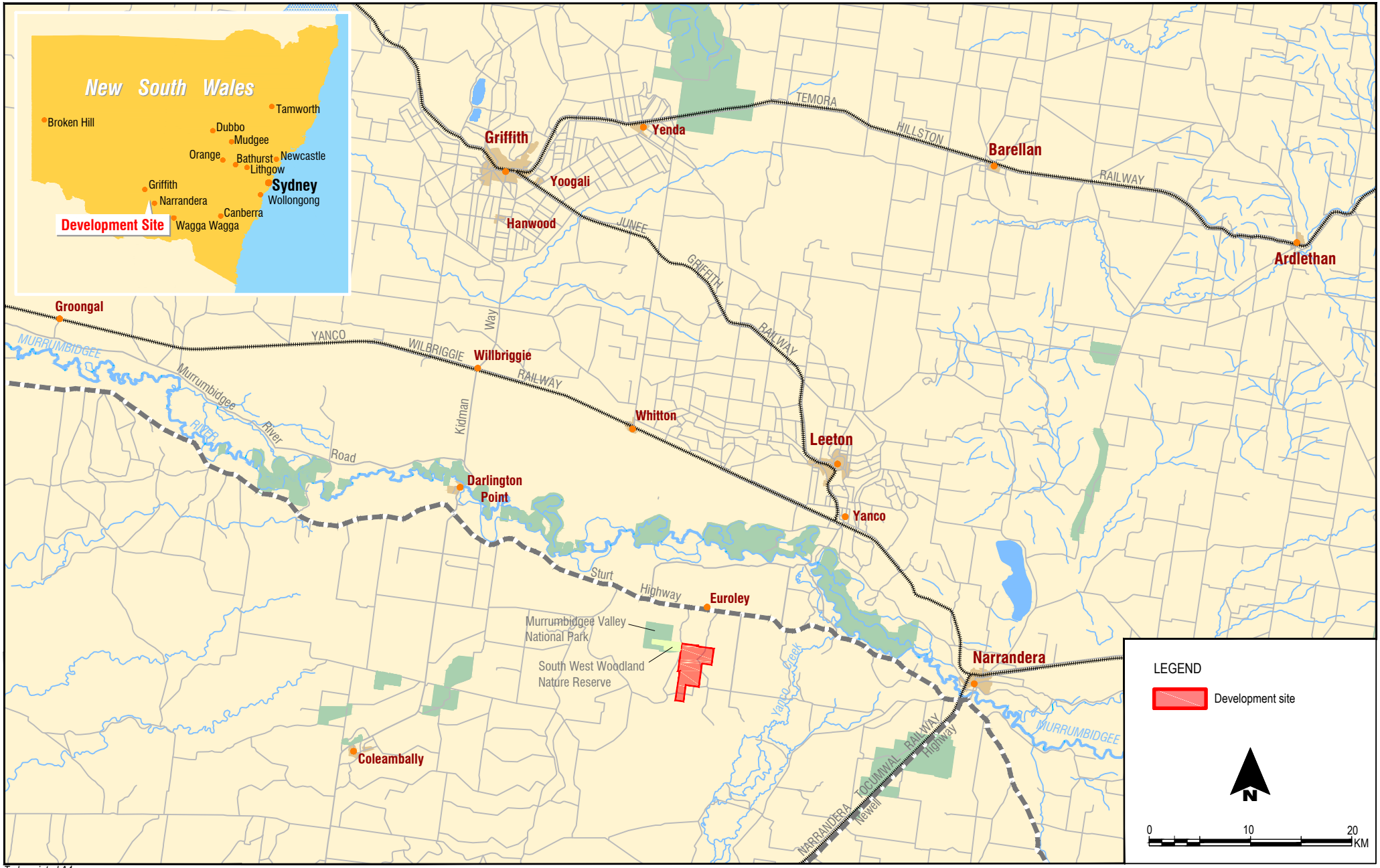
1.4 Development Site

The proposed development site compromises approximately 1,160 hectares of rural land positioned around 4 kilometres off the Sturt Highway, approximately 26 kilometres north-west of Narrandera and 48 kilometres south-east of Griffith in south-western NSW, as illustrated on **Figure 1.1**. It is identified as Lots 1, 41, 42, 44, 45 and 54 in DP 750898 and Lot 1 in DP 1054064, as shown on **Figure 1.2**, and is located within the Parish of Ourendumbee, County of Boyd and the Local Government Area (LGA) of Narrandera.

The long-standing and existing use of the development site is traditional agricultural production. The site primarily comprises paddocks that have been consistently cropped and grazed for many years as can be seen in **Plate 1**, with no large remnant patches of vegetation remaining.

The development site is predominantly surrounded by land used for agricultural purposes, consistent with the dominant landuse in the region. The north-west corner of the development site abuts the 'Banandra' portions of the South West Woodland Nature Reserve and Murrumbidgee Valley National Park (refer **Figure 1.2**).

Plate 1 – The Development Site, looking southwest across location of PPU 1



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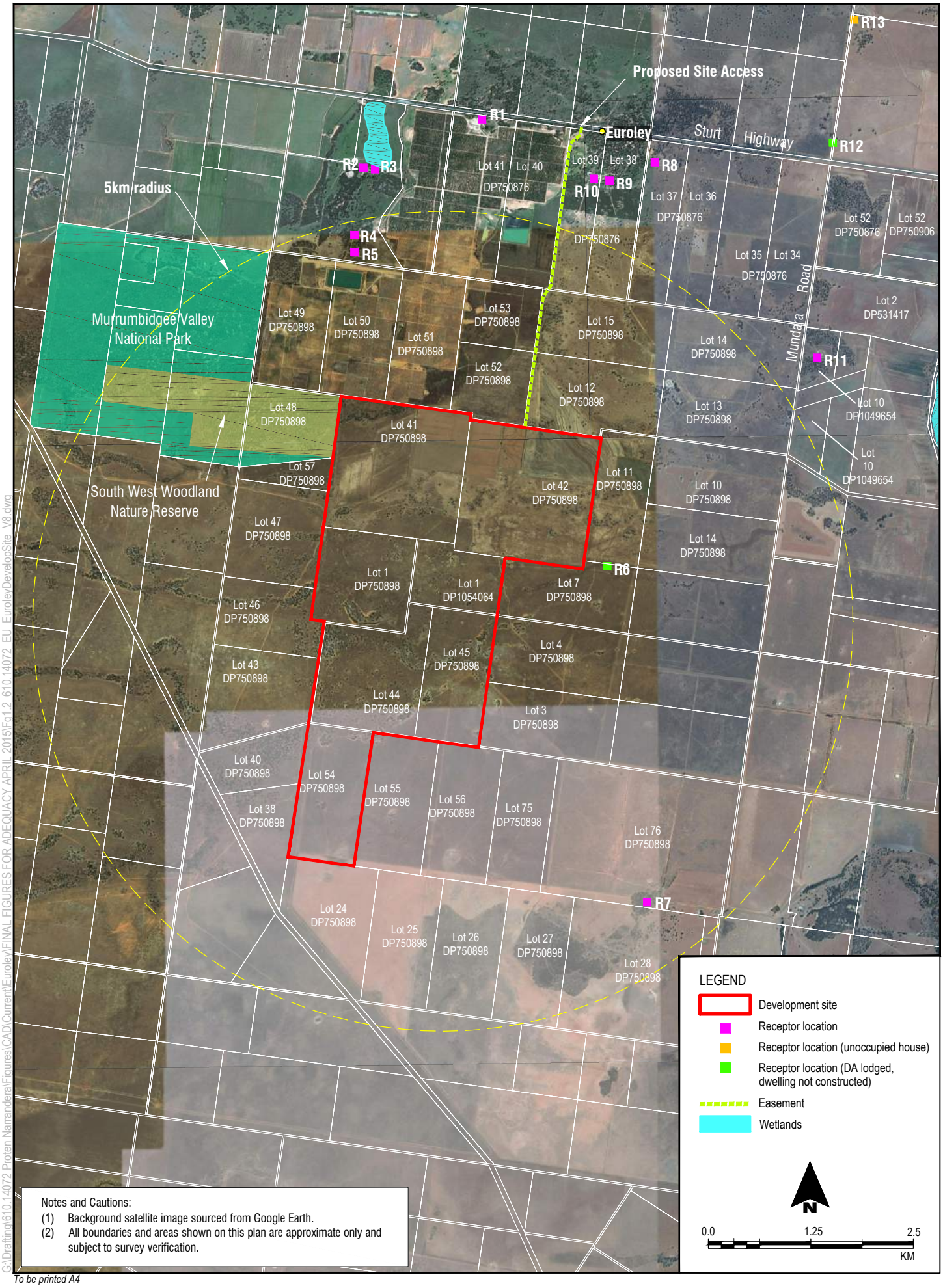
Regional Locality

FIGURE 1.1



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Development Site and Nearest Receptors

FIGURE 1.2

1.5 Project Overview

The Euroley Poultry Production Complex will be constructed and operated in accordance with industry best practice guidelines, in particular the *Best Practice Management for Meat Chicken Production in NSW* (DPI, 2012) (Best Practice Guidelines), and will comprise five PPUs where broiler birds will be grown for human consumption. **Figure 1.3** shows the conceptual layout of the development, and **Table 1.1** contains a summary of the key development elements.

Table 1.1 Summary of the Project

Aspect	Detail
Purpose	Birds grown for human consumption
Number of PPUs	Five, with a total footprint of around 70 hectares
Number of poultry sheds per PPU	16, each measuring 160 metres long by 17 metres wide
Type of poultry sheds	Tunnel-ventilated, fully-enclosed, climate-controlled
Maximum shed population	49,000 birds
Maximum PPU population	784,000 birds
Maximum farm population	3,920,000 birds
Maximum bird density within sheds	40 kg/m^2
Hours of operation	24 hours a day, 7 days a week
Production cycle length	Approximately 9 weeks, comprising a maximum bird occupation of 8 weeks and a cleaning phase of 1 week.
Number of production cycles per year	Approximately 5.7 on average

The development will be relatively small, with a disturbance footprint of approximately 90 hectares, comprising just 8% of the site, and the commercial activity associated with the development will be largely confined to this area. A Landscaping Strategy will be implemented to screen the development from neighbouring landholders and generally improve the visual and environmental amenity of the development site.

In addition to poultry shedding, the development will also include:

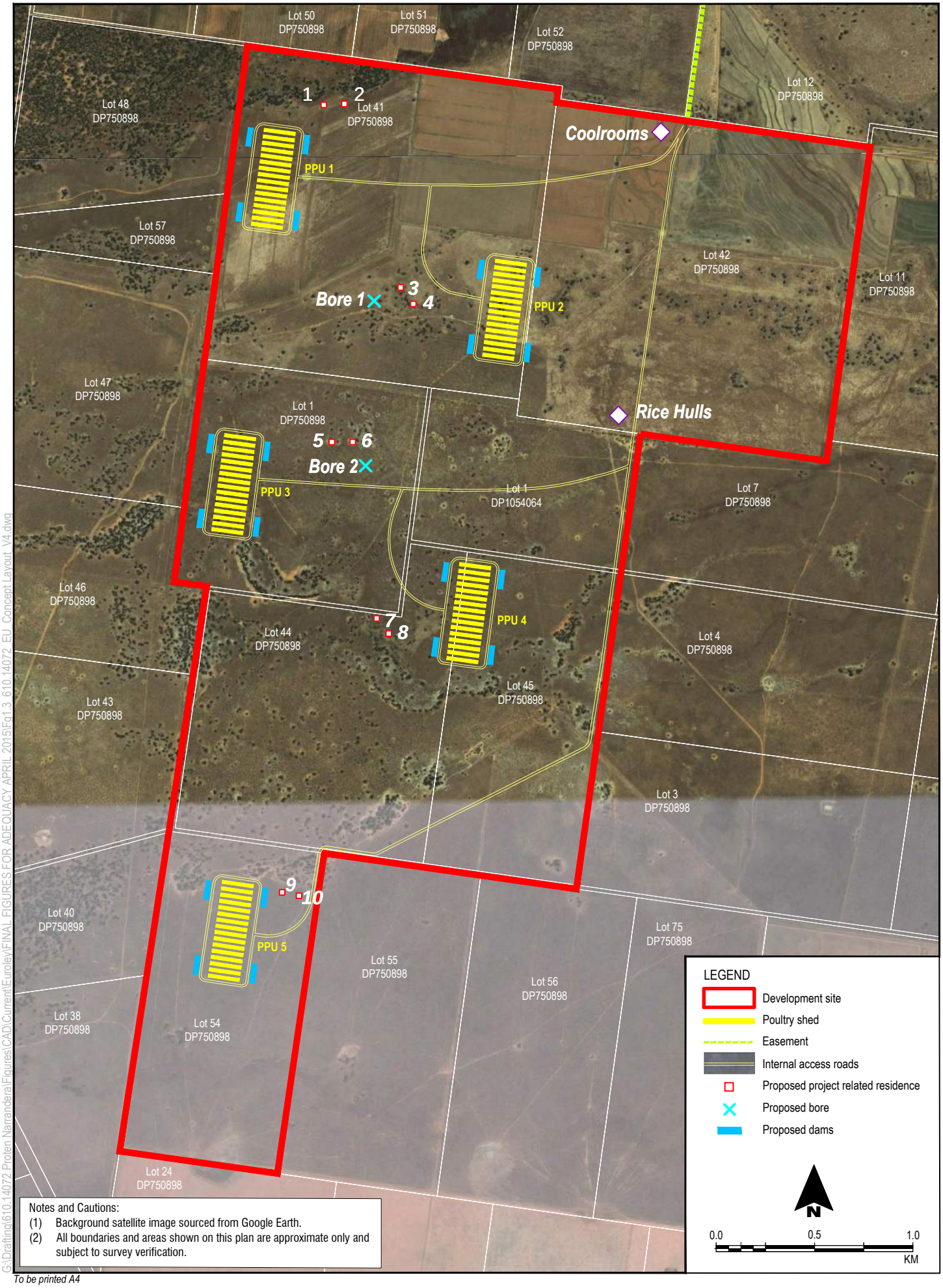
- The construction of farm managers' accommodation. 10 houses will be constructed to accommodate farm managers and assistant farm managers;
- The construction of ancillary infrastructure and improvements required to support the poultry production operation; and
- Construction of an intersection with the Sturt Highway to a new access road to gain access to the development site. This will include the development of an easement through privately owned land between the development site and the intersection with the Sturt Highway.

1.6 Project Rationale

1.6.1 Strategic Context

Demand for chicken meat

According to statistics published by the Australian Bureau of Agricultural and Resources Economics and Sciences (ABARES), the popularity of chicken meat has grown enormously over the last 30 years to the extent that it is currently the most consumed meat in Australia. The total chicken meat production in Australian has increased from approximately 380,000 tonnes in 1989-90 to around 1,046,000 tonnes in 2012-13, and it is expected to continue increasing to close to 1,250,000 tonnes in 2018-19.



Notes and Cautions:
(1) Background satellite image sourced from Google Earth.
(2) All boundaries and areas shown on this plan are approximate only and subject to survey verification.

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Conceptual Layout

FIGURE 1.3

Over 95 percent of the chicken meat produced in Australia is consumed domestically. The 2012-13 per capita rate of consumption was 44.1 kilograms, compared to 36 kilograms in 2008-09 and just 13 kilograms in 1975. ABARES estimates that chicken meat consumption in Australia will continue to rise, reaching 47.7kg per person by 2018-19. This trend is closely associated with price, nutrition and the industry's innovation to provide a variety of chicken meat products.

In 2012-2013, approximately 550 million chickens were processed in Australia, and based on current growth projections, it is estimated that by 2018-19 this will rise to close to 700 million birds per year.

NSW State Plan, NSW 2021 – A Plan to make NSW Number One

NSW 2021 is a 10 year plan released by the NSW Government in September 2011 to guide policy and budget decision making in NSW and to deliver on community priorities. The plan is based around five strategies; rebuild the economy, return quality services, renovate infrastructure, strengthen our local communities and environment, and restore accountability to Government.

This Project is particularly relevant to the first strategy and the NSW Government's number one priority; rebuilding the economy and restoring economic growth. NSW 2021 sets out a number of goals developed to achieve this economic objective. The relevant goals, and how the Project will assist in achieving these goals, are listed below.

- **Improve the performance of the NSW Economy** - The targets set to achieve this goal centre around growing business investment, growing Gross State Product and growing employment. The Project represents a substantial business investment in NSW, with a Capital Investment Value of $60 million, as well as ongoing investment in the community and the resulting flow on effects through the use of goods and services (discussed further in the dot point below). The Project will also generate 30 permanent full time positions.

- **Drive Economic Growth in Regional NSW** – The targets set to achieve this goal includes increasing the share of jobs in regional NSW, and protecting strategic agricultural land and improving agricultural productivity. In this regard, the Project will enable the continuation of the existing agricultural land use within the development site through a form of lease sharing arrangement with the original owners, whilst also enhancing agricultural productivity of the site via construction and operation of the poultry production complex. As mentioned above, the Project will also generate 30 full time positions in regional NSW and, in addition to the permanent capital investment within Narrandera Shire, as discussed in **Section 3.21** will also provide ongoing opportunities for economic growth in the local community as follows:
    - Opportunities for local transport companies to participate in the haulage of materials to and from the site;
    - Opportunities for local growers and suppliers to provide various goods, such as bedding material, fuel, tyres, clothing and groceries;
    - Opportunities for local businesses to fulfil maintenance and servicing requirements; and
    - The additional grain needed to fulfil the feed demand of the Project represents a significant increase in the potential market for regional farmers. It is estimated that the operation will consume around 105,000 tonnes of poultry feed per annum, which represents a yearly recurrent expenditure of around $33 million.

Another strategy set out in NSW 2021 of relevance to the Project is to 'strengthen our local communities and environment'. The first goal developed to achieve this strategy is to protect our natural environment. As documented in this EIS the Project has been developed to ensure the risk of significant impact on the environment as result of the Project is minimised. A number of development sites were considered, as well as site layouts within the development site as discussed in detail in **Section 8.2.3**, with the final site and layout chosen on the basis of environmental considerations including proximity to wetlands and the presence of mapped vegetation communities and archaeological sites, in conjunction with economic considerations relating to efficiency and viability of the farm.

Riverina Regional Action Plan

A number of regional action plans were developed as part of the implementation of NSW 2012, including an action plan for the Riverina. In developing this action plan, the priorities identified by the communities within the Riverina included:

- A prosperous and diverse economy;
- A skilled and competitive workforce;
- Coordinated and effective service delivery; and
- Quality infrastructure to deliver critical services.

Of particular relevance to this Project is the first priority – a prosperous and diverse economy. In this regard the Riverina Regional Action Plan States that "*The Riverina will be recognised as the place for new and innovative business concepts, products and services, taking full advantage of its geographic location at the centre of South East Australia's major population area. It will consolidate its place at the heart of Australia's food production and the agriculture sector will continue to produce outstanding quality grain, fruit, vegetable, wine and livestock products. The region will foster the development of new industries to provide local people with more job opportunities."*

The proposed Euroley Poultry Production Complex is consistent with these objectives. It will be a major contributor to strengthening the Riverina as a key food production area in NSW, whilst also providing jobs in the region within the agricultural sector.

1.6.2 Project Objectives

ProTen's primary objective is to develop an intensive broiler production complex within the Griffith area, adopting best practice in design, operation and management, to meet the immediate and projected long-term demand for broiler/meat chickens.

The poultry industry has a high recognition factor in the Griffith region and provides a significant contribution to the economy. Combined with the operations of Baiada, including a chicken hatchery, a poultry feedmill and a poultry processing complex, the poultry industry within the Griffith area is a perfect example of vertical integration where each of the operations produce a different product or service and these combine to satisfy a common need.

It is imperative that poultry broiler farms, such as that proposed, be allowed to exist in close proximity to the grain belt, a reliable water and power supply, and interdependent hatchery, feedmill and processing facilities. The development site meets all of these requirements, and has therefore been chosen by ProTen as an appropriate and desirable site to develop the Euroley Poultry Production Complex to meet the current demand for broiler chickens.

1.7 Project Approval Pathway

The development assessment and approval system in NSW is set out in Parts 4 and 5 of the EP&A Act. Division 4.1 of Part 4 provides for the assessment and determination of State Significant Development (SSD). Pursuant to Section 89C of the EP&A Act, projects are classified as SSD if they are declared to be such by the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). Clause 3 of Schedule 1 of the SRD SEPP identifies development for the purposes of intensive livestock agriculture with a Capital Investment Value (CIV) of more than $30 million as SSD. As a result, pursuant to clause 8(1) of the SRD SEPP and as a result of the development having a capital investment value (CIV) of approximately $60 million, the Project comprises SSD. As outlined in **Section 5.5**, the development is permissible with consent under the provisions of the *Narrandera Local Environmental Plan 2013* (Narrandera LEP 2013).

The Minister for Planning (or their delegate) determines development applications for SSD under Part 4 of the EP&A Act. The Minister has delegated the consent authority function for SSD projects to the NSW Planning Assessment Commission (PAC) and to senior staff of the DP&E.

1.8 Secretary's Environmental Assessment Requirements

A Project Briefing Paper and request for SEARs relating to the form and content of the EIS required to accompany the development application for the Project was submitted to the NSW DP&E in December 2014. The SEARs were subsequently issued by the DP&E on 6 February 2015. **Table 1.2** presents the general requirements and key issues to be addressed in the EIS in accordance with the SEARs, and identifies where each requirement is addressed in this EIS. The SEARs are contained within **Appendix A**.

Table 1.2 Secretary's Environmental Assessment Requirements

NSW Department of Planning and Environment (SSD 14_6882)	EIS Section
General Requirements	
The EIS must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the EP&A Regulation.	Cover Pages, Executive Summary and main body of this EIS
• detailed description of the development including:	
• need for the proposed development;	Section 1.6
• justification for the proposed development;	Section 8
• likely staging of the development;	Not Applicable
• likely interactions between the development and existing, approved and proposed developments in the vicinity of the site; and	Section 3.2
• plans of any proposed works.	Section 3
• consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments;	Section 4
• risk assessment of the potential environmental impacts of the development; identifying key issues for further assessment;	Section 5
• detailed assessment, where relevant, of the key issues below, and any other potential significant issues identified in the risk assessment, must include:	Section 6
a description of the existing environment, using adequate baseline data;	
• consideration of potential cumulative impacts due to other development in the vicinity; and	
• measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any	

NSW Department of Planning and Environment (SSD 14_6882)	EIS Section
significant risks to the environment. • consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.	Section 7
Key Issues	
Strategic Context – including: • justification for the proposal and suitability of the site; and • demonstration that the proposal is generally consistent with all relevant planning strategies and environmental planning instruments, and justification for any inconsistencies.	Section 1.6 and Section 8 Section 5
Air quality and odour - including: • a description of all potential air emission and odour sources; • a quantitative odour and air quality impact assessment in accordance with the relevant Environment Protection Authority guidelines; • a description and appraisal of air quality and odour impact monitoring and mitigation measures.	Section 6.2 and Appendix E
Transport and road traffic - including: • details of all road transport routes; • access to the site from the road network including intersection location, design and sight distance; • road traffic predictions for the development during construction and operation; • an assessment of predicted impacts on road safety and the capacity of the transport network, including an appraisal of any impact mitigation measures; • a description and plans of any road upgrades required for the development; and • plans for the layout of the internal roads and parking.	Section 6.4 and Appendix G
Waste and wastewater management - including: • identification and classification of waste streams that would generated at the site; • description of waste transport, storage, handling, processing and disposal; • a description of wastewater management; and • a description and appraisal of waste impact mitigation and management.	Sections 3.8.5 and 3.10
Biodiversity – including: • accurate predictions of any vegetation clearing on site or for any road upgrades • a detailed assessment of the potential impacts on any threatened species, populations, endangered ecological communities or their habitats, groundwater dependant ecosystems and any potential for offset requirements; • a detailed description of the measures to avoid, minimise, mitigate and offset biodiversity impacts; and • the assessment of the proposal and all biodiversity values on the site under the Framework for Biodiversity Assessment 2014.	Section 6.7 and Appendix I
Animal welfare, biosecurity and disease management – including: • details of how the proposed development would comply with relevant codes of practice and guidelines; • details of all disease control measures; and • a detailed description of the contingency measures that would be implemented for the mass disposal of livestock in the event of disease	Sections 3.17 (animal health & welfare), 3.18 (biosecurity) and 6.12 (poultry disease) Section 6.12.2

NSW Department of Planning and Environment (SSD 14_6882)	EIS Section
outbreak.	
Hazards and risk - including: • a preliminary risk screening completed in accordance with *State Environmental Planning Policy No. 33 - Hazardous and Offensive Development and Applying SEPP 33* (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development; and • should preliminary screening indicate that the project is "potentially hazardous," a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011).	Section 6.9 and Appendix K
Noise and vibration - including: • a description of all potential noise and vibration sources during construction and operational, including traffic noise; • a noise and vibration impact assessment in accordance with the relevant Environment Protection Authority guidelines; and • a description of noise and vibration monitoring and mitigation measures.	Section 6.3 and Appendix F
Soils and water - including: • a description of the water demands and a breakdown of water supplies including any water licensing requirements; • a description of the measures to minimise water use; • a description of surface, groundwater and stormwater management, including on site detention, flood impact mitigation and measures to treat or reuse water; • an assessment of any potential existing soil contamination; and • a description and appraisal of impact mitigation, management and monitoring measures.	Sections 6.5 (surface water and flooding), 6.6 (groundwater), 3.8.3 (water supply) and Appendix B (stormwater design report) Section 4.4.3
Visual impacts- including: • a description of the visual catchment and visual impacts including lighting impacts on surrounding receivers and public areas; and • an appraisal of visual impact mitigation measures.	Section 6.10
Socio-economic- including: • an analysis of the economic and social impacts of the development, particularly of any benefits to the community.	Section 3.21

1.9 Project Team

SLR was engaged by ProTen to project manage the development application and prepare the EIS required to accompany the application for the Project. The following specialist studies were also conducted to assist in the assessment of the Project:

- Pacific Environment – Air Quality Impact Assessment;
- Global Acoustics – Noise Impact Assessment;
- RoadNet – Traffic Impact Assessment;
- OzArk – Aboriginal Heritage Assessment;
- SLR – Ecology Assessment;
- SLR – Hazard and Risk; and
- SLR and Lance Ryan Consulting Engineers – Water Resources and Flooding.

1.10 Document Structure

The EIS is provided in three volumes. Volume 1 comprises the main report (this document), and sets out the Project in the context of the existing environment, planning considerations, key environmental issues, potential impacts, and mitigation measures. It is informed by the technical assessments contained in Volumes 2 and 3, and provides a concise, integrated summary of these specialist assessments.

The content of the EIS is summarised in **Table 1.3**

Table 1.3 Structure and Content of the EIS

Volume 1 – Main Report	
Preliminaries	Statement of Validity, Executive Summary
Section 1	Provides the background and context for the Project, introduces the Applicant and the Project team involved in producing the EIS, provides a summary of the primary Project components, and nominates the approval pathway.
Section 2	Provides an overview of the Project Site in terms of locality, land ownership, zoning, surrounding land uses, climate and vegetation.
Section 3	Provides a detailed description of the Project.
Section 4	Describes the planning approval and environmental legislative framework for the Project, including the applicability of Commonwealth and State legislation, as well as local planning instruments.
Section 5	Provides details on the environmental risk assessment undertaken for the Project, and the consultation undertaken with various stakeholders during preparation of the EIS.
Section 6	Contains an assessment of the potential environmental impacts relevant to the Project, including cumulative impacts, and presents proposed management and mitigation measures.
Section 7	Lists the Draft Statement of Commitments proposed to be adopted throughout the life of the Project in order to mitigate potential adverse impacts and to ensure appropriate management and monitoring.
Section 8	Outlines the Project alternatives considered, the justification for the project, and the conclusion of the EIS.
Section 9	Lists the reference documents referred to within the EIS.
Volume 2 – Appendices A to H	
Appendix A	Secretary's Environmental Assessment Requirements
Appendix B	Stormwater Report (Lance Ryan Consulting Engineers 2014)
Appendix C	Complaints and Incident Management Strategy
Appendix D	Project Environmental Risk Register
Appendix E	Air Quality Impact Assessment (Pacific Environment 2015)
Appendix F	Noise Impact Assessment (Global Acoustics 2015)
Appendix G	Traffic Impact Assessment (RoadNet 2015)
Appendix H	Flooding Assessment (SLR 2015a)
Volume 3 – Appendices I to K	
Appendix I	Biodiversity Assessment Report (SLR 2015b)
Appendix J	Aboriginal Heritage Impact Assessment (OzArk 2015)
Appendix K	Preliminary Hazard Analysis (SLR 2015c)

Section 2

Site Description



2 SITE DESCRIPTION

2.1 Overview

The development site is positioned off the Sturt Highway, approximately 26 kilometres north-west of Narrandera and 48 kilometres south-east of Griffith in south-western NSW (see **Figure 1.1**). It compromises approximately 1,160 hectares of rural land and is identified as Lots 1, 41, 42, 44, 45 and 54 in DP 750898, and Lot 1 in DP 1054064.

The development site is located within the Parish of Ourendumbee, County of Boyd and Local Government Area (LGA) of Narrandera. The nearest major town to the development site is Griffith, which is the service centre for the western area of the Riverina Region and is the largest centre in the Murrumbidgee Irrigation Area. The Narrandera LGA covers approximately 4,116 square kilometres and has a population of around 6,800, residing in the town of Narrandera and villages of Barellan, Grong Grong and Binya. Rural land in the LGA is primarily used for agriculture (traditional grazing, as well as cropping and irrigated cropping) and horticulture.

The topography of the development site (and surrounding lands) is relatively flat, ranging between approximately 133 metres Australian Height Datum (AHD) and 138 metres AHD. As evident on **Figure 1.2**, the visual amenity is that of a rural property that has been significantly modified by historic land clearing and long-term agricultural production activities. There are no water courses within the development site, with only some small depressions which may hold water during significant rainfall events. As mentioned the majority of the site is devoid of significant vegetation, primarily comprising paddocks that have been consistently cropped and grazed for many years.

Plate 2 – The development site, looking across proposed location of PPU 4

2.2 Zoning

Under the provisions of the Narrandera LEP 2013, the development site and the vast majority of all surrounding land is zoned RU1 Primary Production, as shown on **Figure 2.1**. Intensive livestock agriculture, such as the poultry development proposed, is permissible within this zone. Three lots adjacent to the development site are zoned E1 National Parks and Nature Reserves, comprising the Banandra portions of the South West Woodland Nature Reserve and Murrumbidgee Valley National Park, with a small area zoned RU3 Forestry under the provisions of the Murrumbidgee LEP 2013 in the adjacent Murrumbidgee LGA.

2.3 Land Ownership

ProTen has entered into a conditional contract for the purchase of the development site from the current land owners, with settlement subject to receiving development consent. This conditional contract covers Lots 1, 41, 42, 44, 45 and 54 in DP 750898, and Lot 1 in DP 1054064, which are the subject of this Development Application (refer **Figure 1.2**).

Various sections of discrete Crown road exist within or adjacent to the development site. Sections of Crown road traverse the southern section of the development site, and are held under an enclosure permit, as shown on **Figure 2.1**. The proposed southern-most PPU is located over the portion of Crown road between Lots 44 and 54 in DP 750898. ProTen will therefore apply to close and purchase the Crown roads traversing across the development site.

In addition, a section of Crown road runs across the northern boundary of the site, along the boundaries of Lots 41 and 42 in DP 750898 as shown on **Figure 2.1**. The portion of Crown road that exists along the northern boundary of Lot 42 DP 750898 and the southern boundary of Lot 12 DP 750898 is covered by an enclosure permit. The proposed access road into the development site from the Sturt Highway will cross this portion of Crown road. ProTen will also apply to purchase and close the portion of Crown road over which access will be gained to the development site.

It is also noted that Lot 57 DP 750898, adjacent to the development site, is Crown land.

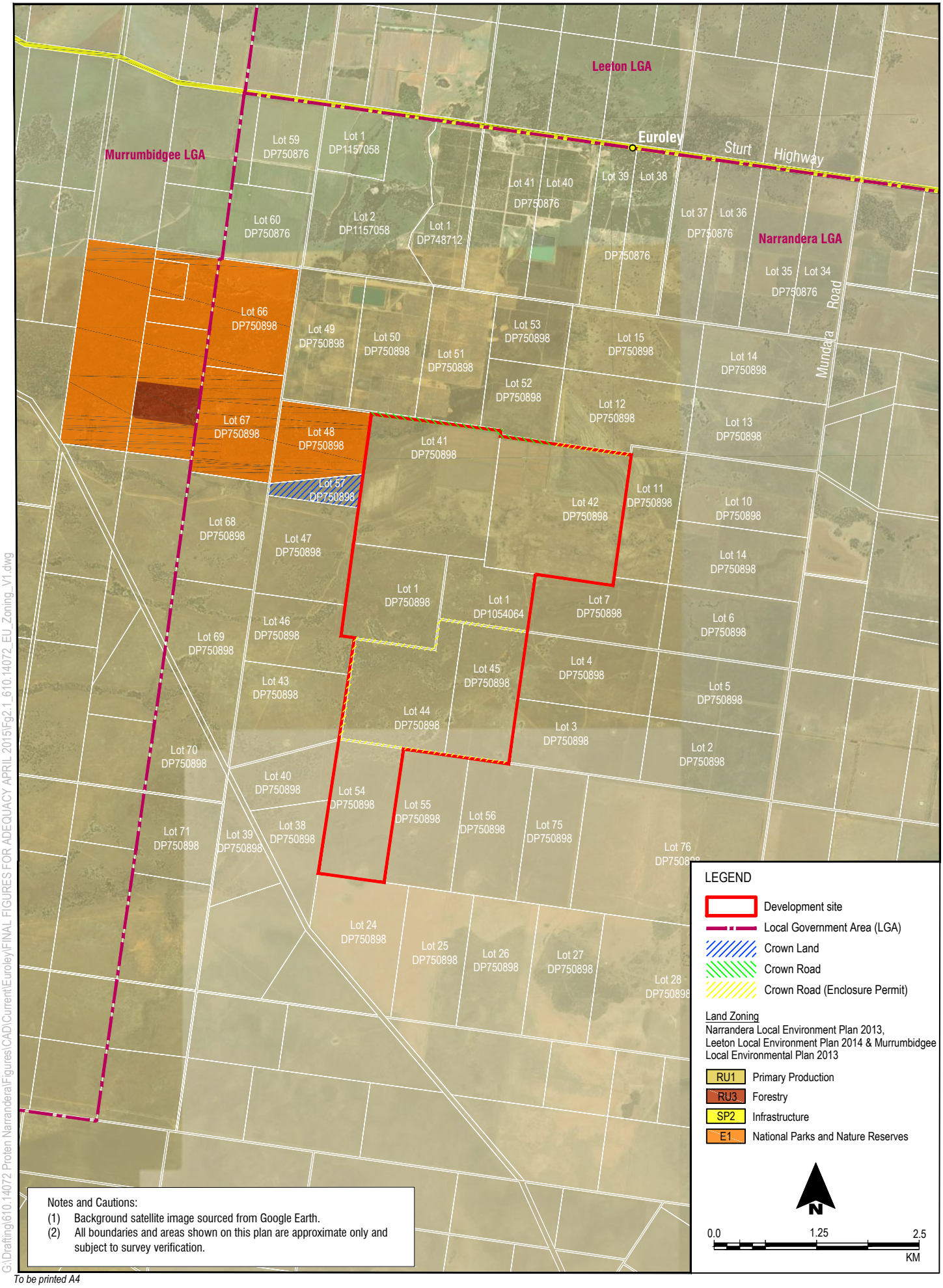
2.4 Existing Land Use

The long-standing and existing use of the development site is traditional agricultural production, with the site comprising paddocks that have been consistently cropped and grazed for many years. As evident in the aerial photo in **Figure 1.2**, the northern section of the development site has been extensively cropped, whilst the main agricultural land use of the southern portion is grazing. No large remnant patches of vegetation remain within the development site with only small, isolated areas of vegetation remaining, such as a small portion in the north-west corner and within depressions that traverse the site.

2.5 Surrounding Residences and Land Use

The development site is removed from any urban areas and, as evident on **Figure 1.2**, there is a very low density of surrounding residential dwellings. The nearest populated area is identified as the Narrandera township located approximately 26 kilometres to the south-east of the site.

The primary surrounding land use is agricultural, consistent with the dominant land use across the region. 10 privately owned occupied residences have been identified in the neighbouring and nearby properties surrounding the development site, labelled R1, R2, R3, R4, R5, R7, R8, R9, R10 and R11 on **Figure 1.2**. Of these, R1 - R5 are part of the Belvedere property, an almond farm owned by Select Harvest. R9 and R10 are properties also owned by the landowners with whom ProTen have a conditional contract to purchase the development site. The surrounding properties are understood to predominately consist of dry area grazing.



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SLR

Zoning

FIGURE 2.1

A further three potential receptors have been identified, two of which (R6 and R12) represent properties for which development applications have been lodged with Narrandera Shire Council, however it is understood these applications have not been determined and as such residential dwellings have not been constructed. It is also noted that one of these, R12, is owned by one of the landowners with whom ProTen have a conditional contract to purchase the development site. R6 and R12 have however been conservatively assessed as possible receptors in the air and noise assessments for the Project (refer **Sections 6.2** and **6.3** respectively). Similarly, an unoccupied house (R13) has been identified to the north east of the development site, on the northern side of the Sturt Highway.

The nearest privately-owned residences are R5 and R4, which are located approximately 2.1 kilometres and 2.3 kilometres respectively to the north of the northern-most PPU (PPU 1), as illustrated on **Figure 1.2**.

As mentioned above the north-west corner of the development site abuts the 'Banandra' portions of the South West Woodland Nature Reserve and Murrumbidgee Valley National Park (refer **Figure 1.2**).

2.6 Surrounding Poultry Operations

From a local and regional perspective, the poultry industry has a high recognition factor in the Griffith area and provides a significant contribution to the economy. Combined with the operations of other poultry companies in the area (particularly Baiada), which include a chicken hatchery, a feedmill and a processing complex, the poultry industry within the Griffith region is a perfect example of vertical integration where each of the operations produce a different product or service and these combine to satisfy a common need.

Importantly, from a cumulative impact perspective, the nearest poultry facilities to the development site are Baiada's breeder farms, located approximately 20 kilometres to the west. The nearest existing broiler farms are located near Hanwood, approximately 35 kilometres north-west of the development site.

Significant facilities within the region servicing the local poultry production industry include:

- Baiada's chicken hatchery facility located approximately three kilometres west of Griffith on Snaldero Road;
- Baiada's feedmill facility located approximately one kilometre south of the Hanwood township on the corner of Kidman Way and McWilliams Road; and
- Baiada's poultry processing complex located approximately one kilometre south of the Hanwood township on the corner of Kidman Way and Murphy Road.

2.7 Meteorology

The development site is situated within the Riverina Region of south-western NSW, which is generally dominated by a dry semi-arid climate and characterised by hot summers and cool winters. Rainfall levels in the Riverina are generally low, with the highest levels typically occurring in May and September. Summer rainfall tends to occur mainly from localised thunderstorms, with more consistent rainfall occurring in the winter months.

Long-term average data for temperature, rainfall and relative humidity has been sourced from an automated weather station (AWS 074037) operated by the Bureau of Meteorology (BoM) at the Yanco Agricultural Institute, which is located approximately 8.6 kilometres to the north-east of the development site. This station has been operational since 1957.

Long-term average evaporation data has been sourced from a BoM weather station at the Griffith CSIRO (AWS 075028). While this station ceased operation in 1989, it appears to be the only BoM weather station within the area with evaporation data recorded and available. While the daily evaporation rates may have changed slightly since 1989, the data provided between 1962 and 1989 provides a reasonable indication of typical rates. **Table 2.1** summarises this long term temperature, rainfall, humidity and evaporation data.

Table 2.1 Long-Term Meteorological Conditions (BoM Station 074037)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Monthly Maximum Temperature (°C) for Years 1999 to 2013[1]												
34.0	32.1	28.6	24.2	19.0	15.3	14.3	16.4	20.4	24.3	28.7	30.9	**24.0**
Mean Monthly Minimum Temperature (°C) for Years 1999 to 2014[1]												
18.8	18.4	15.2	11.6	7.8	5.8	4.9	5.5	7.7	10.3	14.5	16.2	**11.4**
Mean Monthly Rainfall (mm) for Years 1957 to 2014[1]												
29.1	32.0	33.4	29.6	35.9	33.4	33.4	35.2	35.2	38.3	29.5	30.0	**395.1**
Mean Number of Days of Rain (>=1mm) for Years 1957 to 2014[1]												
4.2	3.9	4.5	5.2	8.0	10.4	11.5	10.7	8.9	7.2	5.7	5.2	**7.1**
Mean Monthly Evaporation (mm) for Years 1962 to 2089[2,3]												
269.7	224.0	186.0	105.0	62.0	42.0	49.6	71.3	102.0	151.9	213.0	251.1	**1727.6**
Mean Monthly 9am Relative Humidity (%) for Years 1999 to 2010[1]												
46	55	58	61	76	87	89	80	68	53	51	46	**64**
Mean Monthly 3pm Relative Humidity (%) for Years 1999 to 2010[1]												
23	30	30	37	45	61	60	51	43	33	29	27	**39**

1 – sourced from BoM AWS 074037 at Yanco Agricultural Institute
2 – sourced from former BoM AWS 075028 at Griffith CSIRO
Red = Highest Value Blue = Lowest Value
3 – based on mean daily rates.

Temperature

The local climate is characterised by very warm to hot summers and cool to mild winters. Mean monthly maximum temperatures range between 14.3 and 34.0 degrees Celsius, with January being the warmest month. Mean monthly minimum temperatures range between 4.9 and 18.8 degrees Celsius, with July being the coolest month. Autumn and spring are generally mild with sporadic temperature fluctuations.

Rainfall

Rainfall is, on average, relatively evenly distributed throughout the year, with October being the wettest month. Rainfall levels in the Riverina are generally low, with the area also quite susceptible to periods of drought.

Evaporation

It is apparent that mean monthly evaporation exceeds mean monthly rainfall throughout the year. Evaporation is greatest during the warmer months of November through to February (inclusive), with mean monthly rates over this period exceeding 200 millimetres.

Relative Humidity

The area has a moderate relative humidity, with the winter months tending to be slightly more humid than other times of the year. The mean annual 9.00 am and 3.00 pm relative humidity is 64 percent and 39 percent, respectively.

Wind

As part of their air quality impact assessment of the Project, Pacific Environment (2015) generated meteorological data for 2010 by CALMET, which was used in the dispersion modelling for the assessment. The annual wind rose plotted from this data is presented in **Figure 2.2**.

Figure 2.2 shows that the wind commonly blows from all directions, but with a low frequency of southerly and south easterly winds.

In the early morning and late at night, winds are typically light (<3 m/s) and from the south-west or north-east depending on the time of year. During the morning (7am to 12 noon) the winds are typically stronger and from a variety of directions, but with a low frequency from the south-east. During the early afternoon the winds are also from these directions, but are on occasion stronger and with a higher frequency of winds from the south-west.

Overall the wind data shows a high frequency of calm to light winds (up to 3 m/s), occurring 48% of the time.

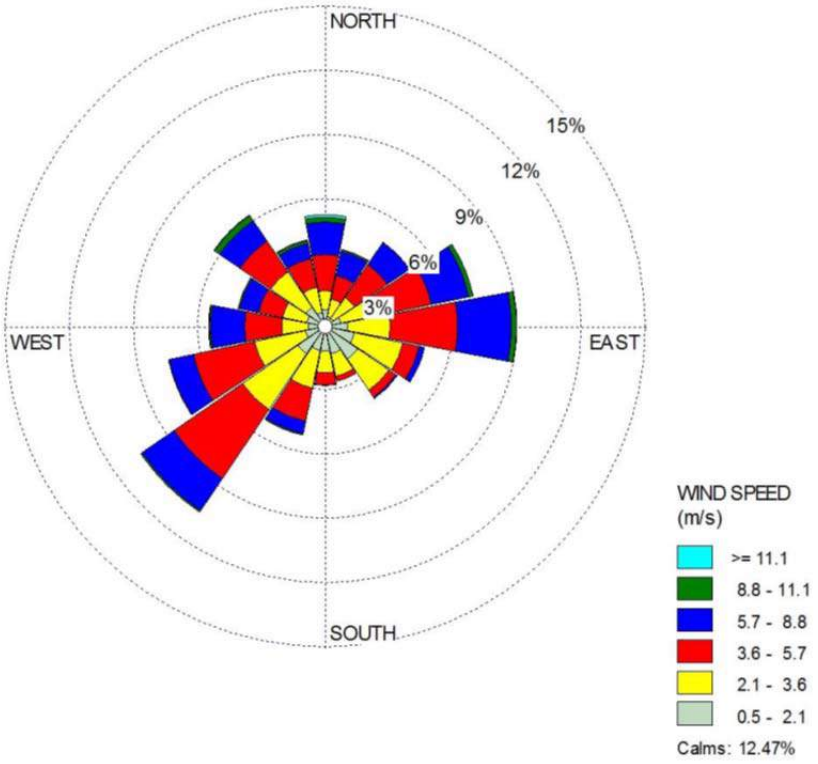


Figure 2.2 Annual Wind rose for the Development Site (Pacific Environment, 2015)

2.8 Soil and Land Classification

There are no soil profiles or soil landscape mapping within the vicinity of the development site which were able to give an indication of the soil characteristics within the site. Information on soils within the locality of the development site has been sourced from the Land and Soil Capability (LSC) Mapping of NSW managed by the OEH.

The LSC dataset uses the best available soils natural resource mapping across New South Wales. The mapping is based on an eight class system with values ranging between 1 and 8 which represent a decreasing capability of the land to sustain land use. Class 1 represents land capable of sustaining most land uses including those that have a high impact on the soil (e.g., regular cultivation), whilst class 8 represents land that can only sustain very low impact land uses (e.g., nature conservation).

The development site is broadly mapped by OEH as being LSC Class 4 land (moderate capability land). LSC Class 4 land is defined as 'land which has moderate to high limitations for high-impact land uses', which will restrict land management options for land uses such as cropping, high-intensity grazing and horticulture. Therefore the site may be constrained by erosion hazards or other environmental constraints which may limit the land's ability to be cultivated, and so with regard to agricultural production the land is best suited to low-impact grazing and/or some horticulture.

2.9 Acid Sulphate Soils

Acid sulfate soils are naturally occurring soils, sediments or organic substrates (e.g. peat) formed under waterlogged conditions that contain iron sulfide minerals (predominantly as the mineral pyrite) or their oxidation products. When exposed to the air following the lowering of the water table (through, for example. dewatering, groundwater abstraction, drainage or excavation) the sulfides in these soils readily oxidise, releasing sulfuric acid and iron into the soil and groundwater (Ahern et al., 2004).

Acid sulphate soils, which are the main cause of acid generation within the soil mantle, are commonly found less than five metres above sea level (ASL), particularly in low-lying coastal areas. The development site is located approximately 370 km from the coast and has an elevation range of approximately 130 m ASL. It is therefore very unlikely that acid sulphate soils (to a depth of 1.5 m) are present in the development site.

2.10 Water Resources

On a regional scale, the development site is located within the catchment of the Murrumbidgee River, which covers 84,000 square kilometres of southern NSW. The catchment supports numerous regional cities and towns including Cooma (near to where the river rises in the Monaro Plains), as well as Tumut, Narrandera, Leeton, Griffith, Hay and Balranald, near to where it joins the Murray River. The Murrumbidgee River flows to the north of the development site, flowing from Narrandera through to Darlington Point. At its closest point the river flows approximately 9 kilometres to the north of the development site (refer **Figure 1.1**).

At a more local level, there are no notable surface water bodies or tributaries within the bounds of the development site. Two minor topographical depressions which act as minor drainage features for the site were observed during the site inspection conducted for the flood assessment (refer **Section 6.5**). The features have no formed banks and are only distinguishable as drainage features by their location topographically and the vegetation present within it. Some agricultural drains also run along the field boundaries in the north of the development site. The nearest notable natural waterway appears to be Yanco Creek, approximately 8 kilometres to the east of the development site boundary. Yanco Creek is a regulated stream of the Murrumbidgee River System.

No wetlands exist within the development site as shown on the Wetlands Map in the Narrandera LEP. The nearest wetland is a small area identified as a wetland on the NSW Wetlands Database (Department of Climate Change and Water, 2006) and the Wetlands Map in the Narrandera LEP, approximately 3.2km north of the northern-most PPU as shown on **Figure 1.2**. The proposed development is therefore in accordance with the *Best Practice Management for Meat Chicken Production in New South Wales Manual 1 – Site Selection & Development* (DPI, 2012), which states that new farms should preferably be located 3000 metres away from waterways and wetlands that are used extensively by waterfowl.

The development site is located in the Lower Murrumbidgee Groundwater Management Area (GMA), which lies within the eastern Riverine Plains province of the Murray Geological Basin. The groundwater sources in the area include the Shepparton and Calivil/Renmark aquifers, more commonly known as Shallow and Deep Sources. The proposed development will access water from the Deep Sources in the Calivill formation via the construction of groundwater wells (refer **Section 3.8.3**). The development site is mapped as a groundwater vulnerable area within the Narrandera LEP 2013 Groundwater Vulnerability Map.

A search of the Bureau of Meteorology Australian Groundwater Explorer indicates that there are around 24 bores recorded within a five kilometre radius of the development site. Groundwater within the area is primarily used for monitoring, irrigation, and stock and domestic purposes.

Further details regarding surface water and groundwater, including potential impacts and mitigation, are provided in **Sections 6.5** and **6.6** respectively.

2.11 Flooding

Flood planning is addressed in Part 6 clause 6.2 of the Narrandera LEP 2013. This clause applies to land that is identified as 'flood planning area' on the flood planning map in the LEP, or to other land at or below the 'flood planning level' (FPL). The development site is not identified as 'flood planning area' in the Narrandera LEP. A flood assessment and flood management plan has however been prepared as part of this EIS. Further detail on flooding, including the flood management plan is provided in **Section 6.5**.

2.12 Land Contamination

Detailed testing and examination of soil samples from the development site has not been undertaken as it is held that the circumstances of this matter do not require such. The risk of discovering significant land contamination within the site is considered to be minimal given the following:

- The long-term and existing use of the site and adjoining lands is traditional agricultural production, primarily comprising cropping with some livestock grazing;
- There are no identified previous or existing land use activities that may have caused or attributed to significant soil contamination; and
- There are no known areas within the site where toxic wastes, poisons or the like have been dumped or buried to cause or attribute to soil contamination.

On this basis, land contamination is unlikely to be an issue within the development site and further investigation is not warranted.

2.13 Bush Fire Prone Land

As evident on **Figure 1.2**, the majority of the land within the development site and surrounding properties is devoid of significant stands of vegetation, primarily comprising treeless paddocks, and has a low fuel level. On this basis, the land is not considered to be bush fire prone.

ProTen have negotiated a lease agreement with the current landholders (with whom they have a conditional contract to purchase as described in **Section 2.3**), which will see the current landholders continue to graze the property during operation of the poultry production complex. This grazing will enable active management of the fuel level in the paddocks around the PPUs, further reducing bushfire risk across the development site.

As described in **Section 2.4** the development site is adjacent to the Murrumbidgee Valley National Park. The nearest PPU is 100 metres from the development site boundary in the vicinity of the National Park. The area within this 100 metre buffer is devoid of trees, having been cleared as part of the current agricultural land use of the development site, as shown on **Figure 1.3**. This area therefore provides a buffer between the National Park and the nearest PPU, should fire occur within the National Park, or vice versa.

Section 3

Proposed Poultry Development



3 PROPOSED POULTRY DEVELOPMENT

3.1 Overview

ProTen is seeking development consent under Part 4.1 of the EP&A Act to develop a poultry production complex where broiler birds will be grown for human consumption. **Figure 1.3** shows the preferred location and conceptual layout of the complex.

The development will comprise five PPU's each with 16 tunnel-ventilated fully-enclosed climate-controlled poultry sheds, with associated support infrastructure and staff amenities. Each shed will have the capacity to house a maximum of 49,000 broilers at any one time, equating to a PPU population of up to 784,000 broilers and a total farm population of 3,920,000 broilers.

The proposed PPU sites will be relatively small and the commercial activities associated with the poultry operation will be largely confined to this area. The proposed disturbance footprint within the development site will amount to a total area of approximately 90 hectares which is 8% of the site area (totalling 1,160 hectares). ProTen intends to enable continued use of the residue land within the development site for continued agricultural production purposes under some form of lease or share farming arrangement.

In addition to poultry shedding, the development will also include:

- The construction of farm managers' accommodation. 10 houses will be constructed to accommodate farm managers and assistant farm managers; and
- The construction of ancillary infrastructure and improvements required to support the poultry production operation, as described in detail in **Section 3.4.2**.

Plate 3 shows ProTen's Rothdene Poultry Production Complex also located in the Griffith region. This shows the typical layout of poultry sheds and ancillary infrastructure and improvements.

Plate 3 – Example Poultry Production Unit

Engineering design drawings for the anticipated earthworks, including surface water drainage and management works, are currently being prepared and will be submitted to Council as part of the construction certificate application. Further detail is provided below in **Section 3.13**.

Some important, and possibly contentious, facts to be noted about modern poultry broiler production, which have been verified by the Australian Chicken Meat Federation, are presented below.

Housing

Broiler birds are run in large open poultry sheds on bedding material. They are NOT kept in cages.

Feed

Broiler feed comprises between 65 and 90 percent grains, such as wheat, sorghum, barley, oats, lupins, soybean meal, canola and other oilseed meal and grain legumes.

Hormones

Hormones are NOT added to chicken feed or administered to commercial meat chickens in Australia. Hormone supplementation is a practice that has been banned internationally for over 40 years.

Growth

Chickens are NOT genetically engineered or modified. Around 50 to 60 percent of the improvement in broiler growth rates over the last 50 years is due to improved breeds of chicken. A further 20 to 25 percent is due to improved nutrition, with feed being specifically formulated to match the chicken's precise nutritional requirements throughout its lifecycle, thereby optimising growth. Other gains made in meat chicken growth and performances are due to better husbandry techniques and health management.

Antibiotics

Antibiotic use is important in chicken meat production to ensure the overall health and wellbeing of the flock. Only antibiotics approved by Australia's regulatory authorities are used and they are administered in accordance with strict regulatory guidelines. Antibiotics are usually delivered via drinking water (not in feed) and only a veterinarian can authorise and supervise these treatments.

Avian Influenza

Whilst there have been a couple of recent outbreaks in the free range layer industry, Avian Influenza is generally not present in Australia and the industry has rigorous systems to keep it that way (see **Section 3.20**).

3.2 Separation Distances

Consideration of alternative PPU sites within the development site is dependent upon a number of factors including environmental impact considerations, engineering design requirements and servicing provisions. While other locations were considered, the proposed layout is considered optimal in terms of minimising the potential for adverse impact, minimising the trees to be cleared, minimising earthwork requirements and enabling appropriate surface water management. Also, by limiting the poultry operation to within the disturbance footprint nominated on **Figure 1.3**, it will ensure that the proposal does not deny access to large areas of viable agricultural land nor significantly reduce the land area available for agricultural production.

The Best Practice Guidelines (DPI, 2012) state the following with regards to the location of new poultry farms:

- Locate new poultry farms as far apart as possible to minimise the risk of disease transfer between farms. There should be a minimum of 1000 metres to other intensive poultry farms (500 metres when there are extenuating circumstances such as farms with a common owner or farms supplying the same processor); 3000 metres to commercial duck farms; and 5000 metres to poultry breeder farms.

- Preferably locate new farms away from waterways and wetlands (ideally 3000 metres) that are used extensively by waterfowl, as these birds can carry avian diseases.

Table 3.1 lists the minimum separation distances afforded between the proposed PPUs and notable surrounding features in the natural and built environments. It is noted that the separation distances listed are approximate only and have been scaled from satellite imagery and topographic mapping. These separation distances will assist in minimising the potential for conflict between the poultry development and the local environment and surrounding populace over the life of the operation.

Table 3.1 Separation Distances

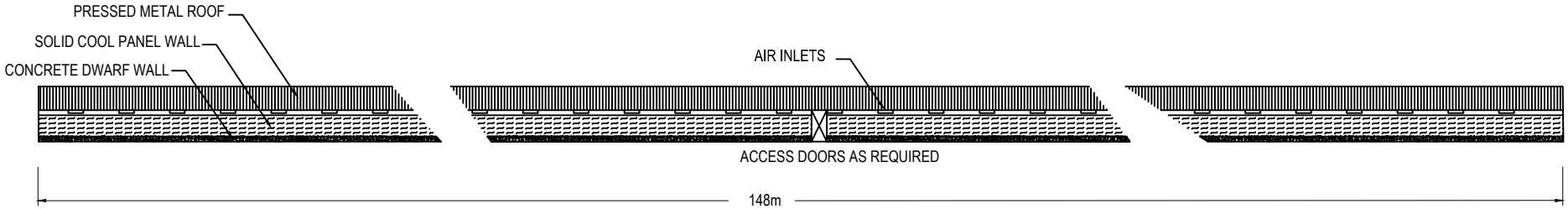
Feature	Minimum Distance from Proposed PPUs (metres)	Comments
Urban / residential area	26,000	Township of Narrandera located to the east of the proposed development site.
Surrounding residences	2100	The nearest privately-owned residences is 2.1 kilometres to the north of the northern-most PPU.
Property boundaries	100	
Public road	4,000	Sturt Highway
Other poultry farm	20,000	Baiada's breeder farms on Donald Ross Drive, south-east of Darlington Point. Nearest broiler farm is 35 km to the north-west.
Watercourse	9,700	Yanco Creek is located to the east of the development site
Remnant vegetation	100	The north-west corner of the development site is adjacent to the Banandra portion of the South West Woodland Nature Reserve.

As shown in **Table 3.1**, the development site is in accordance with the recommended best practice separation distances, being well in excess of 1000 metres from other intensive poultry operations and greater than 3000 metres from areas identified as a wetland. With a low density of surrounding residential dwellings, significant separation distances and no identified sensitive environmental features, the proposed site is well suited to the development of intensive livestock agriculture.

3.3 Poultry Sheds

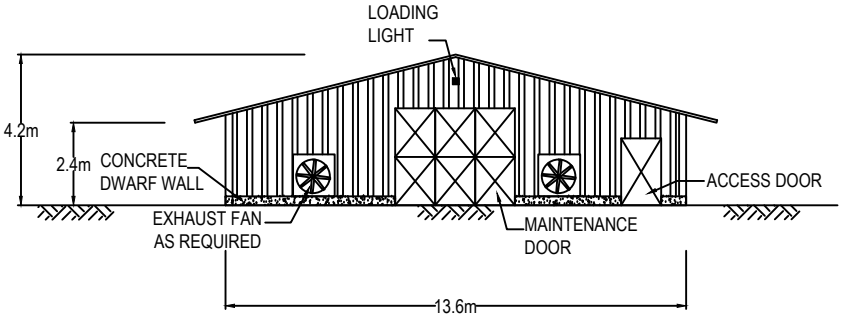
3.3.1 Overview

Each poultry shed will measure approximately 160 metres long by 17 metres wide, with a bird space of approximately 2,720 square metres. They will measure approximately 4.2 metres to the ridge of the roof and approximately 2.4 metres to under the eaves. The conceptual poultry shed design is illustrated on **Figure 3.1**, and the PPU layout is shown on **Figure 3.2**.



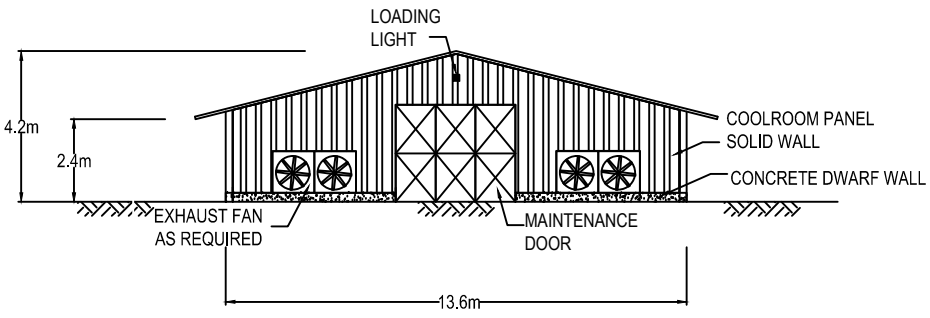
SIDE ELEVATION

Not to Scale



FRONT ELEVATION

Not to Scale



BACK ELEVATION

Not to Scale

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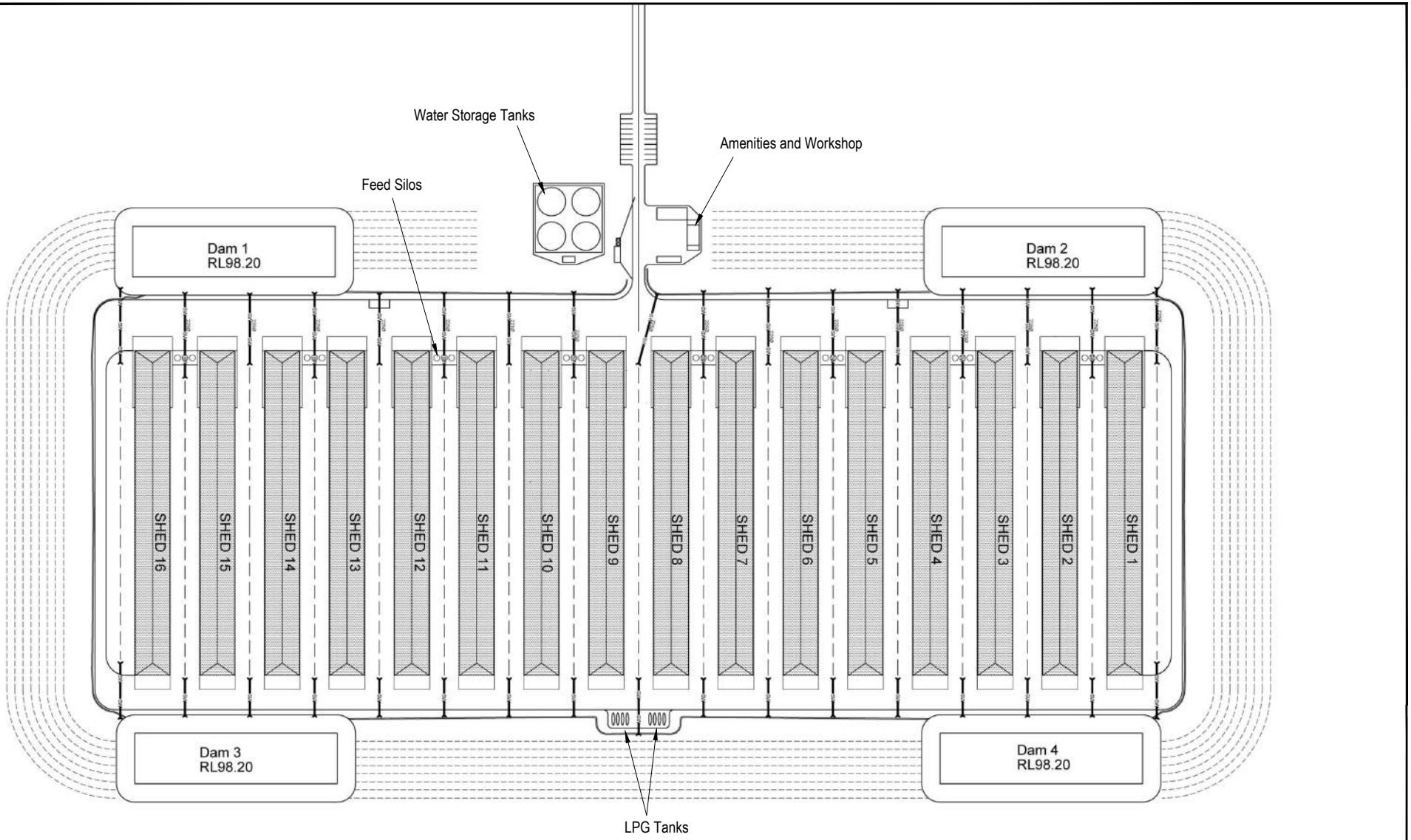
Conceptual Poultry Shed Design

FIGURE 3.1



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Poultry Production Unit Layout

FIGURE 3.2

The poultry sheds will be separated laterally within each PPU by a distance of approximately 15 metres. Construction will comprise steel framework, zincalume corrugated iron roofs and coolroom sandwich panel walls (two metal faces with a fully insulted core) using a non-reflective colour-bond type material in an appropriate shade, such as eucalyptus green. The sheds will have fully-sealed concrete flooring and will be surrounded by a 400 mm high dwarf concrete bund wall to prevent rainwater and runoff entering the sheds and to allow for the controlled discharge of wash down water from the sheds.

A relatively thick layer of clean and fresh floor bedding material, such as soft wood shavings, rice hulls or chopped straw, will be spread over the floor of the sheds prior to the placement of day old chicks. Feed and water lines, as evident on **Plate 4**, will run the length of each poultry shed and will be automatically supplied by external silos and water storage tanks. Feed pans and water nipple drinkers (with drip cups) will be spaced along these lines at regular intervals so that the birds are never more than a few metres from food and water.

Additional shed features include front and rear access, external lighting over the loading-unloading, and will be fully computer controlled and alarm monitored.

Plate 4 – Interior of Typical Broiler Shed

3.3.2 Tunnel Ventilation

The sheds will be fully-enclosed climate-controlled and tunnel-ventilated. On each shed, air extraction fans mounted at one end (see **Plate 5**) will uniformly draw air into the shed through mini-vents along the sides of the shed and later in the growing cycle across cooling pads (see **Plate 6**) and through tunnel vents. The air is pulled over the chickens and exhausted through the extraction fans. Temperature sensors within the sheds will allow the ventilation to be adjusted as required. Heating, which is anticipated to be required for up to 14 days of each production cycle, will be provided by wall mounted gas heaters.

The use of tunnel ventilated sheds has grown to steadily replace poultry housing that conventionally relied on natural ventilation. Tunnel ventilation is easier to manage than natural ventilation and provides a complete climate controlled environment, enabling the grower to provide close to optimum conditions for bird comfort, health, growth and performance throughout the year. Additional benefits include control over shed moisture, which is directly related to odour emissions, and reduced consumption of power and water.

Plate 5 – Broiler Shed Exhaust Fans

Plate 6 – Broiler Shed Cooling Pad

3.4 Supporting Infrastructure

Additional infrastructure necessary to support the operation of the proposed poultry production complex is outlined in the following sub-sections.

3.4.1 Farm Managers' Accommodation

The scale of the proposed poultry development will necessitate the construction of 10 houses within the development site to accommodate five Farm Managers and five Assistant Farm Managers. These houses are considered ancillary and subsidiary to the proposed development, in that they will provide necessary support to the poultry production operation. Farm managers and assistant farm managers must live on farm due to the 24 hour nature of the operation. This is industry standard, and consistent with all other ProTen poultry farms. It is also noted that the use of the dwellings will be limited to the life of the Project.

While the indicative location of these houses within the development site is shown on **Figure 1.3**, the final location and construction of the houses will be subject to the necessary Council approvals. Importantly, as discussed further in **Section 6.7** (Biodiversity), houses will be positioned so as to avoid tree clearing.

3.4.2 Ancillary PPU Improvements

In addition to the poultry shedding, ancillary improvements will be required at each PPU to support the poultry production operation. This infrastructure will comprise:

- An amenities facility encompassing office space, toilets, and staff change rooms;
- An engineered surface water drainage and management system;
- Chemical storage;
- Generator shed;
- Workshop;
- Wheel wash facility at the PPU entrance;
- Feed silos, which will automatically dispense the feed into the poultry sheds (refer **Plate 7**); and
- Water storage tanks, with the capacity to store adequate supply at peak demand.

The final location of these infrastructure items at each of the PPUs will be subject to detailed engineering design and the necessary Council approvals. In addition to the infrastructure listed above, a dead bird chiller/cool room and storage shed for poultry shed floor bedding material (such as rice hulls) will be constructed within the development site, as shown on **Figure 1.3**. Servicing infrastructure will also be required to ensure that the development's electricity, gas and water requirements can be met, as described further in **Section 3.8**.

Plate 7 – Typical Feed Silos Servicing Poultry Sheds

3.5 Hours of Operation

While the proposed poultry development will operate 24 hours a day, seven days a week, the majority of activity will be carried out between 7.00 am and 7.00 pm. As the birds reached their desired slaughter weight they will be removed from the sheds and transported from the site between 8.00 pm and 2.00 pm. However for reasons of livestock welfare, birds will generally be removed when it is cooler and the birds are more settled.

There will typically be one daily shift for farm workers commencing at 7.00 am and finishing at 4.00 pm.

3.6 Production Cycle

The cycle of a broiler production farm typically lasts about nine weeks, with a maximum bird occupation of eight weeks and a 'down-time' of close to one week for cleaning in preparation for the next batch of birds. There are 5.7 production cycles per year, with each cycle typically comprising the following steps:

1. Delivery of Bedding Material - Clean and fresh bedding material, such as soft wood shavings, rice hulls or chopped straw, will be delivered to the site from a storage facility near Hanwood and spread over the floor of the poultry sheds.
2. Delivery of Chicks - Day-old chicks will be transported from Baiada's hatchery facility on the western outskirts of Griffith to the development site in ventilated chick boxes in specially designed air-conditioned rigid trucks. On arrival, the day-old chicks will be placed onto the floor of the shed, where they will initially be confined to a smaller area within the shed (the 'brooding area') and given supplementary heating from gas heaters.
3. Chick Nurturing - Chicks will be nurtured and grown within the sheds on site, with their period of service depending on the live-weight of the birds. The desired processing age will primarily be determined by customer weight specifications, but is normally achieved between five and eight weeks of age.
4. Removal of Birds - As birds reach their desired slaughter weight, they will be removed from the sheds and transported to Baiada's processing complex near Hanwood in plastic crates designed for good ventilation and bird welfare. Shed thinning (partial depopulation) will occur at various times during the production cycle depending on the live-weight of the birds. Chickens will typically be harvested between 8.00 pm and 2.00 pm when the air is cooler and the birds are more settled.
5. Removal of Poultry Litter - When all birds have been removed after about eight weeks, the spent bedding material (poultry litter) will be removed from the sheds and transported off-site for disposal or re-use (see **Section 3.11.3**).
6. Cleanout – The poultry sheds will be cleaned and sanitised to reduce the risk of pathogens and disease using high pressure water in preparation for the next batch of chicks. Additional activities will include scrubbing feed pans, cleaning out water lines, cleaning the feed silos and scrubbing fan blades and other equipment.

The maximum broiler density for tunnel ventilated sheds is typically 0.055 square metres (m^2) of floor space per bird. ProTen's broiler 'pick-ups' (shed thinning or depopulation) are in most instances governed by the further limiting factor of a maximum of up to 40 kilograms of live-weight per square metre (kg/m^2) of floor area, which complies with the maximum stocking density for domestic poultry in tunnel ventilated sheds as recommended in the *National Animal Welfare Standards for the Chicken Meat Industry* (Barnett et al 2008).

On this basis, the first round of shed thinning/de-populating will commence at around day 32 of bird occupation. Shed thinning will typically occur on another two occasions, being at around day 40 and day 45, with the final bird collection at day 56.

The average mortality rates for broiler poultry housed within tunnel ventilated sheds is:

- Week 1 of cycle (1 to 7 days of age) - 1.0 percent of population; and
- Weeks 2 to 8 of cycle (7 to 56 days of age) - 0.6 percent of population per week.

3.7 Traffic

3.7.1 Operational Traffic

The majority of traffic generated by the Project will travel between the development site, Griffith and Hanwood (approximately 6 kilometres south of Griffith on Kidman Way). The primary operational activities that will generate traffic to and from the development site are:

- Delivery of the shed floor bedding material in rigid trucks from a storage facility located near Hanwood;
- Delivery of day-old chicks from Baiada's hatchery facility located approximately 3 kilometres west of Griffith on Snaldero Road in insulted pantechnicon trucks;
- Delivery of feed from Baiada's feedmill facility located approximately 1 kilometre south of Hanwood on the corner of Kidman Way and McWilliams Road in semi-trailers;
- Delivery of bulk liquid petroleum gas (LPG) from Griffith in rigid trucks;
- Removal of birds to Baiada's processing complex located approximately 1 kilometre south of Hanwood on the corner of Kidman Way and Murphy Road in semi-trailers;
- Removal of shed floor litter (spent bedding material) in semi-trailers to various locations;
- Removal of dead birds to Baiada's processing complex, which includes a protein recovery/rendering plant, located approximately 1 kilometre south of Hanwood on the corner of Kidman Way and Murphy Road in rigid trucks;
- Removal of general garbage in rigid trucks to disposal facilities located within the vicinity of Griffith; and
- Staff visits by cars. It is assumed that the majority of farm workers will travel from Narrandera and Griffith areas.

Table 3.2 summarises the anticipated traffic volumes to be generated by the Project over a typical nine week production cycle, and over a typical year comprising 5.7 production cycles.

Table 3.2 Estimated Operational Traffic Volumes

Activity	Vehicle Type	Vehicles (Two Way Vehicle Trips)	
		Production Cycle *approx. 9 weeks*	Annual *approx. 5.7 cycles*
Heavy Vehicles			
Delivery of shed bedding material	Twin axle rigid truck	108 (216)	613 (1226)
Delivery of chicks	Twin axle rigid truck	45 (90)	256 (513)
Delivery of feed	Semi-trailer	722 (1,445)	4,118 (8,236)
Delivery of fuel	Rigid tanker	2 (4)	12 (24)
Delivery of gas	Rigid tanker	10 (20)	56 (112)

Activity	Vehicle Type	Vehicles (Two Way Vehicle Trips)	
		Production Cycle ***approx. 9 weeks***	**Annual** ***approx. 5.7 cycles***
Removal of birds	Semi-trailer	745 (1,490)	4,246 (8,493)
Removal of birds – catching equipment transporter	Semi-trailer	6 (12)	34 (68)
Removal of birds – catching staff	Bus	42 (84)	240 (480)
Removal of shed litter material	Semi-trailer	178 (355)	1012 (2024)
Shed wash down equipment transporter	Semi-trailer	2 (4)	12 (24)
Removal of dead birds	Twin axle rigid truck	64 (128)	364 (728)
Removal of garbage	Rigid truck	2 (4)	12 (24)
Heavy Vehicle Sub-Total		**1,926 (3,852)**	**10,975 (21,950)**
Light Vehicles			
Staff Visits (ProTen and Baiada)	Car	970 (1,940)	5,529 (11,058)
Tradesman	Ute / Van	10 (20)	58 (116)
Catching equipment maintenance	Van	22 (44)	126 (252)
Shed litter material removal contractors	Car	24 (48)	136 (272)
Shed wash down contractors	Car	36 (72)	206 (412)
Light Vehicle Sub-Total		**1,062 (2,124)**	**6,055 (12,110)**
TOTAL		**2,988 (5,976)**	**17,030 (34,060)**

The following points should be noted in terms of the volume of traffic to be generated:

- It is estimated that close to 35 percent of the total traffic will be generated by light vehicles (car/ute/van);
- With the exception of live bird removal, which will generally occur between the hours of 8.00 pm and 2.00 pm, all transport activities will occur during daylight hours;
- There will typically be one daily shift for farm workers between 7:00 am and 4:00 pm each day;
- Heavy vehicle trips will be mostly spread over the nine week production cycle and will be distributed relatively evenly over the predicted delivery hours;
- There will be on average 96 vehicle movements a day associated with the development, 62 of which will be heavy vehicles.

It is also noted that the traffic volume calculations used in the traffic assessment are based on the largest truck being a semi-trailer, which provides a conservative estimate of traffic movements to and from the site. However, it is possible that future contractors may use B-Doubles to service the site, which would result in less heavy vehicle movements.

On this basis, RoadNet (2015) has calculated the anticipated daily traffic generation and hourly volumes during the peak generating times of the development, as listed in **Table 3.3**. A discussion on the potential impacts on the traffic to be generated by the development is provided in **Section 6.4**.

Table 3.3 Estimated Traffic Generation per Day and Peak Hours

Vehicle Type	Vehicles per Day (Vehicle Trips)	AM Peak Hour Vehicles (Vehicle Trips)	PM Peak Hour Vehicles (Vehicle Trips)
Cars	17 (34)	14 (10 in, 4 out)	14 (4 in, 10 out)
Heavy Vehicles	31 (62)	6 (4 in, 2 out)	6 (2 in, 4 out)
Total	**48 (96)**	**20 (14 in, 6 out)**	**20 (6 in, 14 out)**

3.7.2 Heavy Vehicle Route

Heavy vehicles will travel between the development site and facilities located near Griffith and Hanwood on a daily basis via the Sturt Highway and Kidman Way, through Darlington Point. Deliveries to and from the development site will be in articulated or rigid trucks, and are already accommodated on the road network in the vicinity of Griffith.

Day old chicks from Baiada's hatchery facility located approximately three kilometres west of Griffith on Snaldero Road will be delivered to the site in rigid trucks. A designated B-double route currently exists along the Sturt Highway through to Narrandera. The daily volumes along this route are low and therefore, as discussed further in **Section 6.4**, it is expected these vehicles can be accommodated on the local road network without any significant traffic impacts.

3.7.3 Vehicular Access

Access to the development site will be via the Sturt Highway (refer **Figure 1.2**). The following works will be required to provide safe and adequate access for light and heavy vehicles to the site:

- Construction of an intersection with the Sturt Highway and site access road at the location shown on **Figure 1.2**;
- Development of an easement through privately owned land between the proposed development site and the intersection with the Sturt Highway, and construction of an access road to the development site along this easement (**Plate 8** and **Figure 3.3**).

Due to the low traffic volumes predicted to use the intersection, a basic right turn treatment (BAR) and basic left turn treatment (BAL) is the minimum highway intersection required to be constructed, as per the requirements set out in Austroads Guide to Road Design, Part 4A: Unsignalised and Signalised Intersections (Austroads), specifically figure 4.9 (reproduced from RoadNet (2015) below in **Figure 3.4**).

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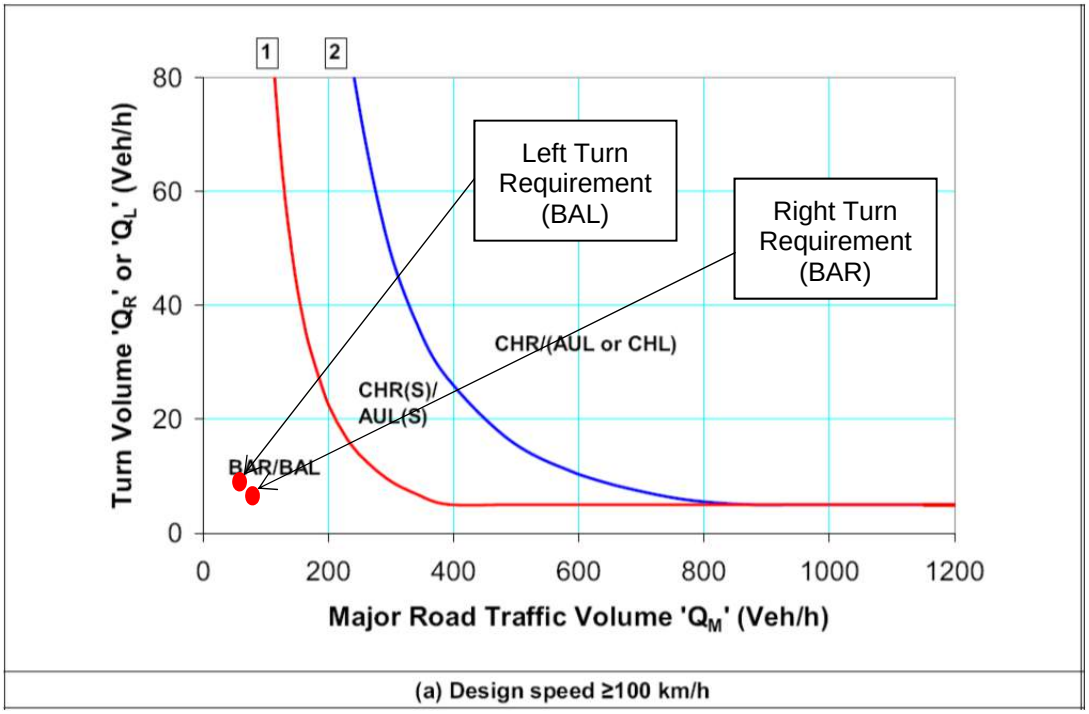
Proposed Access Road Route

FIGURE 3.3

Plate 8 – View along northern section of proposed access track location



Reproduced from RoadNet, 2015

Figure 3.4 Access Turn Warrants

The BAR and BAL treatments require sufficient widening for through vehicles to pass turning vehicles. Indicative diagrams for the treatments are shown in **Figures 3.5** and **3.6**, extracted from Figure 7.5 and Figure 8.2 from Austroads, respectively.

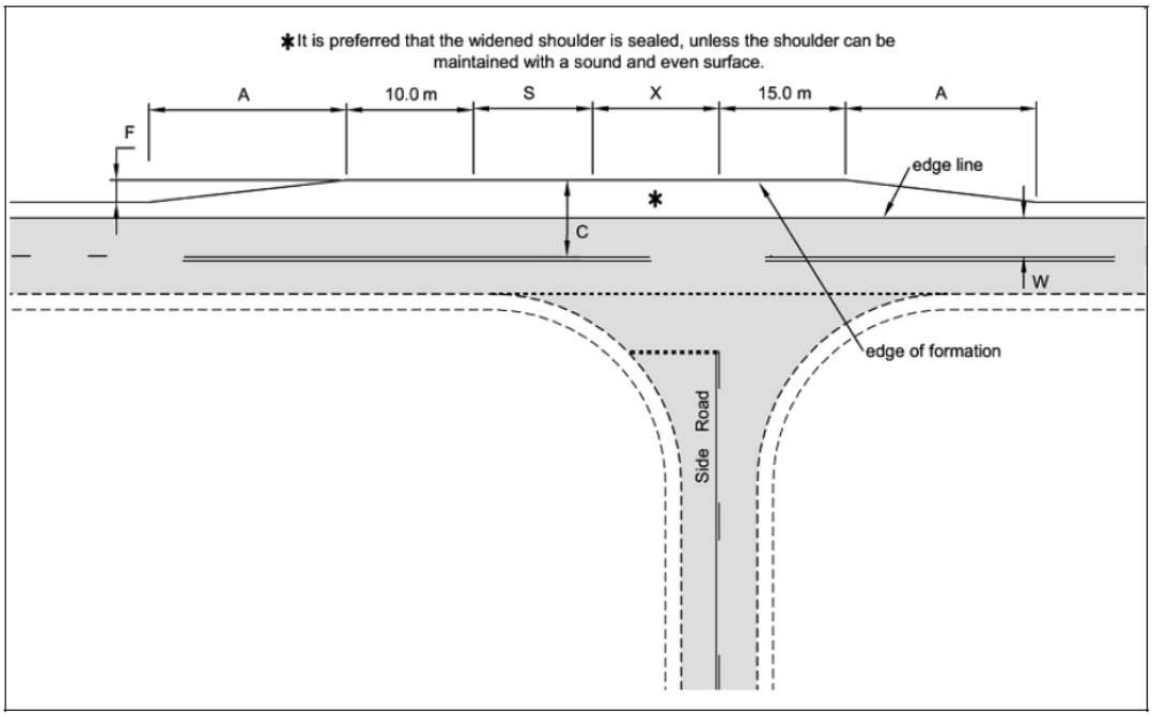


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Figure 3.5 BAR Treatment

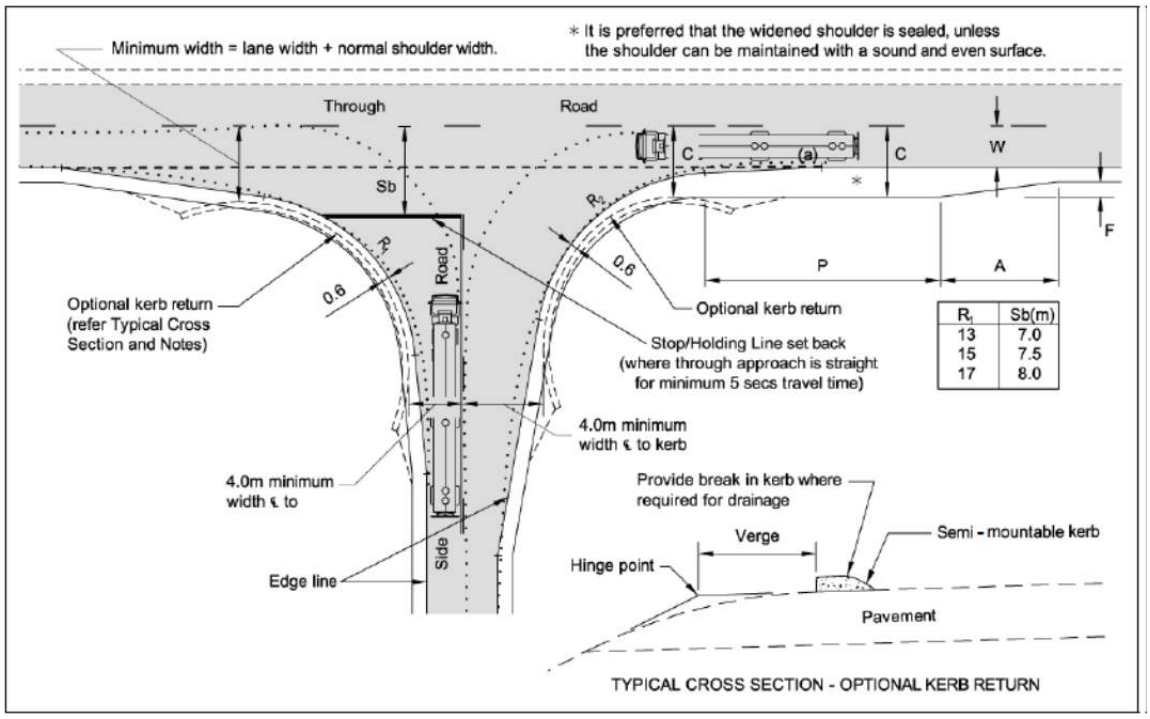

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Figure 3.6 BAL Treatment

The road reserve at the access point is sufficiently wide and level for these requirements to be constructed with minimal road works. The radii of the left turn road edge will be constructed to accommodate the turn path of the largest vehicles likely to enter the site, which are anticipated to initially be semi-trailers however may be B-doubles in the future. The through lanes along the Sturt Highway will continue to be of a width suitable to accommodate vehicles up to the size of Road Trains consistent with its designation as a Road Train Route.

The intersection with the Sturt Highway and development site access road will be constructed to the standard of a public road and bitumen sealed for a minimum length of 50 metres to ensure orderly driver behaviour at the intersection and to avoid gravel spreading onto the Sturt Highway. The access road to the development site will be a minimum width of 6.5 metres to enable the safe passage of cars, trucks and other farm vehicles travelling in opposite directions.

During consultation regarding the Project, the RMS requested that a CHR (short) type intersection be considered (a painted right turn lane) at the Sturt Highway. Based on the traffic volumes to be generated by the development, RoadNet (2015) found that the warrants do not require this level of intersection upgrade. However, the BAL and BAR treatment warranted could be supplemented with advance signposting in both directions warning of trucks turning. In addition, an intersection direction sign opposite the access would further help identify the access point.

3.7.4 Internal Access

Adequate and suitable vehicular access within the development site will be provided via the construction of new rural-type all-weather property internal access roads able to carry the anticipated heavy vehicle movements. Appropriate easements will be created over the access road. The internal access driveway off the access road will meet the minimum requirements of AS 2890.2, to accommodate the turning movements of the largest vehicles generated by the poultry development, which will initially be semi-trailers however may include B-doubles in the future.

The development site will have one-way circulation roads (ring roads) around the perimeter of each PPU to enable traffic to enter, exit and manoeuvre around the PPUs for loading-unloading and servicing activities in a forward direction to minimise the potential for traffic conflict and noise. The internal roads will be constructed to suitable strength and width to accommodate passing and the turn paths for the type of vehicles anticipated to enter the development site.

3.7.5 Construction Traffic

The construction period for the Project is expected to be 18 months. All construction activities will be scheduled to be undertaken during standard daytime construction hours, which in accordance with the NSW Industrial Noise Policy (DECC, 2009) are:

- Monday to Friday - 7.00 am to 6.00 pm;
- Saturday - 8.00 am to 1.00 pm; and
- No construction work on Sunday and public holidays.

Construction activities during this time period will include:

- Site Preparation;
- Earthworks;
- Foundation and slab construction;
- Superstructure construction including portal frames, roofing, and cladding;
- Electrical installation and installation of equipment and silos;

- Construction of a new intersection with the Sturt Highway;
- Construction of a new access road form the Sturt Highway to the development site, and one-way circulating ring roads around the perimeter of each PPU (standard rural all-weather property access roads);
- Construction of ten dwellings to house farm managers and farm assistant managers;
- An amenities facility encompassing office space, toilets and staff change rooms at each PPU;
- Construction of a workshop and other storage facilities at each PPU;
- Construction of storm water management systems; and
- Landscaping.

The anticipated construction traffic to be generated by these construction activities are summarised in **Table 3.4**.

Table 3.4 Estimated Construction Traffic Volumes

	Daily (two way trips)	Weekly (two way trips)
Light Vehicles		
ProTen Staff	3 (6)	15 (30)
Tradespeople	15 (30)	75 (150)
Sub-total light vehicles	**18 (36)**	**90 (180)**
Heavy Vehicles		
Tradespeople – trucks	-	3 (6)
Construction material delivery	-	3 (6)
Equipment delivery	-	2 (4)
Roading material	12 (24)	60 (120)
Concrete materials	2 (4)	10 (20)
Other	2 (4)	10 (20)
Sub-total heavy vehicles	**16 (32)**	**88 (176)**
Total	**34 (68)**	**178 (356)**

3.8 Servicing

3.8.1 Electricity

Reticulated electricity will be the poultry development's principal source of energy and will be used to operate the tunnel ventilation systems, shed lighting, cooling pads, water pumps and staff amenities. ProTen commenced consultation with Essential Energy in the latter part of 2014 to discuss options for the supply of power to the development site. In order to service the requirements of the site, power supply infrastructure will need to be constructed from the existing substation at Coleambally to the development site, over a distance of approximately 30 km. Consultation between ProTen and Essential Energy is continuing in relation to making the appropriate arrangements for this extension of power to the site, and work has commenced with regards to obtaining the appropriate approval under Part 5 of the EP&A Act.

Emergency standby diesel generators will be installed for when power from the electricity grid is lost. They will be appropriately sited and housed to minimise noise emissions.

3.8.2 Gas

Heating of the poultry sheds, which is anticipated to be required for up to 14 days of each production cycle, will be provided by wall mounted gas heaters. At present the only option is LPG, which will be supplied from Griffith and stored on-site in bulk tanks installed at each of the PPU sites. The storage of LPG on site, along with other Dangerous Goods, is assessed in detail in **Section 6.9** (Hazard and Risk).

3.8.3 Water Supply

Poultry broilers are like any other livestock in that they need to drink water each day of their life-cycle. Water lines, with nipple drinkers and drip trays, will run the length of each poultry shed and will be automatically supplied by external water storage tanks.

Plate 9 - Day Old Chicks at Nipple Drinkers

Each shed will be temperature controlled by tunnel ventilation during the hotter months, with evaporative cooling pads used once the external air temperature reaches approximately 30 degrees Celsius.

Based on industry acknowledged figures, the development will require a total water supply of around 460 megalitres per annum. This includes water supply for shed ventilation, bird consumption, shed cleaning, landscaping and staff requirements.

The development site's water requirement will be sourced via four new groundwater bores to be constructed on the site, consisting of two bores in two locations (refer **Figure 1.3**). ProTen will transfer the water access licence from an existing bore located on Lot 52 DP 750906, (approval number 40CA403632 issued under the *Water Management Act 2000* for the Lower Murrumbidgee Deep Groundwater Source) to the new bores to be constructed on Lot 41 DP 750898 (Bore 1) and Lot 44 DP 750898 (Bore 2). ProTen have commenced discussions with NOW on the transfer of this water access licence. An assessment of the potential impacts as a result of construction and operation of these bores is provided in **Section 6.6**.

Water extracted from the bores will be treated as per the recommendations by the *National Water Biosecurity Manual – Poultry Production* (DAFF 2009). Water will pumped from the bore and filtered through sand media. The water pH is monitored and if it is found to be high, citric acid will be added to maintain pH at approximately 7.0. The water will then be chlorinated to deliver approximately 3 ppm into storage tanks. Finally, chlorine dioxide will be dosed into the water delivery system supplying the sheds at between 0.5 – 0.1 ppm.

While not anticipated, if the water requirement cannot be provided for example during times of extreme drought, this is a commercial risk of the operator. If this occurs, several options will be available including the purchase of water from off-site and/or reducing the operating capacity of the development until the required water supply can be obtained. On this basis, there should not be any impact or disadvantage to other local water users.

Due to biosecurity requirements, ProTen does not intend to capture and re-use stormwater run-off from the roofs of the poultry sheds. While the captured roof water can be chlorinated, there is still an element of risk associated with introducing disease pathogens to the livestock and the possibility of spreading disease.

3.8.4 Feed Supply

Broiler feed will be supplied from Baiada's feedmill facility located approximately one kilometre south of Hanwood on the corner of Kidman Way and McWilliams Road. Silos will be located between the poultry sheds and will automatically dispense feed into the sheds. Feed lines, with feed pans, will run the length of each poultry shed and will be automatically supplied by the external grain silos. The feed pans will be spaced at regular intervals so that the birds are never more than a few metres from feed.

Plate 10 – Day Old Chicks at Feed Pans

The dietary formulation will vary with changes in the availability, price and quality of specific feed ingredients, season of the year and broiler flock age. The optimum and most economical combination of feed ingredients that meets the strict nutritional specifications at any particular time will be selected.

As previously mentioned, broiler feed comprises between 65 and 90 percent grains, such as wheat, sorghum, barley, oats, lupins, soybean meal, canola and other oilseed meal and grain legumes. Hormones are not added to chicken feed or administered to commercial meat chickens in Australia, a practice that has been banned internationally for over forty years.

3.8.5 Sewage

Sewage generated by the on-site staff amenities and residences will be appropriately treated and disposed of via on-site waste water management systems installed and operated in accordance with the requirements of Council and the relevant standards/guidelines. No detectable impact to surface or groundwater quality is anticipated as a result of the low volume that will be generated, the on-site system requirements, the available land area and available separation distances.

The management of waste water from the sheds (wash down water) is discussed in **Section 3.11**.

3.9 Lighting

3.9.1 Internal Shed Lighting

Lighting control programs are required throughout the entire poultry production cycle. Adequate internal shed lighting will be provided to enable the birds to see and find feed and water, with dark periods each day to allow them to rest. Reduced light has been found to minimise livestock stress and, as such, low lux internal lighting is provided to promote calm. Control of light intensities will be via dimmer controls.

3.9.2 External Shed Lighting

The primary source of external lighting will comprise one luminaire mounted at a height of approximately four metres over the front and rear loading-unloading areas of each poultry shed. Each luminaire will be aimed downwards and only switched on during loading-unloading and servicing activities outside of daylight hours and during heavy fog.

3.10 Waste Management

Appropriate systems will be implemented to ensure that each waste stream generated by the development is effectively managed and/or disposed of off-site, as described in the sub-sections below. There will not be any on-site stockpiling or disposal of waste materials.

3.10.1 Daily Waste

Day to day general waste, including waste from the manager's houses, will be placed into enclosed skips and removed from site by a licensed contractor on a regular basis. This type of waste will be transported to and disposed of at a local landfill site. No waste material will be disposed of on-site.

3.10.2 Chemical Containers

The only chemicals that will be used at the site will be for sanitisation and disinfection purposes, along with pest, vermin and weed control.

Chemicals will be purchased from a local chemical supply company and/or delivered to the site by Baiada. It is the usual practice for chemicals to be delivered only a few days prior to the commencement of the cleaning phase in order to minimise on-site chemical storage requirements and time. Appropriate bunded areas or specifically-purchased chemical sheds will be installed at the Site for the short-term storage of the limited volumes of chemicals delivered.

On the basis of the best management practices and mitigation measures to be implemented, including appropriate staff training and incident management procedures, the potential for adverse environmental impact from chemical use is considered low.

3.10.3 Poultry Litter

The sheds are cleaned out and washed down at the end of each cycle, a process that takes approximately two to three days. This process involves removing all of the poultry litter and disinfecting the sheds ready for the next batch of chickens, and comprises the following steps:

- Manure is pushed up using a skid steer type loader and loaded into a covered elevator from within the shed, which in turn deposits the manure into trucks that are covered (ensuring the potential for spillage of dust creation is avoided) for offsite disposal as a fertiliser;
- Sheds are blown and swept. Remaining manure is also loaded onto trucks;

- "Total Clean" detergent is used to pre-soak the sheds. Sheds are then washed using high pressure low volume water pressure cleaners.

The management of the wash down water from the clean out process is described in **Section 3.11**.

At the end of each production cycle a typical poultry shed of the size proposed will have around 200 cubic metres (m^3) of poultry litter (spent bedding material), comprising around 90 m^3metres of soft wood shavings/rice hulls/chopped straw and 110 m^3 of manure accumulated over the eight weeks of bird occupation.

For sound farm management and quarantine control reasons, it is not in ProTen's interest to stockpile poultry litter near the PPU sites due to the vulnerability of the younger birds coming in to commence cycle. As such, at no time will the litter be stored within the bounds of the property. The sole reason a valuable commodity such as poultry litter is removed from the site is to ensure minimal opportunity for disease transfer to the flock. Furthermore, for biosecurity reasons, ProTen prefers not to see the spreading of litter within a five kilometre radius of a poultry shed. The product does not pose a health threat to the surrounding community.

Poultry litter is highly sought after as an organic fertiliser and/or rehabilitation agent for agricultural lands. On this basis, the material will be collected from the sheds at the end of each production cycle by an approved/licensed contractor(s) who will more than likely sell it as a commercial raw product and/or directly to regional farmers. The safe handling and application of the material once it has left the development site is the responsibility of the end-user. ProTen will make every effort to ensure truck loads leaving the development site are covered to minimise emissions of odour and particulate matter.

3.10.4 Dead Birds

Dead birds will be collected from the poultry sheds on a daily basis and stored in on-site chillers. A rigid truck will visit the site on a regular basis to collect the dead birds and transport them to Baiada's protein recovery plant (rendering plant), which is part of the poultry processing complex, near Hanwood on Kidman Way. Dead birds will not be allowed to stockpile within the development site for reasons of strict quarantine control.

3.11 Surface Water Management

An engineered surface water drainage and management strategy will be prepared and implemented to provide long-term structural controls and management to mitigate the impact of surface water runoff throughout the life of the operation. The main water sources to be managed within the water management system for the site include:

- Wash down water from within the sheds at the end of each eight week production cycle;
- Rainfall runoff from the shed roofs; and
- Rainfall runoff from the ground surfaces surrounding the poultry sheds and additional improvements.

As previously mentioned, each poultry shed will be surrounded by a 400 mm high dwarf concrete bund wall to prevent rainwater and runoff entering the sheds and to allow for the controlled discharge of wash down water from the sheds. The concrete bunds will have strategically located seepage holes to convey excess wash down water from the sheds into grassed swales between each of the sheds. Rainfall runoff from the shed roofs and from some of the surrounding surfaces will also be directed into the grassed swales.

The design of the swale drains is provided in **Figure 3.7**. As shown on **Figure 3.7**, the swale drains have been conservatively designed to capture a 1 in 100 year rainfall event. The swales allow infiltration of the water into the topsoil for nutrient uptake by the grass, which will be regularly slashed. During heavy rainfall events, excess water from the grassed swales will be directed to underground pipes and into a catch drain that will be installed around the perimeter of the poultry sheds. The construction of the perimeter catch drain will ensure that all rainfall runoff from the ground surfaces surrounding the sheds is contained within the controlled storm water management system. Further discussion on the effectiveness of the drains in mitigating potential impacts on water resources is provided in **Section 6.5.3**.

Runoff from this catch drain will be directed to four small storage dams, one constructed at each corner of each PPU, as illustrated on **Figures 1.3** and **3.2**, as per the stormwater management system at all of ProTen's farms. These dams will be designed to capture all runoff from within each PPU, and are generally designed to capture the rainfall runoff volume of the design event, being a 1 in 20 year (20 year annual recurrence interval), 24 hour event. In the case of the proposed development at Euroley however, the size of the dams will in part be dependent on the amount of material required to be extracted as part of the cut and fill process to create the necessary pads for the PPUs, as well as ensuring effective management of stormwater runoff. As described in **Section 6.5** (flooding), the finished floor levels of the sheds will be set at a minimum of 300 mm above adjacent ground level to reduce the likelihood of floodwater ingress to the buildings during an extreme flood event. The dams at each corner of the PPUs will be constructed via the excavation process to extract the material required to achieve this. This will result in each dam having a capacity of approximately 7000 m^3, totalling 28,000 m^3 of retention at each PPU.

Lance Ryan Consulting Engineers (LRCE) were engaged to assess the capture and retention of stormwater from each PPU, and to assess what storm event the total dam storage at each PPU would capture. The report found that the total storage at each PPU of 28,000 m^3 is equivalent to 170% of the capacity required to prevent runoff escaping the retention dams from a 1 in 100 annual recurrent interval (ARI), 72 hour event. The report by LRCE is attached as **Appendix B**.

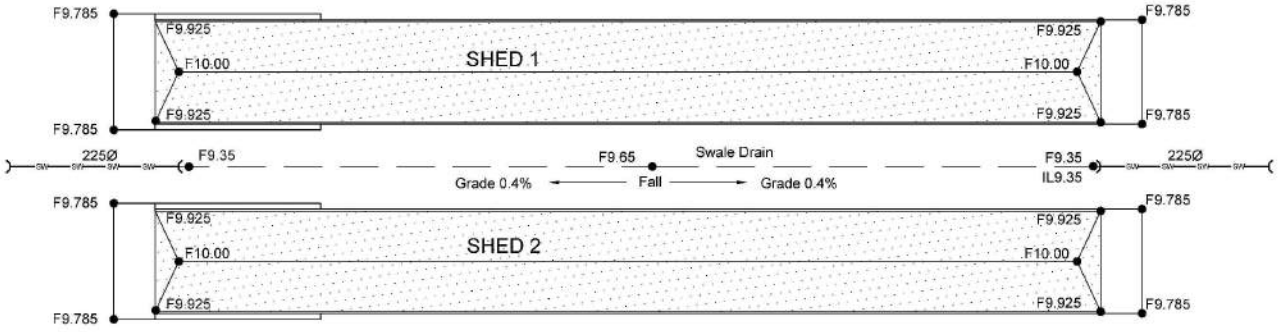
Water in these dams will be allowed to evaporate, or will be used to irrigate the landscape plantings around the sheds.

3.12 Revegetation

The most effective means of controlling erosion and sedimentation is through the establishment and maintenance of a healthy vegetation cover. General disturbance areas, that will not be sealed or actively utilised for operational activities, will be promptly rehabilitated to a stable landform and vegetated following completion of the construction/disturbance activities. Broadcast seeding will be utilised as the preferred revegetation method for all disturbance areas requiring revegetation. Broadcast seeding involves the spreading of a suitable pasture seed mix over the area to be revegetated, and will generally be undertaken according to the following:

- Topsoil will be re-spread in the reverse sequence to its removal where possible, so that the organic layer, containing any seed or vegetation, is returned to the surface. Topsoil should be spread to a minimum depth of 100 millimetres on flat slopes. Re-spreading on the contour will aid runoff control and increase moisture retention for subsequent plant growth. Re-spread topsoil should be levelled to achieve an even surface, avoiding a compacted or an over-smooth finish;
- After surface soil tillage is completed for any given area, revegetation will commence as soon as practicable; and
- Appropriate fertiliser will be applied during the seeding operation.

The pasture grass and legume mix provided in **Table 3.5** is considered suitable.



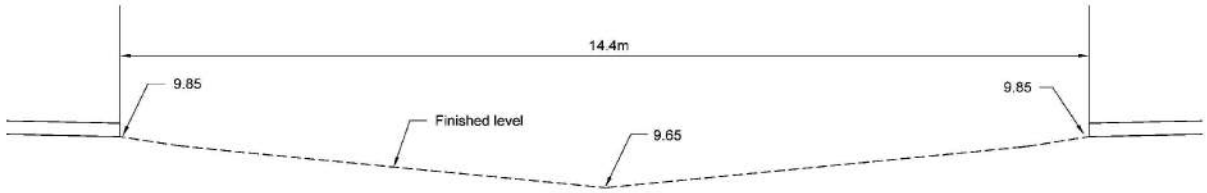
Plan

Chezy ch	Mannings Roughness n	Area Inv-HFL A (m2)	Wetted Perimeter WP (m)	Slope Decimal So	Hydraulic Radius R	Velocity V (m/sec)	Discharge Q (m3/sec)
19.46	0.035	1.44	14.41	0.004	0.10	0.39	0.56

Swale Drain Capacity at Level 9.65
(0.56m³/s)

Chezy ch	Mannings Roughness n	Area Inv-HFL A (m2)	Wetted Perimeter WP (m)	Slope Decimal So	Hydraulic Radius R	Velocity V (m/sec)	Discharge Q (m3/sec)
22.67	0.035	3.60	14.43	0.004	0.25	0.72	2.58

Swale Drain Capacity at Level 9.35
(2.58m³/s)



SWALE DRAIN
Section 1-1

Total catchment Area (A) for the swale drains = 2560m²
This comprises 1464m² of hardstand area and 1096m² of landscaped area.
Fraction Impervious for hardstand area = 0.95 and landscaped areas 0.2
Runoff Coefficients (C) are 1.0 for hardstand areas and 0.41 for landscaped areas
Time of concentration = 12minutes
Rainfall Intensity (I) = 132mm/hr
Discharge = CAI / 360 = (1 x 0.1464 + 0.41 x 0.1096) x 132 / 360) = 0.07m³/s

Therefore the swale drains are capable of handling over the 1 in 100 year rainfall event.

At the end of each swale drain is a 225Ø pipe graded at a minimum 1%. This pipe has a capacity of 70L/s which is also capable of handling the 1 in 100 year storm event.

Source: Lance Ryan Consulting Engineers

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Swale Drain Design

FIGURE 3.7

Table 3.5 Pasture Specification

Species	Rate (kilograms per hectare)	
	Spring/Summer	Autumn/Winter
Japanese Millet	20	5
Ryecorn/Oats	5	20
Couch Grass	10	8
Wimmera Ryegrass	5	10
White Clover	8	-
Lucerne	5	-
Sub Clover	-	8
Serradella	-	10
Consol	-	2

All legumes (clovers and lucerne) will be inoculated with Rhizobia and lime pelleted to promote nodulation thus facilitating subsequent nitrogen fixation. For critical areas requiring quick revegetation or for areas where poor revegetation is identified, more intensive revegetation methods (i.e. hydromulching) may be considered.

3.13 Landscaping

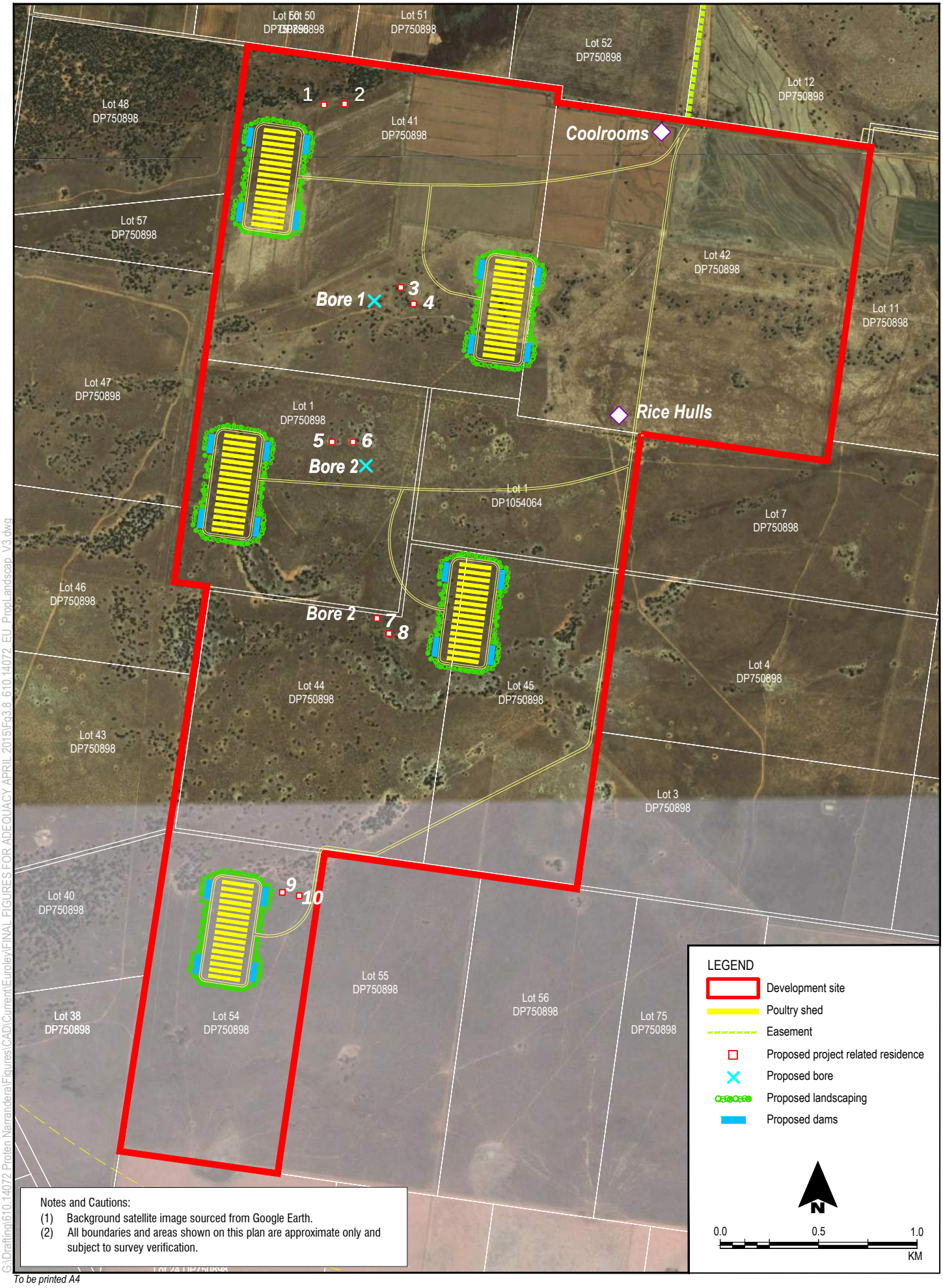
3.13.1 Overview

ProTen typically undertake significant landscaping activities to improve the visual and environmental amenity of the company's poultry development sites. Additional benefits of landscape plantings include:

- Protecting the poultry sheds against any spray drift or off-target applications of chemicals from neighbouring agricultural land users;
- Reducing the magnitude and frequency of any adverse air quality impacts by effectively slowing and filtering air movement, which enhances dust deposition and odour dispersion;
- Buffering or reducing the audible level of any noise emissions from the development site;
- Providing a high level of light screening; and
- Increasing the total area under vegetation within the locality, creating habitat and increasing the local biodiversity.

Suitable tree and shrub species will be strategically planted around the perimeter of each PPU to screen the poultry sheds, as shown on **Figure 3.8**. The proposed plantings will be based on the relevant recommendations outlined in *Planning Guidelines Separating Agricultural and Residential Land Uses* (Queensland Department of Natural Resources 1997), as follows:

- Provide a biological buffer of a minimum total width of around 40 metres;
- Contain consistent, yet random, plantings of a variety of tree and shrub species of differing growth habits, at spacing's of around four to seven metres;
- Include species with long, thin and rough foliage to facilitate the capture of spray droplets and dust particles;
- Provide a permeable barrier that allows air to pass through the buffer. The plantings will aim to achieve a porosity of around 0.5 (i.e. around 50 percent of the screen will be air space);



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Proposed Landscaping

FIGURE 3.8

- Include species that are hardy and fast growing; and
- Foliage from base to crown (i.e. lower and upper storey vegetation) to ensure that the buffer is effective in slowing and filtering air movement at all levels.

ProTen will progressively establish the landscape plantings, as soon as practically possible, following bulk earthworks and construction of development infrastructure.

3.13.2 Tree and Shrub Siting

In order to allow maximum leaf area and room for future growth, large trees will be planted at intervals of around seven metres and the small trees and large shrubs will be planted at intervals of around four metres. Shrubs will be planted between the trees in order to form a lower foliage screen.

As previously stated, species will be randomly, yet consistently, planted in a band around 40 metres wide in order to allow air movement whilst trapping fine particulate matter and spray droplets on foliage. If necessary, appropriate fencing or tree guards will be used to limit grazing animals such as rabbits and kangaroos.

3.13.3 Site Preparation

Good site preparation is critical to root development, tree/shrub survival and establishment of rapid growth rates. The proposed landscaping areas will be sprayed out using a herbicide to remove grass and weeds, followed by deep ripping and cultivation. In newly ripped soil air pockets occur which may cause a seedling to die from lack of available water. The rip lines will therefore be left to settle and maintained in a weed free condition for around a month. This period can be shortened with good rain or irrigation.

Appropriate mulching will also help promote growth and reduce water requirements. Mulch retains soil moisture, increases soil temperature, reduces erosion, encourages earthworm activity and builds a humus layer that adds to and benefits the topsoil.

3.13.4 Planting

Following good site preparation, it is anticipated that the planting method will comprise the following key steps:

- If possible, planting will be undertaken during the winter/autumn months to reduce moisture stress;
- The proposed landscaping areas will be deep watered approximately one week prior to planting in order to ensure a good moisture base;
- Randomly, yet consistently, plant trees and shrubs in the rip lines;
- Erect necessary fencing and/or tree guards;
- Apply a good cover of mulch, such as lucerne hay, around the trees and shrubs;
- Deep water each of the newly planted trees and shrubs; and
- If necessary, apply an appropriate fertiliser.

3.13.5 Maintenance

A commitment to effective landscaping involves an on-going monitoring and maintenance for a period of at least 12 to 18 months following planting. The vegetation plantings will be regularly inspected and assessed for maintenance requirements, including success of tree and shrub plantings and the presence/absence of weeds.

Where the health and/or growth of the plantings appear limited, maintenance activities will be initiated. These may include re-planting and where necessary, topdressing and/or the application of specialised treatments such as composted mulch to areas with poor vegetation establishment.

Tree guards will be re-placed around planted stock if damaged and animal grazing is found to be excessive. Watering of the landscaping plantings will occur, as required, in the formative years.

3.14 Site Maintenance

Regular and effective site maintenance is essential based on the fact that issues such as odour, dust, noise, pests and flock health are directly related to site operation and management.

The proposed poultry development will be managed in strict compliance with ProTen's standard operating procedures. This includes a regular site inspection and maintenance program in order to minimise the potential for adverse environmental impacts, extend the life of farm equipment, reduce operating costs and maximise operational efficiency.

Emphasis will be placed on keeping the insides of the poultry sheds and surrounding environment as clean as possible, with maintenance activities including:

- Regular inspection and maintenance of ventilation systems, bird drinkers and bird feeders to avoid blockages, spillages, leaks and uneven distribution;
- Regular examination and management of stocking densities and bird health within the poultry sheds;
- Daily inspection and removal of dead birds from within the sheds;
- Daily monitoring and maintenance of the bedding material to identify, remove and replace any caked material beneath drinking lines and/or areas with excessive moisture content;
- Regular site slashing and mowing;
- Maintenance of the landscape plantings;
- Implementation of pest control measures (see **Section 3.16**), which will primarily comprise a preventative baiting system;
- Regular inspection and maintenance of water supply pumps and pipelines to identify and fix any blockages or leaks; and
- Maintenance of the internal access roads to minimise tyre wear and dust emissions.

3.15 Pest Control

The presence of pest populations in and around poultry operations is a potential health hazard and an indicator of poor farm management. The development site will be managed in strict compliance with ProTen's standard operating procedures. Emphasis will be placed on keeping the poultry sheds and surrounding environs as clean as possible in order to discourage pests from establishing residency within and around the development site.

The following pest control measures, which will form part of the site maintenance program and biosecurity commitment, will be employed:

- Implementation of ProTen's standard pest control program, which primarily comprises the installation and maintenance of baits as a preventative measure to prevent and control outbreaks;
- Dead birds will be collected from the poultry sheds on a daily basis and stored in on-site chillers for removal off-site;
- At the end of each production cycle, poultry litter will be promptly removed from the poultry sheds and transported off-site;
- There will be no on-site stockpiling or disposal of waste materials;
- Any feed or grain spills will be promptly cleaned up;
- All site rubbish will be collected in the designated waste bins and removed offsite by a licensed waste contractor;
- The grass within the vicinities of the sheds will be maintained short; and
- Appropriate sanitising agents will be used during the shed cleaning phase.

3.16 Workplace Health and Safety

The design, construction and operation of the proposed poultry development will comply with all relevant workplace health and safety requirements. ProTen understands that it has 'duty of care' obligations under the *Work Health and Safety Act 2011* (and its associated Regulation).

3.17 Animal Health and Welfare

The conditions under which broiler poultry are housed and the way that they are managed during their growing phase, transportation and slaughter are prescribed in several government and industry endorsed Codes of Practice designed to safeguard their health and welfare.

Throughout its history within the poultry industry, ProTen has proven its commitment to high standards of bird welfare. The company understands that bird welfare, flock performance and economic functioning go hand-in-hand. ProTen has advised that it is committed to the standards of care and management detailed in the *National Animal Welfare Standards for the Chicken Meat Industry* (Barnett et al, 2008), which is based on the *Model Codes of Practice for Poultry Production*, Australian Standards, international and national guidelines for animal welfare, and scientific evidence. Key features of this commitment, some of which have already been touched on, are discussed below.

Space Allowance

As outlined in **Section 3.6**, the maximum broiler density for ProTen's tunnel ventilated sheds is typically 0.055 square metres of floor space per bird. ProTen's broiler 'pick-ups' (shed thinning or depopulation) are in most instances governed by the further limiting factor of a maximum of up to 40 kilograms of live-weight per square metre of floor area, which complies with the maximum stocking density for domestic poultry in tunnel ventilated sheds as recommended in the *National Animal Welfare Standards for the Chicken Meat Industry* (Barnett et al 2008).

Equipment

All equipment to which the birds have access will be selected and appropriately maintained to avoid injury, pain and stress. In addition, the automated shed control equipment will be regularly checked and maintained to ensure optimum efficiency.

Lighting

As outlined in **Section 3.9**, lighting control programs are required throughout the entire poultry growing cycle. Adequate internal shed lighting will be provided to enable the birds to see and find feed and water, with dark periods each day to allow them to rest. Reduced light has been found to minimise livestock stress and, as such, low lux internal lighting is provided to promote calm.

Ventilation

The proposed development will comprise tunnel-ventilated fully-enclosed climate-controlled poultry sheds. Tunnel ventilation is able to deliver the required environmental parameters throughout the entire year and poultry have an optimum environmental range for health, growth and productivity. The tunnel ventilation systems will be fully computer controlled and alarm monitored, with back-up power available via emergency standby generators.

Feed Supply

Feed lines will run the length of each poultry shed and will be automatically supplied by the external grain silos. Feed pans will be spaced at regular intervals so that the birds are never more than a few metres from feed and, in compliance with the *Model Code of Practice for the Welfare of Animals, Domestic Poultry* (Primary Industries Standing Committee 2002), there will be a maximum of around 80 birds per feed pan at maximum density.

Water

Water lines will run the length of each poultry shed and will be automatically supplied by external water storage tanks. Nipple drinkers with drip cups will be spaced at regular intervals so that the birds are never more than a few metres from water and, in compliance with the *Model Code of Practice for the Welfare of Animals, Domestic Poultry* (Primary Industries Standing Committee 2002), there will be a maximum of around 12 birds per nipple drinker at maximum density.

Inspections

The birds will be inspected on a daily basis for health, injury, distress, feed and water. Dead and injured birds will be removed for disposal or treatment in a humane manner.

Transportation

All measures will be taken to ensure that the birds are not subjected to any unnecessary stress during catching, transportation, loading and unloading. Both ProTen and Baiada (operator of the chicken hatchery and poultry processing complex to service the proposed development) are fully committed to the standards of care detailed in the *National Animal Welfare Standards for the Chicken Meat Industry* (Barnett et al, 2008) and the *Model Code of Practice for the Welfare of Animals, Land Transport of Poultry* (Primary Industries Standing Committee, 2006).

3.18 Biosecurity

Biosecurity refers to those measures taken to prevent or control the introduction and spread of infectious agents to a flock. It aims to prevent the introduction of infectious diseases, and prevent the spread of disease from an infected area to an uninfected area. Biosecurity plays a vital role in the incidence of disease and is an integral part of any successful poultry production system.

The nature of each avian influenza outbreak that has occurred in Australia (five over the past 50 years) suggests that one or more biosecurity deficiencies was involved in the spread of the virus within and between properties (Australian Animal Health Council 1999).

ProTen has demonstrated strict biosecurity commitment over the years. A copy of the *National Farm Biosecurity Manual for Chicken Growers* (Australian Chicken Meat Federation 2010) will be kept at the development site and staff will be provided with training in the relevant parts of the Manual. The key biosecurity measures that will be implemented at the proposed development site include, but will not be limited to, the following:

Farm Signage

Appropriate signage will be erected at the entrance of the PPU site to notify visitors of the biosecurity zone, directing them to contact the operator prior to proceeding and any other requirements.

Farm Isolation

The greater the separation distance between poultry farms, the less opportunity there is for disease spread. The layout of the Project affords approximately 1000 metres between PPUs.

Disease organisms (pathogens) can survive for some time on people and their clothes and as such isolation in time is also important in providing a break between visits of personnel and equipment. Time isolation allows equipment to be disinfected and allows personnel to shower and change clothing.

Additional measures to ensure isolation from disease include:

- Poultry sheds and equipment will be cleaned and disinfected at the end of each production cycle;
- Bedding material and dead birds will not be allowed to stockpile within the development site;
- Poultry water supply will be disinfected prior to discharge into the on-site storage tanks;
- Staff members working in direct contact with livestock will not be permitted to keep other bird species or pigs at their place of residence;
- Staff members and visitors will not be permitted to travel between poultry farms without changing clothes and foot wear;
- Attempts will be made to limit wild birds and vermin from farm buildings and surrounding areas; and
- A vehicle wheel wash will be installed at the entrance to the site, as described further below.

Wheel Wash

The potential for mechanical transmission of disease pathogens will be reduced through the installation of a wheel wash facility on the access road to each PPU. All vehicles wishing to enter a PPU site will be required to pass through the wheel wash to remove dust particles from the wheels and chassis.

The wheel wash facility will be designed as a self-contained unit in order to minimise the potential for runoff. It is anticipated that a chemical sanitiser, such as Microgard 755N or Micro-4, which are commonly used on poultry farms, will be added to the wash water.

It is proposed to construct a turkey nest dam below the wheel wash facility to contain the full volume of water in the wash basin. The dam will be used to hold water resulting from excessive rainfall, accidental overfill and/or periodic cleanouts. It is anticipated that the dam's capacity will be around twice that of the wheel wash.

If considered necessary, the turkey nest dam will be lined to achieve a permeability of 10^{-9} metres per second. Prior to construction a soil sample will be tested. If deemed suitable the dam will be constructed and the soil compaction tested by a NATA accredited laboratory. If suitable soil cannot be sourced, an alternative synthetic liner capable of achieving the required permeability will be used.

Plate 11 – Example of a wheel wash to be constructed at the farm entrance

Single Age Farm

Vaccinated stock can become infected and show no clinical signs of disease, yet can transfer the disease to younger and/or more susceptible birds. To reduce the risk of disease transfer and outbreak, whole flock units with minimum age difference will be placed into each poultry shed. On this basis, the site will operate on an 'all in – all out' placement and depopulation program.

Closed Flock

Birds on other sites may be exposed to different strains of organisms to which other flocks may not have developed immunity to. In addition, birds may have been exposed to a disease organism and not have developed clinical signs of the disease. Moving apparently healthy birds into a disease-free flock could mean introducing disease to a clean farm site. For these reasons, once a flock is placed, no new birds will be introduced from any other source.

Pest Control

The control measures listed in **Section 3.16** will be implemented to discourage pests and vermin from establishing residency within and around the site. Various additional biosecurity measures will be implemented on a routine basis in accordance with the *National Farm Biosecurity Manual for Chicken Growers* (Australian Chicken Meat Federation 2010).

3.19 Environmental Complaints and Incidents

The Complaints and Incident Management Strategy contained within **Appendix C** will be implemented to ensure that all complaints and incidents relating to the poultry operation are promptly and effectively addressed. Appropriate documentation of complaint/incident handling will assist in identifying and implementing measures to negate the possibility of re-occurrence in the future.

3.20 Socio-Economic Aspects

3.20.1 Employment

ProTen has advised that at full production the development will require:

- Five full-time site managers (live on-site);

- Five full-time assistant site managers (live on-site); and
- Around 20 additional full-time equivalent staff members.

There may be times when additional labour will be called upon. ProTen's poultry production complexes provide vital employment in regional areas, with the majority of positions demanding only low skill levels and on-the-job training is provided.

3.20.2 Capital Investment

The construction cost associated with the Project is estimated at approximately $60 million. This capital is a permanent investment within the Narrandera Shire.

3.20.3 Consumables and Flow-On Benefits

At this point in time, it is difficult to quantify the expenditure in terms of the various consumable products and services that will be required to construct, operate and maintain the development. Some examples include:

- Annual telecommunications, electricity, water and gas supply costs;
- Opportunities for local transport companies to participate in the haulage of materials to and from the site;
- Opportunities for local growers and suppliers to provide various goods, including bedding material, fuel, tyres, clothing and groceries, to name a few; and
- Opportunities for local business to fulfil maintenance and servicing requirements.

The additional grain needed to fulfil the feed demand of the development represents a significant increase in the potential market for regional farmers. It is estimated that the operation will consume around 105,000 tonnes of poultry feed per annum, which represents a yearly recurrent expenditure of around $33 million (based on the average price of feed at the time this document was prepared).

Given the anticipated expenditure on consumables, along with the significant flow-on benefits, it is clear that the stimulus to the local and regional economies will be substantial.

Section 4

Planning Considerations



4 PLANNING CONSIDERATIONS

The Project has been assessed in full consideration of the applicable statutory planning instruments. This section describes the relevant statutory instruments and assesses their implications in relation to the approval process.

4.1 Approval Pathway

The development assessment and approval system in NSW is set out in Parts 4 and 5 of the EP&A Act. Division 4.1 of Part 4 provides for the assessment and determination of State Significant Development (SSD). Pursuant to Section 89C of the EP&A Act, projects are classified as SSD if they are declared to be such by the SRD SEPP. Clause 3 of Schedule 1 of the SRD SEPP identifies development for the purposes of intensive livestock agriculture with a CIV of more than $30 million as SSD. As a result, pursuant to clause 8(1) of the SRD SEPP and as a result of the development having a CIV of approximately $60 million, the Project comprises SSD. As outlined in Section 4.5, the development is permissible with consent under the provision of the Narrandera LEP 2013.

The Minister for Planning (or their delegate) determines development applications for SSD under Part 4 of the EP&A Act. The Minister has delegated the consent authority function for SSDs projects to the NSW Planning Assessment Commission (PAC) and to senior staff of the DP&E.

4.2 Commonwealth Legislation

4.2.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is administered by the Commonwealth Department of the Environment (DoE), and provides a legal framework to protect and manage nationally important flora, fauna, ecological communities and heritage places defined as matters of National Environmental Significance. An action that “has, will have or is likely to have a significant impact on a matter of National Environmental Significance” may not be undertaken without prior approval of the Commonwealth Minister, as provided under Part 9 of the EPBC Act.

A Protected Matters Search was performed on the DoE website as part of the Biodiversity Assessment Report (SLR, 2015b) to ascertain if any matters of national environmental significance protected by the EPBC Act had been identified as occurring in, or relating to, the proposed development site. A summary of the findings of this database search is presented below.

World Heritage Properties

The site is not a World Heritage Property and there are no World Heritage Properties listed within the search area.

National Heritage

The site is not a National Heritage Place and there are no National Heritage Places listed within the search area.

Wetlands of International Significance (RAMSAR Wetlands)

There are no RAMSAR wetlands protected by international treaty (RAMSAR Convention) within the proposed development site or surrounding search area. The search results nominated 4 RAMSAR wetlands protected by international treaty (RAMSAR Convention) which are located downstream of the development site. These wetlands are:

- Banrock Station Wetland Complex;
- Coorong and Lakes Alexandrina and Albert;
- NSW Central Murray State Forests; and
- Riverland.

All of these wetlands are located large distances away from the development site, and therefore will not be impacted by the Project. Three of these wetlands, namely Banrock Station Wetland Complex, Coorong and Lakes Alexandrina and Albert, and Riverland, are all located in South Australia at distances of greater than 500 kilometres from the development site, and as such the Project will not have any impact on these wetlands. The NSW Central Murray State Forests wetlands are the closest to the development site; however are still over 150 kilometres away and therefore will not be impacted upon by the Project.

Commonwealth Marine Areas

Not applicable. The development site is significantly removed from any Commonwealth marine areas.

Great Barrier Reef Marine Park

Not applicable. The development site is significantly removed from the Great Barrier Reef Marine Park.

Threatened Ecological Communities and Threatened Species

The Protected Matters Search identified the following:

- Four threatened ecological communities
- 13 threatened species

Significant disturbance of the natural environment within the development site has occurred as a result of historic clearing and long-term agricultural production, as is clearly evident in the aerial photo in **Figure 1.2**. The modified nature of the vegetation, particularly cropped and mostly treeless paddocks, significantly limits the value of the area as habitat for native fauna.

As described in **Section 6.7**, of the 13 threatened species identified in the Protected Matters Search, one, the Superb Parrot, was recorded in the development site. Individuals were recorded within woodland habitats in the central parts of the site and it is possible that this species utilises the site as part of its wide ranging foraging activities.

With regard to the EPBC Act listed species that are not listed on the TSC Act, SEARs or Credit Calculator, such as the Koala, Malleefowl and Australian Bittern – habitat for these species is not present in the development site. Similarly, there are no watercourses available on the development site for threatened fish species, namely the Silver Perch, Murray Cod and Macquarie Perch.

Taking into consideration all stages and components of the Project, and all related activities and infrastructure, there is the potential for impacts, including indirect impacts, on matters of national environmental significance, being mainly loss of a small area of degraded habitat for mobile threatened fauna species. However, it is highly unlikely that any of such species will be adversely impacted by the Project.

Nationally Listed Migratory Species

The Protected Matters Search identified eight migratory species. However, as discussed in **Section 6.7**, none of which are likely to inhabit the development site. The proposed disturbance footprint (see **Figure 1.3**) is highly modified and disturbed, and the proposal is highly unlikely to substantially modify, destroy or isolate an area of important habitat, result in an invasive species that is harmful to the migratory species becoming established in the area, or seriously disrupt the lifecycle of an ecologically significant proportion of the population of a migratory species.

All Nuclear Actions

No type of nuclear activity is proposed.

In conclusion, the Project is not anticipated to have a significant impact upon any matters of national environmental significance and referral to the DoE is not considered necessary.

4.3 NSW State Legislation

4.3.1 Environmental Planning and Assessment Act 1979

The EP&A Act is the principal piece of legislation overseeing the assessment and determination of development proposals in NSW. It aims to encourage the proper management, development and conservation of resources, the protection of the environment and ecologically sustainable development (ESD).

As stated above in **Section 1.7**, the Project is classified as state significant development and accordingly, approval is sought under Division 4.1 of Part 4 of the EP&A Act.

4.3.2 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) establishes the State's environmental regulatory framework and includes licensing requirements for certain activities. As a result of having the capacity to accommodate more than 250,000 birds at any time, the Project is a scheduled activity under Clause 22 of Schedule 1 of the POEO Act, and will be required to operate under an EPL administered by the EPA under Section 43(b) of the POEO Act.

4.3.3 Roads Act 1993

The objective of the *Roads Act 1993* includes, but is not limited to, regulating the carrying out of various activities in public roads.

The proposed development site will be accessed via the Sturt Highway, which is a State Highway (HW14) under the control of the RMS. As outlined in **Section 3.7.3** and shown on **Figure 1.2**, the development will require a new intersection to be constructed, as well as an easement along the eastern boundaries of Lot 39 DP 750876, Lot 15 DP 750898 and Lot 12 DP 750898 to allow access to the development site, which will be through Lot 42 DP 750898.

RoadNet (2015) has determined that a basic right turn treatment (BAR) and basic left turn treatment (BAL) is required at the access point with the Sturt Highway. While RoadNet (2015) advises that the reserve of the Sturt Highway at the proposed access point is sufficiently wide and level for the access requirements to be constructed with minimal road works, it will require approval from RMS under Section 138 of the *Roads Act 1993*. By operation of Clause 89K of the EP&A Act, consent under Section 138 of the *Roads Act 1993* cannot be refused if it is necessary for carrying out an approved SSD proposal, and must be granted substantially consistent with the SSD consent.

4.3.4 Water Management Act 2000

The WM Act is intended to ensure that water resources are conserved and properly managed for sustainable use benefitting both present and future generations. As described in **Section 3.8.3**, the water needs of the Project will be met via new groundwater bores to be constructed within the development site. A water access licence will therefore be required under the WM Act. ProTen will transfer the water access licence from an existing bore located on Lot 52 DP 750906, (approval number 40CA403632 issued under the WM Act for the Lower Murrumbidgee Deep Groundwater Source) to the new bores to be constructed on Lot 41 DP 750898 (Bore 1) and Lot 44 DP 750898 (Bore 2).

By the operation of Section 89J of the EP&A Act, the Project will not require water use approvals under Section 89 of the WM Act, water management approvals under Section 90 or a controlled activity approval under Section 91.

4.3.5 Crown Lands Act 1989

As described in **Section 2.3**, various sections of discrete Crown road exist within or adjacent to the development site. The location of one of the PPUs is across a portion of Crown road, and the site access road will also cross a Crown road. ProTen will therefore apply to close and purchase the portions of Crown road within the development site, as well as the potion of Crown road along the development site boundary over which the site access road will cross. Pending Project Approval, should the closure and purchase of the relevant Crown roads not be complete when construction is ready to commence, ProTen will apply for a licence to use Crown Land in the interim period under the provisions of the *Crown Lands Act 1989*.

4.3.6 National Parks and Wildlife Act 1974

The NPW Act contains provisions for the protection and management of national parks, historic sites, nature reserves and Aboriginal heritage. As described in **Section 6.8**, three Aboriginal heritage sites were found within the development site during the field survey conducted for the Project. These sites are outside of the disturbance footprint of the Project and therefore will not be impacted upon in any way as a result of the Project. Further, by operation of Section 89J of the EP&A Act, the Project does not require any additional approvals under the NPW Act.

4.3.7 Threatened Species Conservation Act 1995

The TSC Act provides protection for threatened plants and animals native to NSW (excluding fish and marine vegetation) and integrates the conservation of threatened species into development control processes under the EP&A Act. The potential for impacts on flora and fauna as a result of the Project are considered in **Section 6.7**. The Project Site is highly modified and disturbed; the majority having been cleared for many decades.

4.4 State Environmental Planning Policies

State Environmental Planning Policies (SEPPs) are legal Environmental Planning Instruments (EPIs) prepared by the Minister to address issues significant to the State and people of NSW.

The following sub-sections outline the SEPPs identified as relevant considerations for the Project. It is noted that the SEPP No. 3 – Intensive Agriculture is not a relevant consideration for this proposal given it relates specifically to cattle feedlots and piggeries only.

4.4.1 SEPP (State and Regional Development) 2011

The *SRD SEPP* came into effect upon the repeal of Part 3A of the EP&A Act. It identifies development to which the state significant development and approval processes under Part 4 of the EP&A Act apply.

Schedule 1 of the SEPP identifies development for the purpose of intensive livestock agriculture that has a CIV of more than $30 million as State Significant Development. Given that the CIV of the Project is approximately $60 million, it is classified as State Significant Development.

4.4.2 SEPP (Infrastructure) 2007

SEPP (Infrastructure) 2007 provides a consistent planning regime for infrastructure and the provision of services across NSW. The SEPP aims to facilitate the effective delivery of infrastructure across the State by improving regulatory certainty and efficiency through a consistent planning regime for infrastructure and providing greater flexibility in the location of infrastructure and service facilities.

Clause 104 of the SEPP specifies that development applications for new premises of relevant size or capacity must be referred to the RMS for comment and must take into consideration the accessibility of the site and any potential safety, congestion or parking implications. The Project, which is defined as 'intensive livestock agriculture', does not appear to match any of the traffic-generating development categories listed in Schedule 3 of the SEPP.

Notwithstanding, the development application will be referred to the RMS under the requirements of the *Roads Act 1993* in relation to the new vehicular access to be constructed from the Sturt Highway. Information regarding the traffic and transport issues associated with the Project is therefore contained within this EIS to enable meaningful consideration of the Project by both the consent authority and the RMS, including as may be required under the SEPP (Infrastructure) 2007.

4.4.3 SEPP No. 55 – Remediation of Land

SEPP No. 55 – Remediation of Land provides state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed.

A detailed testing and examination of soil samples from the development site has not been undertaken as it is held that the circumstances of this matter do not require such. The risk of discovering significant land contamination within the site is considered to be minimal given the following:

- The long-term and existing use of the site and adjoining lands is traditional agricultural production, primarily comprising cropping with some livestock grazing;
- There are no identified previous or existing land use activities that may have caused or attributed to significant soil contamination; and
- There are no known areas within the site where toxic wastes, poisons or the like have been dumped or buried to cause or attribute to soil contamination.

Considering the historical use of the land and the fact that the majority of the development site will continue to be used for agricultural production purposes, with the majority of the commercial activity associated with the proposal being confined to the relatively small PPU sites, the land is considered suitable for the proposed poultry development.

On this basis, land contamination is unlikely to be an issue within the proposed development site and further investigation under SEPP No. 55 is not warranted.

4.4.4 SEPP No. 33 – Hazardous and Offensive Development

SEPP No 33 - Hazardous and Offensive Development links the permissibility of an industrial development proposal to its safety and environmental performance. Certain activities may involve handling, storing or processing a range of materials which, in the absence of locational, technical or operational controls, may create an off-site risk or offence to people, property or the environment. Such activities would be defined as 'potentially hazardous industry' or 'potentially offensive industry'. SEPP No. 33 is an enabling instrument (that is, it allows for the development of industry), while ensuring that the merits of proposals are properly assessed in relation to off-site risk and offence before being determined.

Clause 12 of SEPP 33 states that a person who proposes to make a development application to carry out development for the purposes of a potentially hazardous industry must prepare a preliminary hazard analysis in accordance with the current circulars or guidelines published by the DP&E and submit the analysis with the development application.

In accordance with the SEARs and SEPP 33, a preliminary risk screening of the Project was undertaken by SLR, finding that the Project is considered potentially hazardous due to the amount of LPG to be stored on site. A Preliminary Hazard Analysis (PHA) was therefore prepared for the Project (SLR, 2015c). The PHA found that the operation of the Project meets the criteria laid down in *HIPAP 4 Risk Criteria for Land Use Safety Planning,* and would not cause any risk, significant or minor, to the community.

The PHA is discussed further in **Section 6.9**, with the full report attached in **Appendix J**.

4.5 Local Environment Plan

Local Environmental Plans (LEPs) are legal EPIs that guide planning decisions for local government areas. They allow Council's to supervise the ways in which land is used through zoning and development consents.

The development site is zoned RU1 Primary Production under the provisions of the Narrandera LEP. The objectives of this zone include:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

Intensive livestock agriculture is permissible, with development consent, within the RU1 Primary Production zone. The proposed poultry development is therefore permissible, with development consent, under the provisions of the LEP.

As described in **Section 3.4.1**, an element of the Project involves the construction of farm managers' accommodation within the development site to house farm staff. Clause 4.2C of the Narrandera LEP contains development standards relating to the erection of dwelling houses in the RU1 Primary Production zone, one of which (clause 3a) states that development consent must not be granted for the erection of a dwelling house on land unless the land is a lot that is at least the minimum lot size shown on the Lot Size Map in relation to that land. This minimum lot size is 400 hectares, which is greater than the individual lot sizes within the development site on which the farm managers' accommodation are proposed to be constructed.

However, in the context of the proposed development, clause 4.2C of the Narrandera LEP is not a relevant consideration in determining the development application pursuant to section 79C(1) of the EP&A Act, due to the following points:

- the objective of the development standard in clause 4.2C of the Narrandera LEP is to minimise unplanned rural residential development on land in the RU1 Primary Production Zone;

- the proposed development is not for rural residential development, it is for an Intensive Livestock Agriculture Project. While one element of the proposed development comprises the construction of farm managers' accommodation, this accommodation is ancillary and incidental to the Project and is not a type of 'rural residential development' which is intended to be regulated by clause 4.2C of the Narrandera LEP; and

- in light of the above, it is not relevant to consider the application of the development standard to an isolated and incidental component of the Project.

4.6 Development Control Plan

Development Control Plans (DCPs) differ from EPIs in that they are never more than factors to be considered. DCPs are not legally binding even though they might spell out planning policy and development standards in quite specific terms.

The Narrandera Development Control Plan 2012 was made under section 74(C)(1) of the EP&A Act and applies to all land within the Narrandera LGA. However Clause 11 of the SRD SEPP states that DCPs do not apply to SSD Projects. Clause 7 of the SRD SEPP also states that in the event of an inconsistency between the SRD SEPP and another environmental planning instrument, the SRD SEPP prevails to the extent of the inconsistency.

Therefore the Narrandera Development Control Plan 2012 is not applicable to the Project.

Section 5

Issue Identification and Consultation



5 ISSUE IDENTIFICATION AND CONSULTATION

5.1 Identification of Issues

The key issues associated with the Euroley Poultry Production Complex warranting detailed investigation and reporting were identified through:

- The environmental context of the development site and surrounding locality (see **Sections 2** and **6**);
- The legislative framework applicable to the development (see **Section 4**);
- A broad brush pre-project environmental risk assessment (see **Section 5.2**);
- Consultation undertaken with various local and State government agencies, including the SEARs (SSD 14_6882) issued by the DP&E (see **Section 5.3**); and
- Specialist studies completed as part of the preparation of the EIS (see **Section 6**).
- Numerous guideline documents and policies were also consulted, including the following:
    - *NSW Department of Primary Industries (2012) Best Practice Guidelines for Meat Chicken Production in NSW – Manual 1 and Manual 2 (*NSW Department of Primary Industries, 2012);
    - *Preparing a Development Application for Intensive Agriculture in NSW* (NSW Department of Planning and NSW Department of Primary Industries 2006); and
    - *EIS Guideline – Poultry Farms* (Department of Urban Affairs and Planning 1996).

5.2 Pre-Project Risk Assessment

A pre-project broad brush risk assessment was conducted by SLR and ProTen personnel in order to:

- Identify those issues relating to the Project that represent the greatest risk to the local environment and surrounding populace; and
- Assist in setting (and justifying) priorities for the level of assessment required to address each identified risk in the EIS.

A qualitative risk assessment methodology, which was developed in accordance with the requirements of the *Australian Standard AS/NZS 31000:2009 – Risk Management – Principles and Guidelines*, was utilised to provide a consistent and reliable approach. Where the individual risks were considered unacceptable, or where a knowledge gap was identified, specialist studies were commissioned and additional mitigation measures and/or management responses were nominated.

The Risk Register is contained within **Appendix D**, and was prepared to document the findings and outcomes of the risk assessment. The various issues considered, in no particular order, were:

- Project Planning and Consultation
- Land Use Conflict
- Air Quality
- Noise
- Traffic and Transport
- Lighting
- Flora and Fauna
- Water Resources
- Heritage
- Visual Amenity
- Greenhouse Gas
- Site Services

- Waste Management
- Chemicals
- Poultry Disease
- Pest Populations
- Cumulative Impacts
- Socio-Economic

The risk assessment did not identify any high risk issues (Level IV or V). This can primarily be attributed to the location of the development site, including distance from urban areas, low density of surrounding residential dwellings, the nature of the existing environment, and the best management practices and mitigation measures to be employed by ProTen. There were however three medium risks (Level III) identified associated with odour emissions, traffic generation and site servicing.

Section 6 contains a comprehensive and focussed assessment of the issues identified by the risk assessment to a level of detail commensurate with the risk ranking and significance of each issue. The majority of the issues have been investigated and reported on by SLR, with specialist consultants engaged to assess air quality, noise and traffic issues, as noted above. As outlined in **Section 3.8**, arrangements for the servicing of the development in terms of electricity, gas and water are underway and ProTen has commenced extensive consultation with the relevant stakeholders in this regard.

5.3 Consultation

Consultation was undertaken throughout preparation of this EIS with various local and State government agencies and additional stakeholders. **Table 5.1** provides a summary of the consultation, including the purpose and key outcomes of the consultation.

ProTen will continue to consult with the relevant government agencies, as necessary, during the evaluation of the development application to discuss any issues and address additional information requirements. ProTen will also undertake consultation, as required, with the relevant government agencies during the development commissioning and operation phases.

Table 5.1 Stakeholder Consultation

Stakeholder		Mode of Engagement	Date	Purpose of Consultation/Outcomes
Local Government	Narrandera Shire Council (NCS)	Phone call	11 Feb 2015	ProTen briefed Council on the Project.
		Email	25 Feb 2015	ProTen provided Council with a plan detailing the proposed development layout. Extensive consultation was conducted with Narrandera Shire Council during the preparation of a development application and accompanying EIS for a proposed poultry production complex at an alternative site to the current development site (refer **Section 8.2**). A similar poultry complex was proposed at a property 5 km east of the development site. The EIS was prepared and exhibited, however ProTen did not proceed with the application due to reasons outlined in **Section 8.2**, instead selecting the current development site as a preferred location for the proposed poultry production complex. An understanding of Council's requirements and expectations with regards to the poultry development was gained throughout the preparation of the EIS for the previous development application. Key issues raised during this process were in relation to potential impacts of flooding, groundwater related impacts and the process proposed to dispose of birds in the event of a mass mortality on site. These aspects of the development are discussed in detail in this EIS in **Sections 6.5, 6.6** and **6.12.2** respectively. ProTen has continued to liaise with Council to inform them of the current proposed development.
	Murrumbidgee Shire Council	Phone calls	Feb 2015	The development site is approximately 2 kilometres from the boundary of the Narrandera/ Murrumbidgee LGAs. The proposed powerline from Coleambally substation will travel through the Murrumbidgee LGA, and hence ProTen have contacted Council to inform them of the proposed development.
State Government	DP&E	Submission of Briefing Paper	19 Dec 2014	Submission of Project Briefing Paper and request for SEARs.
		Meeting	20 Jan 2015	SLR and ProTen met with the DP&E to brief the Department on the development.
	EPA	Phone call	31 Jul 2014	Numerous discussions were held with the EPA during the preparation of a development application and accompanying EIS for the above-mentioned proposed poultry production complex at an alternative site to the current development site (5 km to the east). Discussions included the likely odour criteria to be applied to the development. EPA indicated 7 odour units was the likely criterion.
	RMS	Site inspection Emails	Jan 2015 13 Feb 2015 & 20 Feb 2015	RMS representatives attended a site visit with ProTen to discuss the most appropriate location for the intersection of the proposed access road to the development site with the Sturt Highway. The required intersection treatment was also discussed during this site inspection, with RMS noting in subsequent email communication that the intersection treatment will depend on the

Stakeholder		Mode of Engagement	Date	Purpose of Consultation/Outcomes
				characteristics of the traffic generation as a result of the development and existing highway traffic volumes. Any treatment should also accommodate at least 10 years traffic growth. The traffic impact assessment of the Project conducted by RoadNet (2015) considered all of these points raised by RMS, as discussed in detail in **Section 6.4**.
	NSW T & I - Crown Lands	Phone call and emails	11 Feb 2015 26 Feb 2015	As discussed in **Section 2.3** a number of Crown roads exist within the development site. Crown Lands were consulted during preparation of the EIS to discuss the possible impact of the development on these Crown roads, and the potential requirement for ProTen to apply to close and purchase the roads.
	OEH	Phone call	11 Feb 2015	Seeking clarification of OEH's requirements following receipt of the SEARs.
		Email	13 Feb 2015	Clarification of OEH's requirements with respect to flooding.
		Phone call/email	24 Feb 2015	Clarification of OEH's requirements with regards to surface water and stormwater management.
	Department of Primary Industries (DPI)	Phone calls and emails	December 2014	Discussions with the Dairy and Intensive Livestock Industries Unit, specifically relating to biosecurity and the DPI's preferred options for mass disposal strategies for poultry developments. The DPI provided reference material to assist in the development of the disposal strategy, including the paper '*The Biosecurity of Mass Poultry Mortality Composting* '(RIRDC, 2014) as referenced in **Section 6.12.2**, as well as the AUSVETPLAN for disposal procedures.
	DPI - NOW	Phone call	12 Feb 2015	Seeking clarification from NOW on environmental assessment requirements relating to water resources.
Neighbours	Belvedere - Select Harvest (R1, R2, R3, R4, R5)	Meetings	Dec 2014 Jan/Feb 2015	The Belvedere property is an almond farm owned by Select Harvest, and encompasses receptors R1, R2, R3, R4 and R5 on **Figure 1.2**. Several meetings have been held between ProTen and Belvedere to inform them of the Project.
	Heath and Mahy properties (R9, R10 and R12)	Meetings/phone calls	Dec 2014/Jan 2015	ProTen have entered into a conditional contract to purchase the development site from the current landowners, whom also own R9, R10 (Heath) and R12 (Mahy).
	Properties through which powerline will be constructed.	Meetings	Dec 2014/Jan 2015	Discussion of possible HV power route across nearby properties, as follows: Tubbo Station, Sustainable Farming, and Coleambally Irrigation.
Aboriginal Community	Leeton and District Local Aboriginal Land Council (L&DLALC)	Letters, phone calls, emails, and fieldwork.	Stage 1 began on 6 January 2015. Fieldwork conducted on	Consultation with the Aboriginal community was undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (ACHCRs) (DECCW, 2010). Stage 1 advertising for expressions of interest in the Project began on 06 January 2015. The following organisations were contacted in order to identify Registered Aboriginal Parties (RAPs):

Stakeholder		Mode of Engagement	Date	Purpose of Consultation/Outcomes
			10 and 11 February 2015 with the L&DLALC	• Office of the Registrar (ALRA); • Native Title Services Corporation (NTSCORP); • OEH, Southwest Region; • National Native Title Tribunal (NNTT); • Local Lands Services; • Narrandera Shire Council; • Narrandera Local Aboriginal Land Council (NLALC); and • Leeton & District Local Aboriginal Land Council (L&DLALC) Only one expression of interest was received for the Project, which was from the L&DLALC. An information package and details of fieldwork were sent to L&DLALC on 5 and 6 February 2015. L&DLALC confirmed that they would send a representative for the scheduled fieldwork on 10 and 11 February 2015. OzArk sent L&DLALC a draft version of the report on 24 February 2015 with a request for feedback. In reply, L&DLALC requested that they be contacted in the event that any unexpected finds of Aboriginal heritage. This request is included in the management recommendations, as documented in **Section 6.8.4**, and in **Appendix J** (OzArk, 2015). Following completion of the fieldwork and the review of the Aboriginal Archaeological Assessment Report (OzArk, 2015) by the L&DLALC, the location of the southern-most PPU (PPU 5) was altered to avoid clearing within an area of mapped vegetation, as discussed in **Section 8.2.3**. Given this small amendment, the revised report was re-sent to the L&DLALC for review.
Other Stakeholders	Energy Serve	Phone calls and meetings	Jan/Feb 2015	Energy Serve engaged to look into routes, design and costs for new High Voltage (HV) line to development from the substation at Coleambally
	Essential Energy	Phone calls and meeting	Jan/Feb 2015	Power requirements for the new development discussed with Essential Energy, including options to get power into the area.
	Baiada	Phone calls and meetings	Dec 2014	Discussions between ProTen and Baiada regarding contingency plans for when the Hanwood facility cannot take birds for processing in the event of an emergency situation such has flooding. Baiada confirmed that they have contingency plans in place in the event that the Hanwood plant is unavailable or inaccessible, which consider alternative transport routes between farms and the Hanwood plant, as well as the capacity and agreements with alternate processing facilities in both NSW and interstate. These discussions assisted in the development of the flood management plan, including alternative transport options, as detailed in **Section 6.5.**