OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN (OEMP)

Rushes Creek Poultry Production Farm
1582 Rushes Creek Road, Rushes Creek NSW 2346

Prepared for:

ProTen Tamworth Pty Ltd
Suite 1103, Level 11
99 Mount Street
North Sydney NSW 2060
Australia

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BASIS OF REPORT

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DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
631.30722.00100-R01-v0.1	30 August 2022	Anna Kleinmeulman (SLR)	Hugh Jones (SLR)	
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631.30722.00100-R01-v0.1	11 August 2022	Anna Kleinmeulman (SLR)	Hugh Jones (SLR)	Bill Williams (ProTen)

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1 Introduction

1.1 Background

ProTen Tamworth Pty Limited (ProTen) owns and operates the Rushes Creek Poultry Production Farm (Rushes Creek) located on Rushes Creek Road, Rushes Creek NSW in the Tamworth Local Government Area (LGA). In total, Rushes Creek shall comprise 54 fully enclosed climate-controlled poultry sheds, where broiler birds are grown for the purpose of producing poultry meat (for human consumption), and associated support and servicing infrastructure. The farm has a site capacity of 3,051,000 birds at any one time. For the purposes of this document, the Development is described in detail in the following documents:

- Rushes Creek Poultry Production Farm, SSD 7704, Environmental Impact Statement (SLR, 2018) and appendices contained within;
- Rushes Creek Poultry Production Farm, SSD 7704, Modification 3 Modification Report (EME Advisory, 2022); and
- Rushes Creek Poultry Production Farm SSD 7704, Modification Report – Condition B53(a) (EME Advisory, 2021).

The most recent approved modification is known a Modification 3 and is referred to as Consolidated Consent SSD 7704-Mod 3. Modification 3 was granted consent on 1 July 2022 and is to allow concurrent construction and operations of Stage 1 (Farm 2), while an alternate power supply solution is being approved and installed. Concurrent construction and operation are staged on Farm 2 as depicted in **Table 1**.

Stage 2 of the farm, being Farms 1, 3, and 4 shall be constructed after completion of concurrent construction of Stage 1, as described above. A future modification is being prepared that will allow the entire Rushes Creek Poultry Production Farm to operate off-grid by solar, batteries and back-up generators.

Table 1 Concurrent Construction & Operations

Stage	Sub-Stage	Construction Activities	Operational Activities	Estimated Operation Date
1	1A	Earthworks, northern site access road and internal roads	None	None
1	1B	Sheds 1 – 8 and ancillary infrastructure	None	None
1	1C	Sheds 9 – 12	Sheds 1 – 8	September 2022
1	1D	Sheds 13 – 16	Sheds 1 – 12	September 2022 – November 2022
1	1E	Sheds 17 – 18	Sheds 1 – 16	October 2022 – January 2023
1	1F	Nil	Sheds 1 – 18	December 2022 – March 2023

1.2 Document Purpose and Aims

This *Operational Environmental Management Plan* (OEMP) has been prepared to satisfy the following commitment made in the EIS:

An OEMP will be developed for approval prior to commencing operation. It will describe the operational activities to be undertaken on site, nominate the roles and responsibilities for all relevant personnel and include procedures for complaints and incident management. The OEMP will also include the following issue specific management plans:

- *Air Quality Management Plan;*
- *Surface Water Management Plan;*
- *Biodiversity Management Plan;*
- *Aboriginal Cultural Heritage Management Plan;*
- *Waste Management Plan;*
- *Landscaping Management Plan;*
- *Mass Mortality Disposal Strategy; and*
- *Pollution Incident Response Management Plan.*

It will also specify the environmental management and mitigation measures to be implemented in relation to traffic, noise, energy efficiency and pest control.

The OEMP aims to assist ProTen to minimise the potential for impact to the local environment and surrounding populace during the operational phase of the Development through:

- Complying with the relevant conditions imposed by Development Consent SSD 7704 (as amended) and Environment Protection Licence EPL 21569;
- Implementing appropriate environmental mitigation measures and management practices, including those committed to in the EIS;
- Implementing current industry best practice standards, including relevant requirements/ recommendations in the *RSPCA Approved Farming Scheme Standard – Meat Chickens* (RSPCA Australia 2020) (RSPCA Standard) and *Best Practice Management for Meat Chicken Production in NSW* (Department of Primary Industries [DPI] 2012) (Best Practice Guidelines);
- Ensuring any complaints relating to the operation of the poultry farm are promptly and effectively received, handled and addressed; and
- Ensuring any environmental incident caused by or relating to the operation of the poultry farm is effectively responded to and managed.

The following issue-specific management plans support this OEMP and are appended:

- *Air Quality Management Plan (AQMP)* (*Astute Environmental Consulting 2022*);
- *Operational Drivers Code of Conduct (ODCC) (SLR Consulting Australia 2021);*
- *Soil & Water Management Plan (SWMP) (Sage Environmental Sciences 2022);*
- *Emergency Disposal and Biosecurity Protocol (EDBS) (SLR Consulting Australia 2022);*
- *Aboriginal Cultural Heritage Management Plan (ACHMP) (OzArk Environment & Heritage 2021 & 2022 (revised));*
- *Pollution Incident Response Management Plan (PIRMP) (SLR Consulting Australia 2022*);

- *Greenhouse Gas Assessment (GHG) (Astute Environmental Consulting 2022);*
- *Emergency Plan (EP) (ProTen 2022);*
- *Long Term Environmental Management Plan (LTEMP) (SLR Consulting Australia 2021);*
- *Community Consultation Plan (CCP) (EME Advisory 2021); and*
- *Site Remediation and Validation Report (SR&VR) (SLR Consulting Australia 2021).*

2 Development Description

2.1 Development Site

The Development Site comprises approximately 1,016 hectares (ha) of rural land in an area known as Rushes Creek approximately 43 kilometres (km) northwest of Tamworth and 33 km northeast of Gunnedah in the New England North West region of New South Wales (NSW). The nearest populated areas are the villages of Somerton and Manilla, which are located approximately 12 km to the southeast and approximately 13 km to the northeast, respectively.

Rushes Creek Road, which is a sealed two-lane rural road, forms the Development Site's eastern boundary and connects the Development Site to the Oxley Highway (NSW State Route B56). The Oxley Highway provides a connection to Tamworth, being the area's major centre and home to the various poultry industry service facilities required to support a broiler production farm. The Namoi River is located to the north of the Development Site and Lake Keepit is located to the west and southwest of the Site.

Rushes Creek Poultry Farm is situated across multiple lots, including:

- Lot 171 DP 752169 – 1582 Rushes Creek Road, Rushes Creek;
- Unformed Council public road traversing through Lot 171 DP 752169;
- Lot 62 DP 1276824 – 1582 Rushes Creek Road, Rushes Creek;
- Lot 143 DP 752189 – 'Kyora' Rushes Creek Road, Rushes Creek;
- Lot 1 DP 1108119 – 'Kyora' Rushes Creek Road, Rushes Creek;
- Lot 86 DP 752169 – 1582 Rushes Creek Road, Rushes Creek;
- Lot 101 DP 752169 – 1582 Rushes Creek Road, Rushes Creek;
- Lot 118 DP 752169 – 1582 Rushes Creek Road, Rushes Creek;
- Lot 1 DP 1132078 – 'Kyora' Rushes Creek Road, Rushes Creek;
- Lot 26 DP 752169 – Rushes Creek Road, Rushes Creek;
- Lot 1 DP 1132298 – 'Kyora' Rushes Creek Road, Rushes Creek; and
- Lot 1 DP 44215 – 1582 Rushes Creek Road, Rushes Creek.

Rushes Creek locality adjoins Manilla and New Mexico to the north, Klori to the east, Carroll and Somerton to the south, and Keepit and Wongo Creek to the west, refer to **Figure 2.**

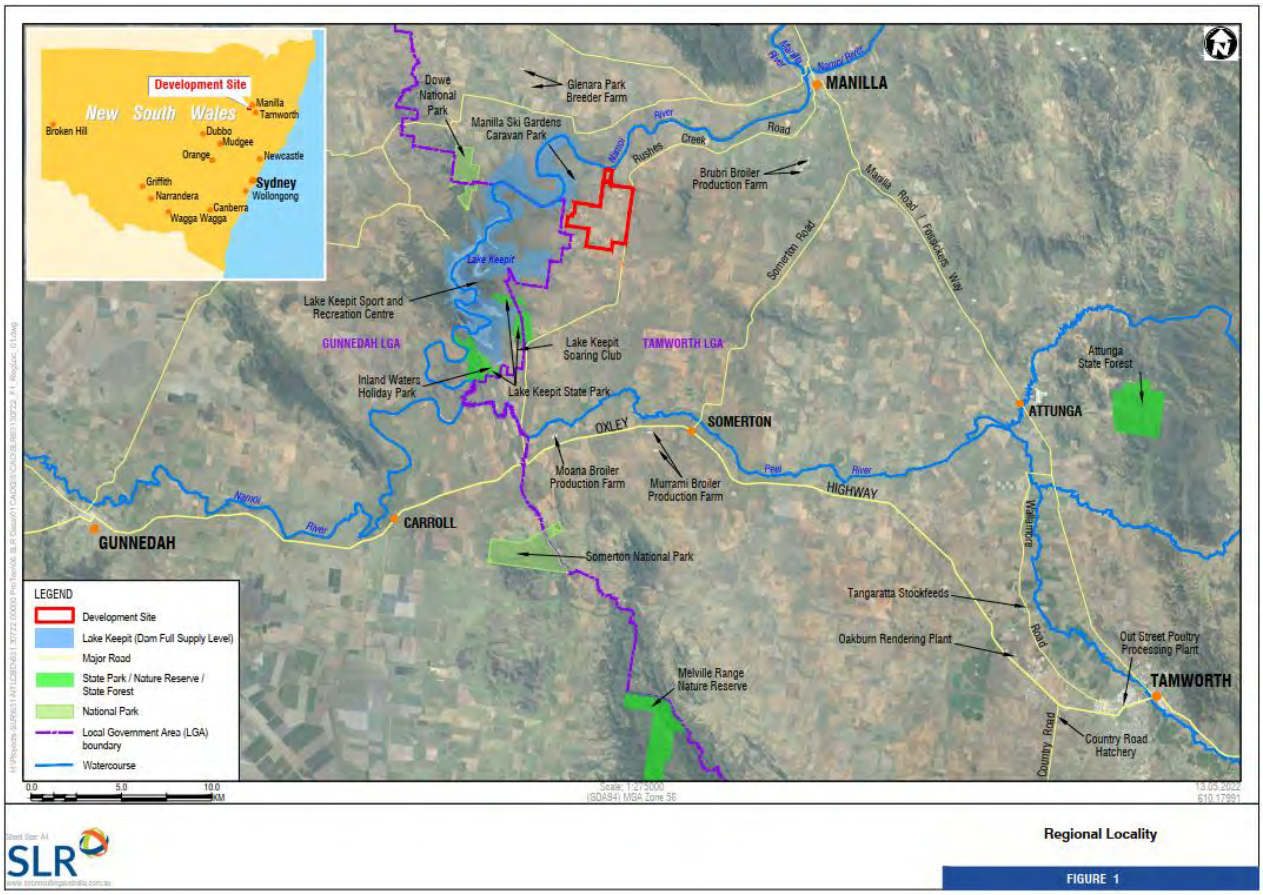


Figure 1 Location of the Site (Source: SLR Consulting Australia Pty Ltd)

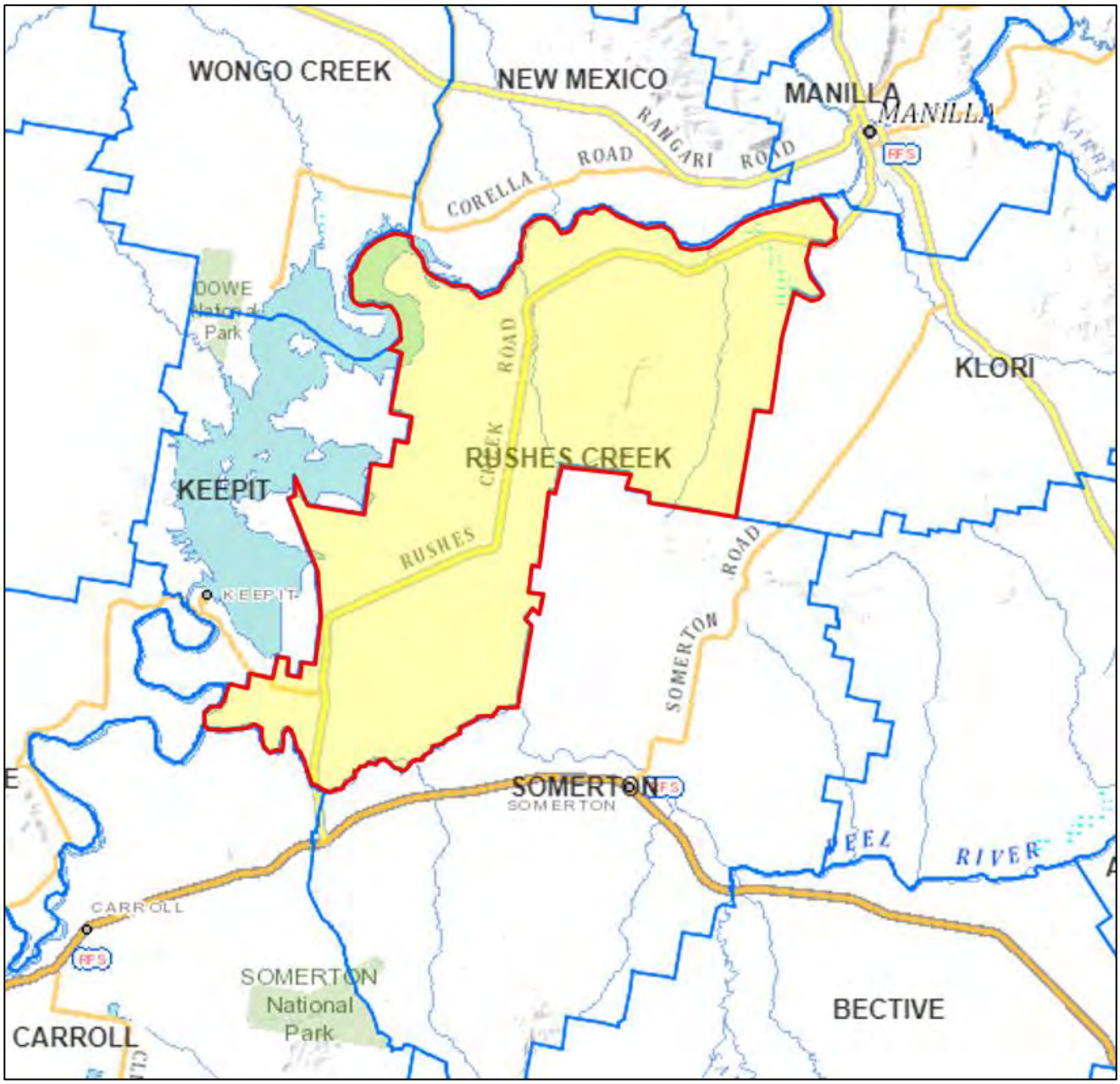
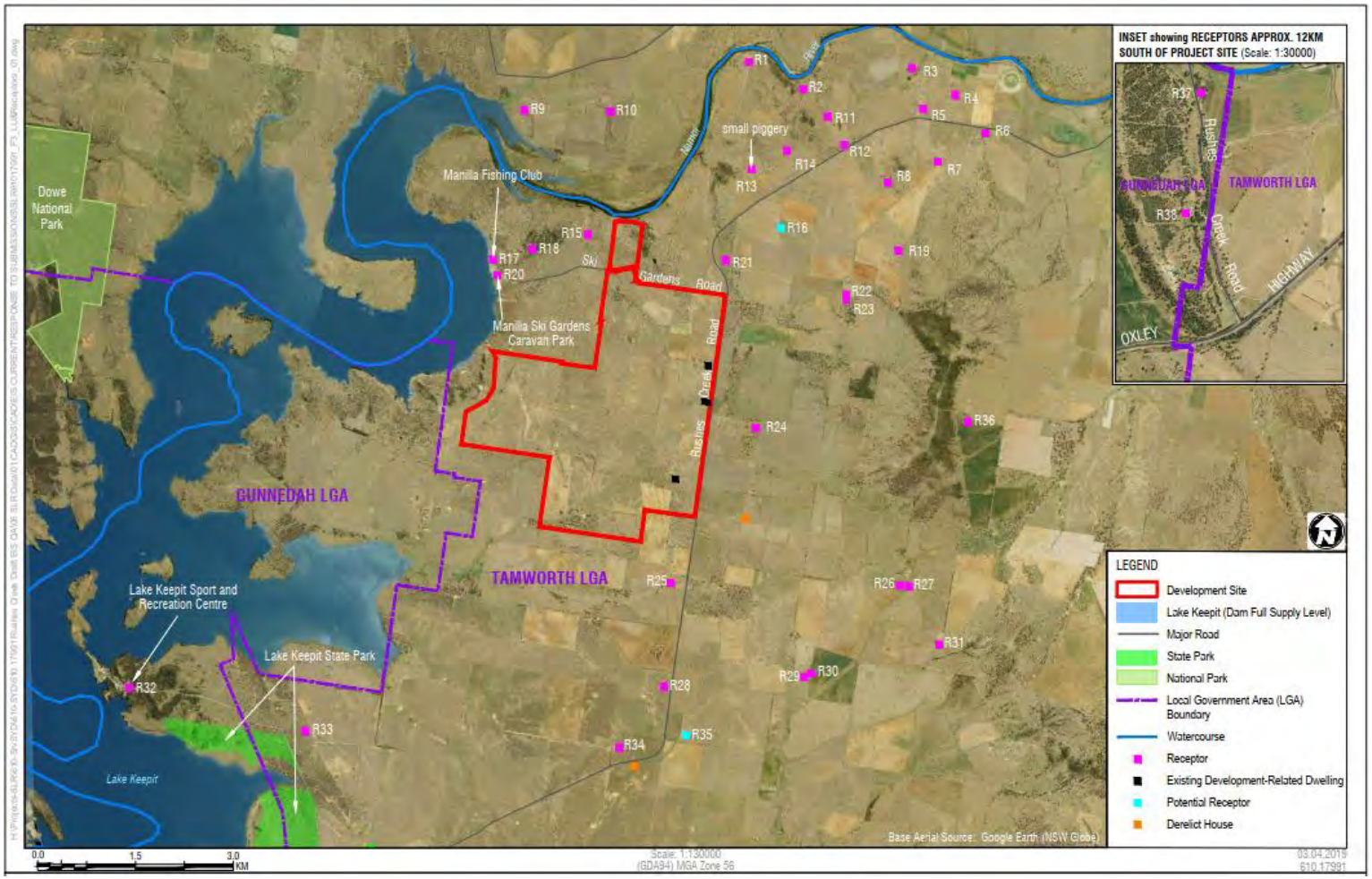


Figure 2 Cadastral Suburb Boundaries

2.2 Surrounding Receptors

Rushes Creek is located within a rural setting that is removed from any populated areas, with the nearest being the village of Manilla approximately 12.5km to the northeast. The site also has a relatively low density of surrounding residences, with the nearest identified on **Figure 3.**

Figure 3 Location of Receptors (Source: SLR Consulting Australia Pty Ltd)



2.3 Development Overview

Development Consent SSD 7704 was issued by Department of Planning & Environment (DPE) on 14 April 2020. The Development comprises four individual poultry production units (PPUs), which are identified as Farms 1 to 4, where broiler birds will be grown for the purpose of producing poultry meat (for human consumption), shown in **Figure 4.** Each farm will contain between 10 and 18 tunnel-ventilated fully-enclosed climate-controlled poultry sheds, which will each have the capacity to house 56,500 birds, along with associated support and servicing infrastructure. The Development will comprise a total of 54 poultry sheds, housing a combined site population of 3,051,000 birds.

Following approval, subsequent modifications have been consented, with the most recent modification being Modification 3, which allows the concurrent construction and operations of Farm 2 (Stage 1) and the temporary use of diesel generators for 12 months, while an alternate power supply solution is approved and constructed. The alternate power supply proposed is a completely off-grid power solution utilising solar panels, batteries and backup generators. The concurrent construction and operations shall be undertaken as detailed in **Table 2**.

Table 2 Concurrent Construction & Operations

Stage	Sub-Stage	Construction Activities	Operational Activities	Estimated Operation Date
1	1A	Earthworks, northern site access road and internal roads	None	None
1	1B	Sheds 1 – 8 and ancillary infrastructure	None	None
1	1C	Sheds 9 – 12	Sheds 1 – 8	September 2022
1	1D	Sheds 13 – 16	Sheds 1 – 12	September 2022 – November 2022
1	1E	Sheds 17 – 18	Sheds 1 – 16	October 2022 – January 2023
1	1F	Nil	Sheds 1 – 18	December 2022 – March 2023

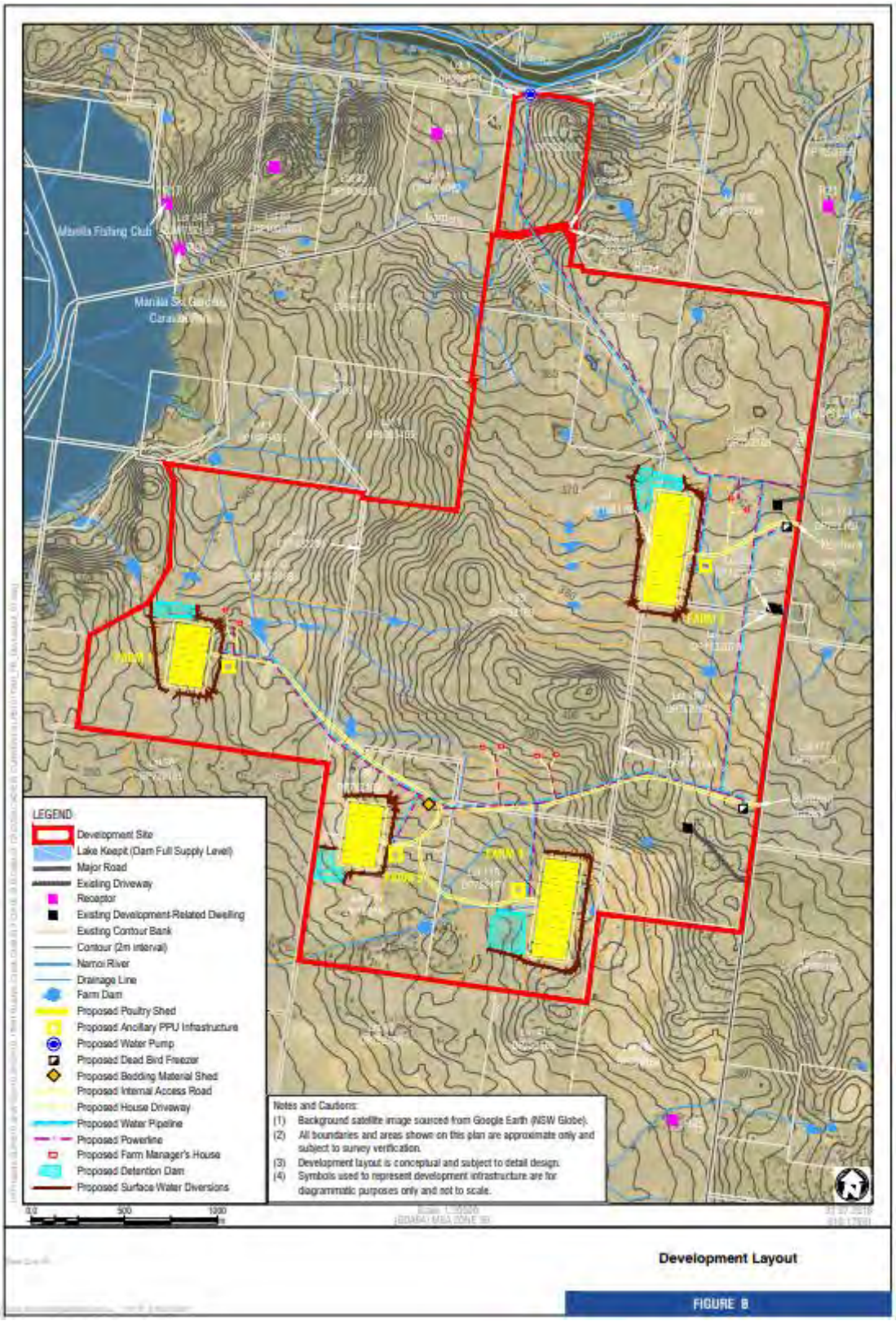


Figure 4 Indicative Development Layout (Source: SLR Consulting Pty Ltd)

Table 1 provides a summary of some of the key elements of the approved Rushes Creek poultry farm.

Table 3 Approved Poultry Farm Summary

Aspect	Approved Poultry Farm Operation
Purpose	Birds grown to produce poultry meat
Number of PPUs	Four – farms 1, 2, 3 and 4
Total disturbance footprint	Approximately 87.78 ha
Number of poultry sheds	Farm 1 – 10 sheds Farm 2 – 18 sheds Farms 3 – 10 sheds Farm 4 – 16 sheds
Type of poultry sheds	Tunnel-ventilated, fully enclosed, climate controlled
Poultry Shed dimensions	160m long x 18m wide x 4.7m high (to ridge)
Poultry shed areas	Each shed – 2,880m^2 Total – 155,520m^2
Bird numbers	Each shed – 56,500 birds Farm 1 – 565,000 birds Farm 2 – 1,017,000 birds Farm 3 – 565,000 birds Farm 4 – 904,000 birds Total – 3,051,000 birds
Maximum bird density within sheds	34 kg/m^2
Hours of operation	24 hours, 7 days per week
Production cycle length	Approximately 65 days, comprising maximum bird occupation of 55 days and cleaning phase of 10 days
Production cycles per year	Approximately 5.6 on average

Support / servicing infrastructure	• Eight houses to accommodate farm managers
	• Two access driveways from Rushes Creek Road and internal access roads
	• Water supply infrastructure to extract, transfer and store water from the Namoi River
	• Internal electrical supply infrastructure
	• Bedding material storage shed
	• Two dead bird freezers; and
	• At each PPU
	  • Staff amenities and workshop (office, change rooms, toilets, workshop, chemical store, and pump room)
	  • Feed silos
	  • Water storage tanks

Aspect	Approved Poultry Farm Operation
	• Solar panels • Fuel and gas storage facilities • Generators • Vehicle wheel wash • Ring roads • Surface water management system, including upstream diversions • Aerated wastewater treatment system
Vehicle access	Two access driveways from Rushes Creek Road constructed to accommodate a basic left turn (BAL) treatment. Internal access roads and ring roads around each PPU constructed as all-weather rural-type roads.
Traffic generation	Heavy vehicles – approximately 8,455 per year. Light vehicles – approximately 4,597 per year.
Servicing	Electricity – Stage 1 will initially be powered by diesel generators solely for up to 12 months. Following this period, the farm will be powered by solar panels, batteries and backup generators. Gas – bulk liquid petroleum gas (LPG) storage tanks. Water – licensed surface water allocation from the Namoi River.
Waste management	Systems to manage all waste streams generated by the poultry production operation to ensure no on-site waste storage or disposal.
Surface water management	An engineered surface water management system at each PPU comprising upstream diversions, grassed swale drains, table drains and a detention dam.
External lighting	One light fixture over the front and rear loading-unloading areas of each poultry shed.
Landscaping	Landscape plantings to improve the visual and environmental amenity of the Development Site, including vegetation screens around the perimeter of each PPU.

2.4 Operational Details

While the 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 processing (slaughter) weight they will be removed from the sheds and transported from Site any time between 7:00 pm and 4:00 am.

There will typically be one daily shift for farm workers commencing at 7:00 am and finishing at 4:00 pm.

3 Environmental Management Framework

3.1 Regulatory Approvals

3.1.1 Development Consent

The Rushes Creek poultry farm must be operated in compliance with Development Consent SSD 7704, which was issued by Department of Planning & Environment (DPE) on 16 April 2020. Following consent, three modifications have been approved by DPE:

- Modification 1 – was approved by DPE on 15 June 2021 amending the remediation strategy of the former sheep dip from offsite disposal to in situ containment with subsequent relocation of one approved manager's dwelling on Farm 2; and deletion of Condition B33(e).
- Modification 2 – was approved by DPE on 2 September 2021 amending Condition B53(a) to correct the timing of the requirement to establish vegetation screens around each poultry production unit.
- Modification 3 – was approved by DPE on 1 July 2022 allowing concurrent construction and operations to occur on Stage 1 (Farm 2). This modification also allowed the temporary use (12 months) of diesel generators as the sole power source until an alternate solution is approved and constructed.

A copy of Development Consent SSD 7704 (as modified) is contained in **Appendix A** and the consent conditions that relate to the on-going operation of the poultry farm are captured in **Section 4**.

3.1.2 Environment Protection Licence

As a result of having the capacity to accommodate more than 250,000 birds at any time, the Rushes Creek poultry farm is a premises-based activity under Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act) requiring the occupier to hold an environment protection licence (EPL) administered by the Environment Protection Authority (EPA).

Rushes Creek operates under the provisions of EPL 21569 for the scheduled activity of "livestock intensive activities". It covers the fee-based activity of "bird accommodation" to a scale of greater than (>) 1,000 tonnes.

A copy of EPL 21569 is contained in **Appendix B** and the licence conditions that relate to the on-going operation of the poultry farm are captured in **Sections 4** and **5**.

3.1.3 Water Licencing

The poultry operation, at maximum capacity, will require a total water supply of around 330 megalitres (ML) per year (0.9 ML per day averaged over a year), which includes water for shed ventilation, bird consumption, shed cleaning and vehicle wheel washes. This will be serviced via the extraction of surface water from the Namoi River under the provisions of the two existing water access licences (WALs) held by ProTen:

- WAL41834 – general security licence with a share component of 479.2 units from the Upper Namoi Regulated River Water Source; and
- WAL37794 - general security licence with a share component of 120 units from the Upper Namoi Regulated River Water Source.

3.2 ProTen Operational Team

3.2.1 ProTen Contact Details

Table 4 lists the key ProTen contacts in relation to the operational phase of the Rushes Creek poultry farm.

Table 4 ProTen Site Management Team

Role	Name	Contact Details
Site Management		
Farm Manager	Jae St Leon	Ph: 0476 507 171 Email: jaestl@proten.com.au
Assistant Farm Manager	Not Yet Allocated	Ph: N/A Email: N/A
Senior Management		
Regional Operations Manager	Graeme Attwell	Ph: 0447 048 321 Email: graemea@proten.com.au
NSW Operations Manager	Graham Kirby	Ph: 0438 842 459 Email: graham@proten.com.au
Risk Manager	Jim Rimmer	Ph: 02 6962 1770 / 0438 750 974 Email: jrimmer@proten.com.au
Safety, Health, Environment & Quality (SHEQ) Advisor	Kathryn Singh	Ph: 02 6962 1770 / 0434 550 789 Email: kates@proten.com.au
ProTen Environmental Hotline		
Environmental Enquiries and Complaints		Ph: 1800 776 994

3.2.2 Roles and Responsibilities

The key personnel responsible for operational environmental management at Rushes Creek are listed in **Table 5** along with their respective key responsibilities.

Table 5 ProTen Roles and Responsibilities

Role	Key Responsibilities
Site Management – farm managers	• Overall responsibility for environmental management and compliance with the development consent, EPL and OEMP. • Coordinate routine environmental site inspections and required maintenance works. • Record, notify, investigate and respond to any complaints and/or environmental incidents and, where necessary, develop and implement corrective actions. • Notify the NSW Operations Manager and SHEQ Advisor in relation to any complaints and/or environmental incidents. • Ensure appropriate environmental inductions and training for employees and contractors, including their requirements under this OEMP.
NSW Operations Manager	• Oversee the implementation of this OEMP and provide adequate resources to enable implementation of this OEMP. • Notifications to regulatory authorities for any incident that causes or threatens to cause material harm to the environment. • Coordinate any reporting and/or liaisons with regulatory authorities.
SHEQ Advisor	• Support Site Management in relation to environmental management and compliance matters. • Support the NSW Operations Manager and Site Management with any complaints and/or environmental incidents. • Support Site Management with site induction and training requirements for employees and contractors. • Approve / reject minor amendments to this OEMP (see **Section 8**).
All employees and contractors	• Ensure familiarity, implementation, and compliance with this OEMP. • Support ProTen's commitment to environmental management and compliance. • Work in a manner that will not harm the environment or impact on surrounding receptors. • Report all complaints and environmental incidents to Site Management without delay. • Report any inappropriate operational and/or environmental management practices to Site Management without delay.

3.2.3 Inductions and Training

Site Management, with the assistance of the SHEQ Advisor/Officer, will ensure that all employees and contractors are suitably inducted and trained prior to commencing any work on site. Training in relation to environmental responsibilities and implementation of this OEMP will take place initially through the site induction and then on an on-going basis through "toolbox talks" (or similar).

The topics to be covered during the environmental inductions and toolbox talks include:

- General site maintenance and management expectations and requirements;
- Familiarisation with site environmental mitigation and management measures in this OEMP;
- Biosecurity requirements;
- Appropriate response and management of complaints received from the public, regulatory authorities and/or other stakeholders in accordance with the strategy detailed in **Section 6**; and
- Appropriate response and management of environmental incidents in accordance with the strategy detailed in **Section 7**.

3.2.4 Key Messages

The following key messages are important to ProTen and should be communicated to employees and contractors, the community and other stakeholders as required/appropriate:

- ProTen is a leading poultry broiler farm developer and operator and is 100% Australian-owned.
- ProTen is committed to open communications and fostering good relationships with the surrounding community and other stakeholders.
- ProTen is committed to current industry best practice environmental management and bird welfare.
- ProTen has committed to a suite of development design features and best practice environmental management and mitigation measures at Rushes Creek to minimise the potential for adverse impacts on the surrounding environment and community.

3.3 Regulatory Authorities

Table 6 lists the regulatory authorities and organisations that may have an interest in the Rushes Creek poultry farm.

Table 6 Regulatory Authority Contacts

Regulatory Authority	Contact Details
Tamworth Regional Council	
Customer Service Call Centre	Ph: 02 6767 5555 or 1300 733 625 Email: trc@tamworth.nsw.gov.au
Environment Protection Authority	
Environment Line	Ph: 131 555 for pollution and environmental incidents Ph: 02 9995 5555 for other inquiries Email: info@epa.nsw.gov.au

Regulatory Authority	Contact Details
Armidale Regional Office	Ph: 02 6773 7000
Department of Primary Industries	
Biosecurity	Ph: 1800 675 888 Email: quarantine@dpi.nsw.gov.au
Emergency Animal Disease Hotline	Ph: 1800 675 888
NSW Health	
Tamworth Local Health District – Public Health	Ph: 02 6764 8000
SafeWork NSW	
Incident Notification Hotline	Ph: 131 050
Fire and Rescue NSW	
Zone Office Regional North 3 – Peel	Ph: 02 5732 8400
NSW Rural Fire Service	
Headquarters	Ph: 1800 679 737 bushfire information line Email: records@rfs.nsw.gov.au
Tamworth Office	Ph: 02 67627641
Local Land Service	
Tamworth Office	Ph: 02 6764 5900
Heritage NSW	
Aboriginal Cultural Heritage Regulation	Ph: 02 9876 8500 Email: heritagemailbox@environment.nsw.gov.au
Local Aboriginal Land Council	
Tamworth Local Aboriginal Land Council	Ph: 02 6766 9028

4 Environmental management Measures

Key environmental issues associated with the Rushes Creek poultry farm are identified and addressed in the EIS (SLR, 2018). A suite of development design, best management practices and mitigation measures have been committed to minimise the potential for adverse impact on the local environment and surrounding populace. The environmental mitigation and management measures for the operational phase of the farm are provided in the following sub-sections.

4.1 General

Table 7 lists the general environmental mitigation and management measures that will be implemented throughout the life of the poultry farm to minimise the potential for adverse impacts on the local environment and surrounding receptors.

Table 7 General Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
All practicable measures will be implemented to prevent or minimise the risk of adverse impact to the local environment and surrounding populace as a result of the poultry farm operations.	All employees and contractors	On-going
The poultry farm will generally be operated and managed as described in the EIS and in accordance with: • The development consent; • The EPL; and Current industry best practice standards, including the relevant requirements/recommendations in the RSPCA Standard (RSPCA Australia 2020) and Best Practice Guidelines (DPI 2012).	Site Management	On-going
The poultry farm will not exceed a maximum population of 3,051,000 broiler birds at day 1 placement and will not exceed a maximum stocking density of 34 kg/m^2.	Site Management	On-going
The shed down time for cleaning and sanitising between each batch of will be equal to or greater than 9 days.	Site Management	Between each batch
Employees and contractors will be suitably inducted and trained prior to commencing work. Training in relation to environmental matters will take place initially through the site induction and then on an on-going basis through toolbox talks (or similar).	Site Management / SHEQ Advisor	Induction - prior to commencing work. Toolbox talks - on-going.
The complaints and environmental incident management strategies contained within Sections 6 and 7, respectively, will be implemented to ensure that all complaints and incidents relating to the poultry farm are promptly and effectively handled.	All employees and contractors	On-going

4.2 Odour

The primary potential sources of odour emissions from the Rushes Creek poultry farm are identified as:

- Shed management during the 8 week bird production cycle (batch);
- Shed management during shed cleanout at the end of each batch;
- Litter management at the end of each batch; and
- Dead bird management.

Odour issues are directly related to farm operation, with good management practices playing a significant role in reducing the potential for emissions. The AQMP (Astute 2022) contained in **Appendix C** has been prepared for Rushes Creek in accordance with conditions B4 and C1 of SSD 7704 and the requirements of EPL 21569. The mitigation and management measures detailed in the AQMP, which are summarised below in **Table 8**, will be implemented to minimise the potential for adverse odour emissions.

Table 8 Odour Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
Each poultry shed will not exceed a maximum population of 56,500 broiler birds at day 1 placement, and the entire poultry farm (54 sheds) will not exceed a combined population of 3,051,000 broiler birds at day 1 placement.	Site Management	On-going
The maximum stocking density will not exceed the RSPCA specification of 34 kg/m2.	Site Management	On-going
Stocking densities and bird health will be regularly checked and, if necessary, appropriate corrective measures implemented.	Site Management	On-going
Fresh bedding material will be laid throughout the poultry sheds at the start of each batch.	Site Management	Prior to each new batch
Bedding material moisture levels will be regularly checked, with any excessively wet or caked material removed and replaced.	Site Management	On-going
Bird drinkers will be maintained to minimise leakages and help prevent elevated moisture levels within the sheds.	Site Management	On-going
The poultry shed ventilation systems will be maintained to ensure air movement is at design levels.	Site Management	On-going
Shed access points will remain closed at all times other than for allowing access to the sheds.	All employees and contractors	On-going
Dead birds will be collected from the poultry sheds daily and stored in the on-site dead bird freezers prior to being removed from site.	Site Management	On-going
Poultry litter will be promptly removed from the poultry sheds and transported off site in covered trucks at the end of each batch.	Site Management	End of each batch
Where possible, litter handling will be avoided during adverse climatic conditions.	Site Management	End of each batch
Poultry litter will not be stockpiled or spread within the site.	Site Management	On-going
Vegetation screens will be established and maintained around the perimeter of each PPU.	Site Management	Prior to the commencement of operation with on-going maintenance

4.3 Dust

Potential sources of dust emissions from the Rushes Creek poultry farm include:

- Dust emissions from the poultry sheds;
- Materials handling and transfer (for example, bedding material, poultry litter); and
- Wheel-generated dust from unsealed roadways.

Dust issues are directly related to farm operation, with good management practices playing a significant role in reducing the potential for emissions.

The AQMP (Astute 2022) contained in **Appendix C** has been prepared for Rushes Creek in accordance with conditions B4 and C1 of SSD 7704 and the requirements of EPL 21569. The mitigation and management measures detailed in the AQMP, which are summarised below in **Table 9**, will be implemented to minimise the potential for adverse dust emissions.

Table 9 Dust Mitigation and Management Measures

Control	Odour	Timing / Frequency
The poultry shed ventilation systems will be maintained to ensure air movement is at design levels.	Site Management	On-going
The poultry sheds will be thoroughly cleaned between batches, with a focus on the fan end of the sheds.	Site Management	End of each batch
The emergency standby generators will be contained in lockable acoustic enclosures with vertical air discharge and will only be used in emergency situations when mains power from the electricity grid is lost.	Site Management	On-going
Where possible, the handling of bedding material and poultry litter will be avoided during adverse climatic conditions.	Site Management	On-going
Poultry litter will be promptly removed from the poultry sheds and transported off site in covered trucks at the end of each batch.	Site Management	End of each batch
Internal access roads and car parking areas will be appropriately maintained to minimise dust emissions.	Site Management	On-going
Vehicles will not exceed a general speed limit of 60 km/hr within the site and will be confined, where possible, to the internal access roads.	All employees and contractors	On-going
When necessary, internal roads will be “wetted down” during dry conditions.	Site Management	As required in dry conditions
Heavy vehicles entering and exiting the site that are carrying loads will be covered at all times, except during loading and unloading.	Site Management	On-going
Vegetation screens will be established and maintained around the perimeter of each PPU.	Site Management	Prior to the commencement of operation with on-going maintenance

4.4 Traffic

4.4.1 Heavy Vehicle Access

The majority of heavy vehicles will travel between the Development Site and the poultry industry service facilities located in West Tamworth and on the western outskirts of Tamworth, including the Country Road Hatchery, Tangaratta Stockfeeds, Out Street Poultry Processing Plant and Oakburn Rendering Plant, via the Oxley Highway. Vehicles will turn right into Rushes Creek Road from the Oxley Highway and left out. Both of these roads are approved "general mass limit" (GML) 25 m B-double routes. Heavy vehicle routes are illustrated in **Figure 5**.

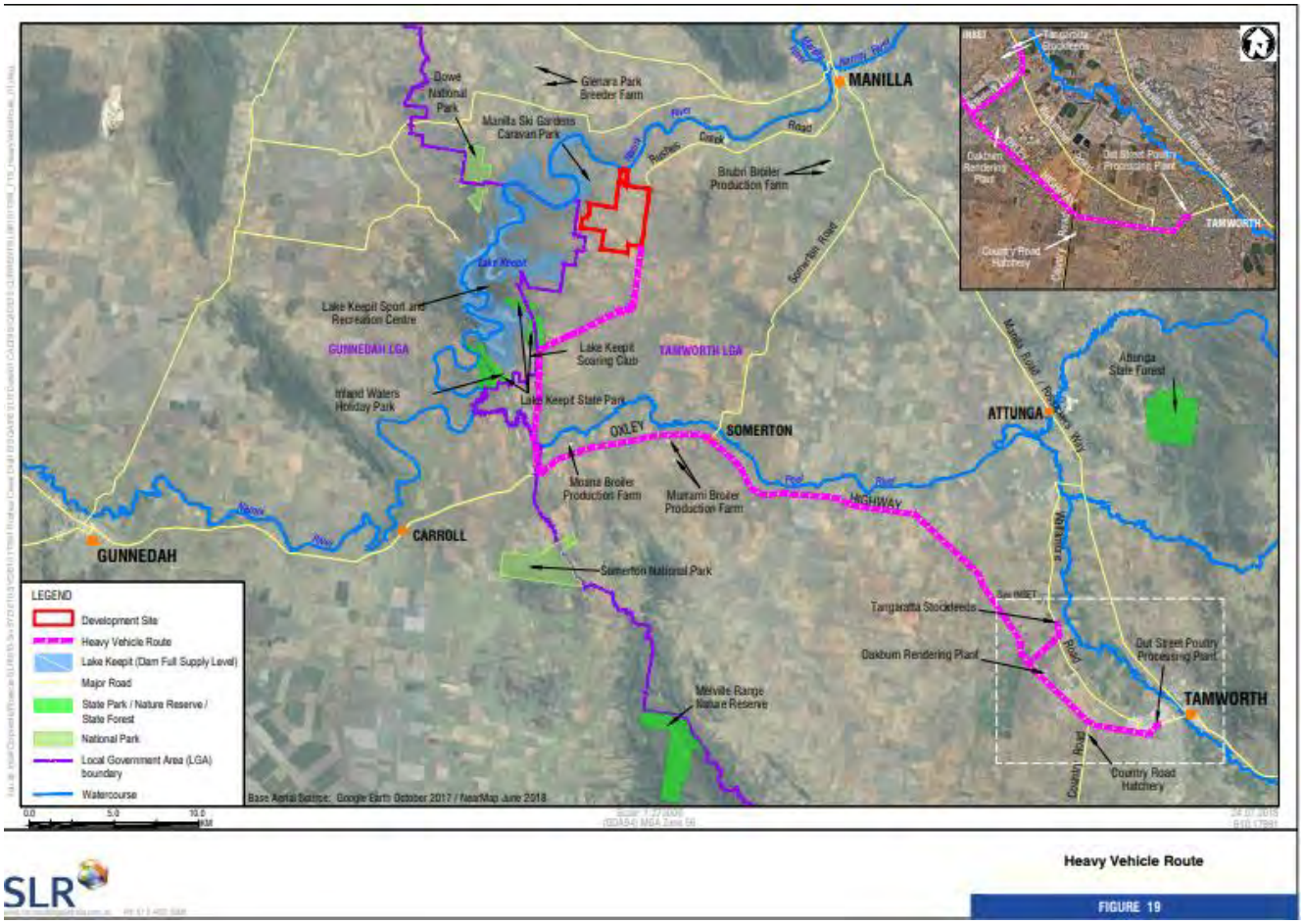


Figure 5 Heavy vehicle Routes (Source: SLR Consulting Pty Ltd)

4.4.2 Mitigation and Management

The mitigation and management measures listed in **Table 10** and the Operational Drivers Code of Conduct in **Appendix D** will be implemented to minimise the potential for adverse traffic-related impacts.

Table 10 Traffic Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
Heavy vehicles will be instructed to travel between Rushes Creek and the poultry industry service facilities located around the western outskirts of Tamworth using the existing heavy vehicles transport routes shown on **Figure 5**.	Site Management / SHEQ Advisor	Induction - prior to commencing work. Toolbox talks - on-going. On-going.
All heavy vehicles will enter and exit the site via the site accesses from Rushes Creek Road.	All employees and contractors	On-going
Vehicles will not exceed a general speed limit of 60 km/hr within the site and will be confined, where possible, to the internal access roads.	All employees and contractors	On-going
Heavy vehicles entering and exiting the site that are carrying loads will be covered at all times, except during loading and unloading.	Site Management	On-going
Internal roads and car parking areas will be appropriately maintained to provide safe driving conditions and minimise dust and noise emissions.	Site Management	On-going
Internal roads and car parking areas will be maintained clear of obstruction and used exclusively for the purposes of vehicle access, loading, and unloading, and parking. There will be no vehicle queuing or parking on Rushes Creek Road.	Site Management. All employees and contractors.	On-going

4.5 Noise

The primary operational noise sources at Rushes Creek include:

- Poultry shed ventilation fans;
- Feed silo refill pump and auger;
- Bird delivery and collection using truck and forklift;
- Heavy vehicle traffic; and
- Occasional tractor and other farm type machinery.

The mitigation and management measures listed in **Table 11** will be implemented to minimise noise emissions and the potential for adverse noise impacts at the nearest receptor locations.

Table 11 Noise Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
The one-way circulation road around the poultry sheds will be used to enable traffic to enter, exit and manoeuvre in a forward direction and minimise the use of reversing beepers.	All employees and contractors	On-going
Internal roads will be appropriately maintained to provide safe driving conditions and minimise dust and noise emissions.	Site Management	On-going

Control	Responsibility	Timing / Frequency
Vehicles will not exceed a general speed limit of 60 km/hr within the site and will be confined, where possible, to the internal access roads.	All employees and contractors	On-going
Noise generating equipment purchased by the operator will comply with relevant workplace health and safety requirements.	Site Management	On-going
Plant and equipment will be maintained to meet regulatory and industry standards and ensure optimal operating conditions.	Site Management	On-going
Trucks will switch off their engines during loading and unloading, they will not be left idling.	Site Management	On-going
The emergency standby generators will be contained in lockable acoustic enclosures and will only be used in emergency situations when mains power from the electricity grid is lost.	Site Management	On-going

4.6 Water

4.6.1 Water Sources

For the purposes of clarifying allowable activities with respect to water management, different water classifications and objectives for water management have been identified. **Table 12** lists the classes of water within the Development Site, describes their source, the target design objectives/performance criteria and the way each class is to be managed.

Table 12 Water Sources and Management

Water Classification	Source and Character	Target Design Objective	Treatment
Dirty water	Runoff from exposed soils and disturbed surfaces, including unsealed roads. Generally high in turbidity and sediment load.	Based on: - The Blue Book (Landcom, 2004); and - *Managing Urban Stormwater: Soils and Construction Volume 2C: Unsealed Roads* (DECCW, 2008).	Dirty water runoff is to be contained within sediment basins or passed though sediment control devices to detain sediments and reduce turbidity prior to discharge into the natural environment.
Wash down water	Water produced from the cleaning and washing down the poultry sheds at the end of each batch. Characterised by elevated nutrient levels.	An engineered surface water management system designed, installed and maintained to capture the wash down water from the poultry sheds and rainfall runoff from within the poultry farm environs. The system has the capacity to handle the runoff from a 1% AEP[1], 72-hour rainfall event.	An engineered surface water management system will be installed at each PPU to provide long-term structural controls to mitigate the impact of surface water runoff throughout the life of the Development. Each system will comprise upstream diversions, grassed swale drains between the poultry sheds to capture wash down water and rainfall runoff, a perimeter table drain and a large detention dam.

Water Classification	Source and Character	Target Design Objective	Treatment
			There will also be stormwater pipes to convey water under roads.
Clean water	Surface water runoff produced from undisturbed clean water catchments. Characterised by low nutrient load, sediment load and turbidity.	Clean water diversions designed, installed and maintained to convey runoff from the upstream catchment.	Where necessary, upstream diversions (deflection bank and/or swale drains) will be maintained to convey clean water run-off around the poultry sheds and safely back into the downstream overland flow path downstream ensuring these clean water flows do not enter the controlled surface water management system.
Groundwater	Water contained in underground aquifers. Characteristics of groundwater vary depending on the source aquifer.	Do detectable impacts to groundwater levels and quality.	There will not be any groundwater extraction or use. The internal surfaces of the retention dams will be lined with clay and compacted to provide a barrier to percolation.
Sewage	Sewage produced by staff amenities. High in nutrient load and anthropogenic content.	Designed, installed and managed in accordance with relevant council guidelines.	Treated and disposed of via on-site AWTS.

1 – AEP – annual exceedance probability

4.6.2 Mitigation and Management

The Stage 1 SWMP (Sage Environmental Sciences 2022) contained in **Appendix E** has been prepared for Rushes Creek in accordance with conditions B22 and C1 of SSD 7704 and the requirements of EPL 21569. The mitigation and management measures detailed in the WMP, which are summarised below in **Table 13**, will be implemented to minimise the potential for adverse emissions.

Table 13 Water Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
Surface water extraction from the Namoi River will be under the provisions of the two existing water access licences (WALs) held by ProTen licensed allocation from the– see **Section 3.1.3**	Site Management	On-going
There will not be any groundwater extraction or use.	Site Management	On-going
Poultry shed wash down water and rainfall runoff within the poultry farm environs will be captured in the engineered surface water management system conservatively designed to cater for a 1% AEP, 72-hour event.	Site Management	On-going

Control	Responsibility	Timing / Frequency
An on-going inspection and maintenance program will be implemented to ensure the continued integrity of any upstream clean water diversions and the engineered surface water management system. They will be visually inspected on a monthly basis and following significant rainfall events and any required maintenance work will be promptly undertaken to ensure the system's design capacity is maintained.	Site Management	Monthly and following significant rainfall
The grassed swale drains between the poultry sheds will be carefully managed to minimise soil disturbance and maximise treatment potential. They will be regularly slashed to encourage continual grass growth and associated nutrient up-take.	Site Management	On-going
Dry-cleaning practices at the end of each batch will be maximised within the poultry sheds prior to washing with water to minimise the volume of wash water and the amount of poultry litter (and associated sediments and nutrients) in the wash down water.	Site Management	End of each batch
The AWTS installed to manage the relatively small volume of sewage generated by the staff amenities will be serviced in accordance with the manufacturer's specifications and Council requirements.	Site Management	On-going
The waste management systems listed in **Section 4.10** will be implemented to ensure that each waste stream is effectively managed and disposed of off-site. There will not be any on-site stockpiling or disposal of waste.	Site Management	On-going
The best management practices and mitigation measures outlined in **Section 4.9** will be implemented for on-site chemicals and fuels.	Site Management	On-going

4.7 Biodiversity

The following operational activities have the potential to impact on native flora and fauna:

- Vehicle movements, which could result in vehicle strike of native birds and ground fauna;
- Introduction or spread of weeds and/or plant pathogens, primarily via vehicle movements;
- Excessive noise, which can inhibit or modify behaviour of certain native animals or cause dispersal from the noise source; and
- Lighting, which can adversely affect nocturnal fauna through eye-shine and exposure to predators.

The mitigation and management measures listed in **Table 14** will be implemented to minimise the potential for biodiversity impacts.

Table 14 Biodiversity Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
Vegetation screens will be established and maintained around the perimeter of each PPU.	Site Management	Prior to the commencement of operation with on-going maintenance
Weed and pest control measures will be implemented where and when necessary – see **Section 4.13**.	Site Management	As required
The wheel wash facility installed at the office-workshop building will be utilised and maintained to reduce the spread of weeds and plant pathogens.	Site Management	On-going
The area within and around the poultry farm will be kept free from debris and grass will be regularly slashed/mown.	Site Management	On-going
Efforts will be made to ensure the poultry sheds and other site buildings are fully enclosed and maintained to exclude bats from roosting within the sheds/buildings.	Site Management	On-going
Vehicles will not exceed a general speed limit of 60 km/hr within the site and will be confined, where possible, to the internal access roads.	All employees and contractors	On-going
If any native animal is by chance injured during operations, WIRES will be contacted to arrange proper care for the animal.	All employees and contractors	As required
External lighting will be aimed downwards and only used when necessary, during times of low light and/or heavy fog. There will not be any broad area or flood lighting.	Site Management	On-going
The waste management systems listed in **Section 4.10** will be implemented to ensure that each waste stream is effectively managed and disposed of off-site. There will not be any on-site stockpiling or disposal of waste.	Site Management	On-going
The best management practices and mitigation measures outlined in **Section 4.9** will be implemented for on-site chemicals and fuels.	Site Management	On-going

4.8 Aboriginal Heritage

The findings of the archaeological survey confirm that Aboriginal stone artefacts are broadly distributed within the soil across the Development Site and that vegetation cover and soil exposure conditions can change to reveal previously obscured artefacts.

The Aboriginal Cultural Heritage Management Plan (Ozark 2021) contained in **Appendix G** has been prepared for Rushes Creek in accordance with conditions B33 and C1 of SSD 7704. The mitigation and management measures detailed in the ACHMP, which are summarised below in **Table 15**, will be implemented to ensure no risk to Aboriginal heritage.

Table 15 Aboriginal Heritage Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
No disturbance will occur outside of the approved disturbance footprint. Any alterations to the disturbance footprint will be assessed in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010).	Site Management	On-going
Employees and contractors will be made aware of the legislative protection of Aboriginal objects under the *National Parks and Wildlife Act 1974.*	Site Management / SHEQ Advisor	Induction - prior to commencing work. Toolbox talks – on-going.
Employees and contractors will be made aware of the Aboriginal Cultural heritage Management Plan (ACHMP) in **Appendix G.**	Site Management / SHEQ Advisor	Induction - prior to commencing work. Toolbox talks – on-going.
If any previously unrecorded or unanticipated Aboriginal object(s) is uncovered, all work within the area will cease immediately and the protocol with the ACHMP in **Appendix G** will be followed.	All employees and contractors	As required
If any human skeletal remains are uncovered, all work within the area will cease immediately and the protocol with the ACHMP in **Appendix G** will be followed.	All employees and contractors	As required

4.9 Potentially Hazardous Materials

The potentially hazardous materials stored and/or used at the Rushes Creek poultry farm include:

- Natural gas for heating the poultry sheds;
- Petrol and diesel for farm equipment and generator requirements;
- Pest and weed control products;
- Water treatment products to ensure the water supply meets biosecurity requirements and is suitable for bird consumption; and
- Sanitation products used in the poultry sheds at the end of each batch and wheel wash and footbath facilities.

The *Pollution Incident Response Management Plan* (SLR 2022) (PIRMP) in **Appendix H** has been prepared for Rushes Creek poultry production farm in accordance with the requirements of the POEO Act. It includes inventories of potentially hazardous goods and safety equipment on-site at Rushes Creek. It also covers the key actions to minimise the occurrence of a pollution incident and manage a pollution incident if one happened to occur, along with the notification requirements for pollution incidents.

The mitigation and management measures that will be implemented to minimise the potential for environmental incidents relating to the on-site storage and use of chemicals and fuels at Rushes Creek are listed in **Table 16**. The PIRMP should be referred to for further details.

Table 16 Potentially Hazardous Materials Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
Chemicals and fuels will be stored and handled in accordance with: • Relevant Australian Standards; and • The EPA's Storing and Handling of Liquids: Environmental Protection, Participants Manual (2007).	Site Management / SHEQ Advisor	On-going
Any liquids classified as dangerous goods will be stored within a bunded area with a minimum bund volume of 110% of the volume of the largest single stored volume within the bund.	Site Management / SHEQ Advisor	On-going
Diesel will be stored in an aboveground bunded tanks, with the minimum bund volume being 110% of the respectively tank capacity. The tanks will be located away from the chemical store in the office-workshop and away from anything else considered flammable.	Site Management	On-going
Safety Data Sheets (SDS) for chemicals and fuels stored/used on-site will be maintained within the office-workshop and/or chemical store.	Site Management / SHEQ Advisor	On-going
Appropriate spill kits will be maintained within the office-workshop and/or chemical store.	Site Management / SHEQ Advisor	On-going
Appropriate personal protective equipment (PPE) will be maintained within the office-workshop and/or chemical store.	Site Management / SHEQ Advisor	On-going
The actions specified in Section 3.3 of the PIRMP in **Appendix H** will be promptly implemented in the event of a chemical/fuel spill.	All employees and contractors	As required
Employees and contractors working on-site will be instructed in the proper use and handling of chemicals/fuels, as well as spill response.	Site Management / SHEQ Advisor	Induction - prior to commencing work. Toolbox talks – on-going.

4.10 Waste

4.10.1 Waste Types and Classification

The primary operational waste streams are listed in **Table 17**, with their respective classifications under the *Waste Classification Guidelines Part 1: Classifying Waste* (EPA 2014) and intended reuse/recycling/disposal method. There will not be any on-site stockpiling or disposal of waste materials.

Table 17 Waste Types and Classification

Waste Type	NSW Classification	Reuse / Recycling / Disposal
General daily waste	General solid waste (putrescible and non-putrescible)	Placed in to enclosed bins and removed by a licensed contractor for landfill disposal at a licensed facility.
Empty chemical and fuel containers	Hazardous waste if containers used to store dangerous goods (Class 1, 3, 4, 5, 8) and residues have not been removed by washing or vacuuming. General solid waste (non-putrescible) if containers have been cleaned by washing or vacuuming.	Chemicals required for sanitisation/disinfection, water treatment, weed control and pest control purposes will be purchased from a local supply company and/or delivered direct to the Development Site by Baiada. Empty chemical containers will be returned to the local supply company and/or Baiada for reuse, recycling or appropriate disposal. Alternatively, a licensed contractor will be engaged to provide a chemical container pickup service for recycling, reuse or appropriate disposal. Any non-returnable chemical containers will be collected and managed via the drumMUSTER program.
Poultry litter	General solid waste (putrescible)	Poultry litter is highly sought after as an organic fertiliser and/or rehabilitation agent for agricultural lands. As such, litter collected from the sheds will likely be sold as a commercial raw product and/or sold directly to regional farmers. ProTen will ensure truck loads leaving the Development Site are covered to minimise emissions of odour and particulate matter. The litter will not be stockpiled or disposed of within the bounds of the Development Site under any circumstances for best management practice and biosecurity reasons.
Daily dead birds	General solid waste (putrescible)	The poultry sheds will be inspected daily, and any dead birds will be collected and moved to the on-site dead bird freezers for short-term storage prior to being collected and transported to Baiada's Oakburn Rendering Plant for treatment and production of tallow and poultry offal meal (i.e. value-added products). Dead birds will not be stockpiled or disposed of within the Development Site under any circumstances for best management practice and biosecurity reasons.
Sewage (from staff amenities)	Liquid waste	Treated and disposed of via an AWTS installed and operated in accordance with the manufacturer's specifications and Council requirements.
Green waste	General solid waste (non-putrescible)	Direct reuse on site and/or off-site composting or disposal at licensed facility.
Tyres	Special waste	Off-site recycling or disposal at licensed facility.

Waste Type	NSW Classification	Reuse / Recycling / Disposal
Air and oil filters and rags	General solid waste (non-putrescible)	Off-site recycling or disposal at licensed facility.
Batteries	Hazardous waste	Off-site recycling.
Light bulbs / fluorescent tubes	Hazardous waste	Off-site recycling.

4.10.2 Mitigation and Management

In addition to the management strategies listed in **Table 17**, the mitigation and management measures listed below in **Table 18** will be implemented to ensure effective and appropriate waste management.

Table 18 Waste Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
Waste streams will be managed in accordance with the reuse / recycling / disposal methods listed above in **Table 17**.	Site Management All employees and contractors	On-going
Waste materials removed from the site reuse, recycling or disposal will be directed to a facility lawfully permitted to accept the respective material.	Site Management	On-going
There will not be any on-site stockpiling or disposal of waste, including poultry litter or dead birds.	Site Management	On-going
Waste materials generated elsewhere (i.e. outside the Rushes Creek site) will not be received on-site for any purpose.	Site Management	On-going

4.11 Visual Amenity

The commercial activities associated with the poultry operation will be largely confined to the four PPU sites and access roads with residual land within the site continued to be used for agricultural production purposes. There are significant separation distances from the PPU sites to the surrounding local road network, private residences and community recreational facilities. The natural southeast-northwest trending ridgeline running through the centre of the Development Site will shield Farms 1 and 3 and likely Farm 4 from view from Rushes Creek Road and residences to the east and northeast. The scattered paddock trees will also provide some screening for Farms 1, 3 and 4 from these view locations.

There is little elevation change / intervening topography and no tree screening between Rushes Creek Road and Farm 2. Subsequently this PPU will be visible from the road and some residences, and likely from Ski Gardens Road. The proposed vegetation screens, once established, will provide some screening and improve the visual amenity.

The mitigation and management practices listed in **Table 19** will be implemented to minimise the potential for adverse visual amenity impacts on surrounding lands.

Table 19 Visual Amenity Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
All external lighting will be mounted, screened, and directed to avoid creating a nuisance to the surrounding environment, properties and roads. The lighting must be the minimum level of illumination necessary and comply with *AS4282 1197 - Control of the Obtrusive Effects of Outdoor Lighting*. There will be no broad area or flood lighting.	Site Management	On-going
External lighting will be only used when necessary, during times of low light and/or heavy fog.	Site Management	On-going
No mirrors or lenses are to be used with the solar panels.	Site Management	On-going
The existing vegetation screens will be maintained (apart from the 2.2 ha approved to be removed during the construction phase).	Site Management	On-going
Vegetation screens will be established and maintained around the perimeter of each PPU.	Site Management	Prior to the commencement of operation with on-going maintenance

4.12 Energy Efficiency and Greenhouse Gas

ProTen will implement all reasonable and feasible measures to reduce energy use and greenhouse gas emissions at Rushes Creek.

The mitigation and management measures listed in **Table 20** will be implemented to improve energy efficiency and reduce associated greenhouse gas emissions.

Table 20 Energy Efficiency Measures

Control	Responsibility	Timing / Frequency
Solar panels will be utilised to generate clean renewable energy to power the poultry sheds and reduce dependency on reticulated electricity.	Site Management	On-going
External lighting will only be used when necessary, during times of low light and/or heavy fog.	Site Management	On-going
The integrity of the poultry sheds will be regularly checked to identify and rectify any air leaks, which place additional load on ventilation fans.	Site Management	On-going
Lighting, temperature, humidity, and static pressure within the poultry sheds will be continuously monitored and automatically adjusted to suit conditions.	Site Management	On-going
Equipment such as ventilation fans and heaters will be regularly maintained and serviced to ensure optimal performance and efficiency.	Site Management	On-going

4.13 Pests and Weeds

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

The pest and weed control measures listed in **Table 21** will be implemented as part of Rushes Creek maintenance program and biosecurity commitment.

Table 21 Pest and Weed Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
ProTen's standard pest control program will be implemented. This program includes: • Installation and maintenance of baits as a preventative measure to prevent and control pest outbreaks; and • Application of suitable rodenticides if and where necessary.	Site Management	On-going
Dead birds will be collected from the poultry sheds daily and stored in the on-site freezers prior to removal from the site.	Site Management	On-going
Poultry litter will be promptly removed from the poultry sheds and transported off site in covered trucks at the end of each batch.	Site Management	End of each batch
The waste management systems listed in **Section 4.10** will be implemented to ensure that each waste stream is effectively managed and disposed of off-site. There will not be any on-site stockpiling or disposal of waste.	Site Management	On-going
Any feed/grain spills will be promptly cleaned up.	Site Management	On-going
Areas around the poultry sheds will be kept free from debris and grass will be regularly slashed/mown.	Site Management	On-going
Appropriate sanitising agents will be used during the shed cleaning phase.	Site Management	End of each batch
The wheel wash facility installed at the office-workshop building will be utilised and maintained to reduce the spread of weeds and plant pathogens.	Site Management	On-going
Targeted herbicide application will be undertaken if and where necessary.	Site Management	As required

4.14 Biosecurity and Mortality

ProTen places an extremely high importance on maintaining flock health through vaccination, farm hygiene and biosecurity. ProTen will implement a range of proven biosecurity measures at the Rushes Creek poultry farm on a routine basis in accordance with:

- The ProTen Biosecurity Manual (ProTen 2022); and
- The Emergency Disposal and Biosecurity Strategy in **Appendix F**. This Strategy has been prepared in accordance with condition B31 and C1 of Development Consent SSD 7704 and relevant government/industry guideline documents.

In the unlikely event that biosecurity is breached and there is an emergency animal disease (EAD) outbreak, ProTen will immediately implement strict quarantine procedures to isolate the potentially infected farm and notify DPI (and other relevant authorities) and follow all instructions provided. Upon confirmation that it is indeed an EAD outbreak, a coordinated management response will be initiated as outlined in the Emergency Disposal and Biosecurity Strategy in **Appendix F**.

5 Monitoring, Inspections and Reporting

Various environmental monitoring, site inspection and reporting activities will be undertaken to ensure on-going implementation and compliance with the development consent, EPL and this OEMP and to identify any adverse impacts and required remedial actions. The environment monitoring and inspection activities and environmental reporting activities to be completed are summarised in **Table 22** and **Table 23**, respectively.

Table 22 Environmental Inspection and Monitoring Activities

Requirement	Responsibility	Timing / Frequency
Environmental Site Inspections		
Visual site inspection to assess the implementation of the mitigation and management measures listed in this OEMP. Any required maintenance/remedial works to be promptly undertaken.	Site Management	Fortnightly
Landscape Inspections		
Visual inspection of new landscape plantings in order to: • Assess the health of the plantings; and • Identify and undertake any required maintenance/remedial works.	Site Management	• Fortnightly for the first 3 months; and • Monthly for the following 15 months or until the plantings are well-established and healthy (which is longer).
Rehabilitation Areas Inspections		
Visual inspection of disturbance rehabilitation areas in order to: • Assess the success of any revegetation works; • Identify and undertake any required maintenance/remedial works; and • Remove temporary erosion and sediment controls on completion of the rehabilitation works.	Site Management	• Fortnightly for the first 3 months; and • Monthly thereafter until stable landform achieved (i.e. >70% permanent ground cover, excl. weeds)
Surface Water Management System Inspections		

Requirement	Responsibility	Timing / Frequency
Visual inspection of the upstream clean water diversions and surface water management system to ensure the structures are operating effectively and at design capacity. Any required maintenance/remedial works to be promptly undertaken.	Site Management	Monthly and after significant rain
Odour Observations		
Field observations of the intensity/strength and character of any significant odour emissions detected – refer to the AQMP in **Appendix C** for further details.	Site Management	When significant odour is detected and/or an odour complaint is received.

Table 23 Environmental Reporting Activities

Requirement	Responsibility	Timing / Frequency
EPL Annual Returns		
Complete and submit an EPL Annual Return to the EPA in the approved form - refer to condition R1 of EPL 21569 in **Appendix B** for further details.	Site Management / SHEQ Advisor	Annually - within 60 days of the reporting period. Reporting period – 11 August to 10 August.
PIRMP Review and Testing		
Review and testing of the PIRMP – refer to the PIRMP in **Appendix H** for further details.	Site Management / SHEQ Advisory	Annually in September; and Within one month of any pollution incident.
Complaint Recording		
Record any complaint received on ProTen's standard *Complaint Report Form* (**Appendix N**) and maintain a copy of the completed form for at a minimum of 4 years – see **Section 6**.	Site Management / SHEQ Advisory	Following receipt of complaint
Incident Recording		
Record any environmental incident on ProTen's standard *Environmental Incident Report Form* (**Appendix O**) and maintain a copy of the completed form for a minimum of 4 years – see **Section 7**.	Site Management / SHEQ Advisory	Following an environmental incident
Incident Notifications		
Immediately notify the "relevant authorities" of any incident that has caused or threatens to cause material harm to the environment – see **Section 7.4**.	ProTen Management	Immediately after any incident that has caused or threatens to cause material harm to the environment

6 Complaints Management Strategy

6.1 Performance Objective

To ensure that all complaints in relation to the Rushes Creek poultry farm are promptly and effectively received, handled and addressed.

6.2 Responsibility

ProTen's Site Management is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of a complaint.

All employees and contractors who take receipt of a complaint, either verbal or written, are to immediately notify Site Management.

6.3 Handling Procedure

Upon becoming aware of a complaint, Site Management is to undertake the following:

Receive

Complaints in relation to Rushes Creek may be received via a number of ways, including in writing, via phone, via email and/or via a regulatory authority like Council or the EPA. While a formal written complaint should be requested, one is not necessary to instigate the complaints management strategy.

Where the initial contact reaches an employee or contractor who is not a representative of Site Management, the call should be directed to Site Management. If unavailable, the complainant's details should be taken with a view to returning the contact once Site Management is able to discuss the matter.

The complainant's name, address and contact details, along with the nature of the complaint, must be requested. If the complainant refuses to supply the requested information, a note should be made on the form and complainant advised of same.

Assistance

Where assistance is required handling the situation, ProTen's NSW Operations Manager and/or SHEQ Advisor should be contacted – contact details in **Section 3.2.1**.

Where the complaint is reported via a regulatory authority (for example, Council or the EPA), ProTen's NSW Operations Manager and/or SHEQ Advisor should be immediately notified.

Investigate

A field investigation should be initiated in an attempt to establish the legitimacy of the complaint and the cause of the problem. Site Management should be consulted to identify any abnormality or incident that may have resulted in the complaint. Details may include bird numbers and ages, bird stocking densities, fan operations, internal shed conditions, heavy vehicle traffic, etc.

If the complaint is due to an environmental incident, the *Environmental Incident Management Strategy* in **Section 7** should be followed. If the incident has caused or threatens to cause material harm to the environment, the relevant regulatory authorities must be immediately notified.

If the complaint is in relation to odour or dust, meteorological conditions at and around the time of the complaint, particularly wind direction and speed, must be obtained from the on-site weather station.

Remedial Action

Once the legitimacy and cause of the complaint has been established, every possible effort must be made to undertake appropriate remedial action(s) to fix the cause of the complaint and mitigate any further impact.

Inform

The investigative work and remedial action should be reported back to the complainant and, if necessary, the relevant regulatory authorities.

Record

It is imperative that an honest assessment of the situation is carried out and documented. Every complaint received is to be recorded on ProTen's standard *Complaint Report Form* contained in **Appendix N** and a copy of the completed form is to be maintained for at least 4 years.

6.4 Preventative Action

Once the complaint has been suitably handled, appropriate preventative measures should be identified and implemented to negate the possibility of re-occurrence.

6.5 Dispute Resolution

If the complaints management strategy has been followed and a particular issue cannot be resolved, the complaint will be referred to ProTen's CEO for further review and Council will be notified. The escalated review process will include an assessment of the details of the complaint received, any findings of the investigation undertaken in response to the complaint, and any further matters raised by the complainant. It may also include ProTen's CEO seeking the advice of relevant regulatory authorities and/or specialist consultants.

If required, a third-party independent mediator may be engaged to help resolve the dispute.

7 Environmental Incident Management Strategy

7.1 Definitions

The POEO Act provides the following definitions:

Pollution incident - *an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.*

Material harm to the environment -

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

7.2 Performance Objective

To ensure that any environmental incident caused by or relating to the Rushes Creek poultry farm is effectively responded to, and any resulting adverse environmental and/or community impact is promptly prevented or effectively managed.

7.3 Responsibility

ProTen's Site Management is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental incident.

All employees and contractors are to:

- Notify Site Management about any hazard and potential hazard that may result in an environmental incident, regardless of the nature or scale;
- Take immediate action to notify Site Management of any environmental incident – see contact details in **Section 3.2.1**; and
- Take immediate action (where it is safe to do so) to prevent, stop, contain and/or minimise the environmental impact of the incident – see spill response in the PIRMP in **Appendix H**.

7.4 Notifications

Under section 148 of the POEO Act, there is a duty to notify the "relevant authorities" of any incident that has caused or threatens to cause material harm to the environment. Accordingly, a senior member of ProTen Management must immediately notify each relevant authority of the incident and all relevant information about it as soon as becoming aware of the incident.

In accordance with subsection 148(8) of the POEO Act, the relevant authorities for Rushes Creek are:

- Council;
- EPA;
- NSW Health;
- SafeWork NSW; and
- Fire and Rescue NSW.

Section 3.3 provides the contact details for these authorities.

7.5 Handling Procedure

Preventative Action

Where possible and it is safe to do so, immediate action should be taken to prevent, stop, contain and/or minimise the environmental impact of the incident. The situation should be visually assessed, and emergency response undertaken if required. See the spill response procedure in the PIRMP in **Appendix H**.

In the unlikely event that a pollution incident requires site evacuation, actions will be completed in accordance with the Site Evacuation Procedure in the PIRMP. All employees and contractors will be informed of the location of emergency assembly areas through site inductions and toolbox talks.

Assistance

Where assistance is required handling the situation, ProTen's NSW Operations Manager and/or SHEQ Advisor should be contacted – contact details in **Section 3.2.1**.

Where the incident is reported via a regulatory authority (for example, Council or the EPA), ProTen's NSW Operations Manager and SHEQ Advisor must be notified immediately (even if outside normal business hours).

If adequate resources are not available and the incident threatens public health or property, emergency services should be contacted by telephoning "000" for assistance.

Investigate

A field investigation should be immediately initiated to determine the cause of the incident.

In the event of a serious pollution incident or emergency, it is more than likely that Fire and Rescue NSW and/or the EPA will take control and manage the required investigation and remedial activities. Any instructions issued must be strictly adhered to.

Remedial Action

Once the cause of the incident has been established, every possible effort must be made to undertake appropriate remedial action(s) to fix the cause of the incident and mitigate any further impact. In some instances, outside resources such as specialist contractors/consultants may be required.

Record

It is imperative that an honest assessment of the situation is carried out and documented. Every environment incident is to be recorded on ProTen's standard *Environmental Incident Report Form* contained in **Appendix O** and a copy of the completed form is to be maintained for at least 4 years.

8 OEMP Review and Update

This OEMP will be reviewed and, if necessary, updated in the following circumstances:

- Following any significant environmental incident and/or impact;
- Following numerous and/or repeated complaints;
- Following any development modification;
- Where it is identified that the environmental performance of the poultry farm is not meeting the aims of the OEMP; and/or
- At the request of a relevant regulatory authority.

As advised in **Table 3,** ProTen's SHEQ Advisor has the authority to approve minor amendments to the OEMP. For the purpose of this OEMP a "minor" amendment is defined as:

- An amendment involving a minor error, misdescription or miscalculation;
- An amendment that maintains compliance with the EIS, Development Consent SSD 7704 and EPL 21569;
- An amendment that is necessary to maintain consistency and/or compliance with changing legislative requirements (for example, an amendment to an Act);
- An amendment to the ProTen contact details listed in **Table 2** when roles change;
- An amendment to the ProTen roles and responsibilities listed in **Table 3** that does not involve deleting any responsibilities; and
- An amendment to the regulatory authority contact details in **Table 4**.

All employees and contractors will be informed of any updates to the OEMP during a toolbox talk.

9 References

Astute Environmental Consulting (2022) *Air Quality Management Plan, Rushes Creek Poultry Production Farm*

Department of Environment and Climate Change (2007) *Storing and Handling Liquids: Environmental Protection - Participants Manual*

Department of Environment, Climate Change and Water (2008) *Managing Urban Stormwater: Soils and Construction Volume 2C: Unsealed Roads*

Department of Environment, Climate Change and Water (2010) *Environmental Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*

Department of Primary Industries (2012) *Best Practice Management for Meat Chicken Production in NSW*

SLR Consulting Australia (2018) *Rushes Creek Poultry Production Farm, Environmental Impact Statement*

EME Advisory (2021) *Rushes Creek Poultry Farm, Section 4.55(1A) Modification Report*

SLR Consulting Australia (2022) *Rushes Creek Poultry Production Farm, Pollution Incident Response Management Plan*

SLR Consulting Australia (2021) *Operational Drivers Code of Conduct, Rushed Creek Poultry Production Farm*

Sage Environmental Sciences (2022) *Rushes Creek Poultry Production Farm, Stage 1 Water Management Plan*

Ozark Environment & Heritage (2021) *Aboriginal Cultural Heritage Management Plan, Rushes Creek Poultry Farm*

SLR Consulting Australia (2022) *Rushes Creek Emergency Disposal & Biosecurity Strategy*

Environment Protection Authority (2014) *Waste Classification Guidelines Waste Classification Guidelines Part 1: Classifying Waste*

Landcom (2004) *Managing Urban Stormwater: Soils and Construction Volume 1*

Office of Environment and Heritage (2012) *Erosion and Sediment Control on Unsealed Roads*

ProTen (2020) *ProTen Biosecurity Manual*

RSPCA Australia (2020) *RSPCA Approved Farming Scheme Standard – Meat Chickens*

Standards Australia (1997) *AS4282 1197, Australian Standard, Control of the Obtrusive Effects of Outdoor Lighting*

10 Abbreviations

AEP	annual exceedance probability
Astute	Astute Environmental Consulting
AQMP	Air Quality Management Plan
AWTS	aerated wastewater treatment system
Baiada	Baiada Poultry
Best Practice Guidelines	*Best Practice Management for Meat Chicken Production in NSW*
Council	Tamworth Regional Council
DECCW	(former) Department of Environment, Climate Change and Water
DP	Deposited Plan
DPI	Department of Primary Industries
DPI Agriculture	Department of Primary Industries – Agriculture
EAD	emergency animal disease
EIS	Environmental Impact Statement
EME	EME Advisory
EPA	Environment Protection Authority
EPL	environment protection licence
EP&A Act	*Environmental Planning and Assessment Act 1979*
kg/m^2	kilograms per square metre
km	kilometre
km/hr	kilometres per hour
LMP	Landscape Management Plan
m	metre
m^2	square metre
ML	megalitre
NSW	New South Wales
OEMP	Operational Environmental Management Plan
PIRMP	Pollution Incident Response Management Plan
POEO Act	*Protection of the Environment Operations Act 1997*
ProTen	ProTen Tamworth Pty Ltd
RSPCA Standard	*RSPCA Approved Farming Scheme Standard – Meat Chickens*
SHEQ	Safety, Health, Environment, Quality
WIRES	NSW Wildlife Information Rescue and Education Service

Appendix A:

Development Consent

Development Consent

Section 4.38 of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning and Public Spaces under delegation executed on 9 March 2020, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise, or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development

Anthea Sargeant
Executive Director
Regions, Industry and Key Sites Assessments

Sydney 14/4/2020 File: OBJ16/06937

The Department has prepared a consolidated version of the consent which is intended to include all modifications to the original determination instrument.

The consolidated version of the consent has been prepared by the Department with all due care. This consolidated version is intended to aid the consent holder by combining all consents relating to the original determination instrument but it does not relieve a consent holder of its obligation to be aware of and fully comply with all consent obligations as they are set out in the legal instruments, including the original determination instrument and all subsequent modification instruments.

CONSOLIDATED CONSENT

SCHEDULE 1

Application Number:	SSD 7704
Applicant:	ProTen Tamworth Pty Ltd
Consent Authority:	Minister for Planning and Public Spaces
Site:	Lot 1 DP 44215; Part Lot 1 DP 1108119; Lot 1 DP 1132298; Lots 26, 85, 86, 101, 118, 165, 166 and 171 DP 752169; Part Lot 143 DP 752189; Lot 1 DP 1132078; Lot 1 DP 1141148; and an unformed Council public road traversing through Lot 171 DP 752169 Rushes Creek Road, Rushes Creek, Tamworth local government area
Development:	Construction and operation of the Rushes Creek Poultry Production Farm, including: • four poultry farms consisting of a total of 54 fully enclosed, tunnel ventilated poultry sheds; • a maximum operational capacity of 3,051,000 birds at any one time; Additional works, as described in the application include: • eight manufactured homes to accommodate farm managers; • two access driveways from Rushes Creek Road and internal access roads; • water supply infrastructure to extract, transfer, treat and store water from the Namoi River; • reticulated electrical supply infrastructure; • bedding material storage shed; • two dead bird freezers; and • boundary adjustments.

SUMMARY OF MODIFICATIONS

Application Number	Determination Date	Decider	Modification Description
SSD-7704-Mod-1	**15 June 2021**	**Team Leader**	• amend the remediation strategy of the former sheep dip from offsite disposal to *in situ* containment with subsequent relocation of one approved manager's dwelling on Farm 2; • deletion of Condition B33(e).
SSD-7704-Mod-2	**2 September 2021**	**Team Leader**	• Amend Condition B53(a) to correct the timing of the requirement to establish vegetation screens around each poultry production unit
SSD-7704-Mod-3	**1 July 2022**	**Team Leader**	• Concurrent construction and operation of Stage 1 (Farm 2) and use of diesel generators for operational power supply

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DEFINITIONS

Applicant	ProTen Tamworth Pty Ltd, or any person carrying out any development to which this consent applies
BCA	Building Code of Australia
BC Act	*Biodiversity Conservation Act 2016*
Calendar year	A period of 12 months commencing on 1 January
Certifier	A person who is authorised by or under section 6.5 of the EP&A Act to issue Part 6 certificates
CEMP	Construction Environmental Management Plan
Conditions of this consent	Conditions contained in Schedule 2 of this document
Construction	The demolition and removal of buildings or works, the carrying out of works for the purpose of the development, including bulk earthworks, and erection of buildings and other infrastructure permitted by this consent
Council	Tamworth Regional Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Demolition	The deconstruction and removal of buildings, sheds and other structures on the site
Department	NSW Department of Planning, Industry and Environment
Development	The development described in the EIS, RtS and Supplementary RtS, including the works and activities as modified by the conditions of this consent.
Development layout	The plans at Appendix 1 of this consent
Earthworks	Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
EES	Environment, Energy and Science Group (former Office of Environment and Heritage, OEH)
EIS	The Environmental Impact Statement titled 'Rushes Creek Poultry Production Farm – SSD 7704', prepared by SLR Consulting Australia Pty Ltd dated August 2018, submitted with the application for consent for the development
Environment	As defined in section 1.4 of the EP&A Act
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6 pm to 10 pm
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
Heritage item	An item as defined under the *Heritage Act 1977,* and assessed as being of local, State and/ or National heritage significance*,* and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974'*, the World Heritage List, or the National Heritage List or Commonwealth Heritage List under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or anything identified as a heritage item under the conditions of this consent
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance Note: "material harm" is defined in this consent
Land	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
Material harm	Is harm that: a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the

	reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
Minister	NSW Minister for Planning and Public Spaces (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
Modification Assessments	The document assessing the environmental impact of a proposed modification of consent and any other information submitted with the following modification applications made under the EP&A Act: (a) SSD-7704-Mod-1 - Rushes Creek Poultry Production Farm SSD 7704, Section 4.55(1A) Modification Report, prepared by EME Advisory, dated May 2021 and Aboriginal Cultural Heritage Management Plan, prepared by OzArk Environment and Heritage, dated May 2021. (b) SSD-7704-Mod-2 – Rushes Creek Poultry Production Farm SSD 7704, Modification Report – Condition B53(a), prepared by EME Advisory dated 17 August 2021. (c) SSD-7704-Mod-3 – 'Rushes Creek Poultry Production Farm SSD 7704 Modification 3 Modification Report' prepared by EME Advisory dated 3 January 2022
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
OEMP	Operational Environmental Management Plan
Operation	The use of the poultry sheds and ancillary infrastructure and structures for the purpose of growing chickens as described in the EIS, RtS and Supplementary RtS
Principal Certifier	A person who is authorised by or under section 6.5 of the EP&A Act to issue Part 6 certificates
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
POEO Act	*Protection of the Environment Operations Act 1997*
PPU	Poultry Production Unit
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements.
Registered Aboriginal Parties	Means the Aboriginal persons identified in accordance with the document entitled "*Aboriginal cultural heritage consultation requirements for proponents 2010*" (DECCW)
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
Remedial Action Plan	*Revised Remedial Action Plan* prepared by SLR Consulting Australia Pty Ltd, Version 2.1, dated 22 April 2021.
RtS	The Applicant's response to issues raised in submissions received in relation to the application for consent for the development under the EP&A Act and includes the document titled 'Rushes Creek Poultry Production Farm – SSD 7704', Response to Submissions, prepared by EME Advisory and dated April 2019
Sensitive receivers	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area.
Site	The land defined in Appendix 1.
Site Auditor	As defined in section 4 of the *Contaminated Land Management Act 1997*.
Site Auditor Report	As defined in section 4 of the *Contaminated Land Management Act 1997*.
Site Audit Statement	As defined in section 4 of the *Contaminated Land Management Act 1997*.
Supplementary RtS	The Applicant's supplementary response to issues raised in submissions received in relation to the application for consent for the development under the EP&A Act and includes the document titled 'Rushes Creek Poultry Production Farm – SSD 7704,

	Supplementary Response to Submissions', prepared by EME Advisory and dated November 2019
TfNSW	Transport for New South Wales
Upgrading	The carrying out of works (including replacing plant, equipment, or machinery or updating relevant technology) to improve the efficiency of the development or to enable or enhance its continued operation
VENM	Virgin Excavated Natural Material
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
Year	A period of 12 consecutive months

SCHEDULE 2

PART A ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

A1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

TERMS OF CONSENT

A2. The development may only be carried out:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary;

(c) in accordance with the EIS, Response to Submissions and Supplementary Response to Submissions;

(d) in accordance with the Modification Assessments;

(e) in accordance with the Development Layout in Appendix 1; and

(f) in accordance with the management and mitigation measures in 0.

A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:

(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and

(b) the implementation of any actions or measures contained in any such document referred to in condition A3(a).

A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c) A2(d) and A2(f). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), A2(d) and A2(f), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

LIMITS OF CONSENT

Lapsing

A5. This consent lapses five years after the date from which it operates, unless the development has physically commenced on the land to which the consent applies before that date.

Farm Operations

A20. The Applicant must ensure:

(a) the development does not exceed a maximum population of 3,051,000 broilers at any one time;
(b) the stocking densities of the development comply at all times with the RSPCA Standards (2013) specification for maximum stocking density of 34 kilograms per square metre;
(c) the development is not populated with 3,051,000 broilers simultaneously at the commencement of each production cycle;
(d) the maximum bird density within a shed, expressed as live bird weight, must not exceed 34 kilograms per square metre at any time;
(e) the maximum number of sheds to be populated per day is a maximum of 12 sheds.

Farm Manager Accommodation

A21. The residential dwellings for farm manager's accommodation as described in the EIS are only to be occupied by persons employed by the Applicant, their partner and dependants in conjunction with the operation of a poultry farm for the operational life of the development and shall not be occupied or let for any other purpose.

A22. The Applicant must obtain further approval from Council under section 68 of the *Local Government Act 1993* for the installation of the farm manager accommodation.

Concurrent Construction and Operation of Stage 1 (Farm 2)

A22A. Concurrent construction and operation of Stage 1 (Farm 2) of the development is permitted but is limited to a maximum period of 10 months and must be carried out in accordance with the timetable detailed in **Table A** below, unless otherwise agreed with the Planning Secretary.

Table A: Farm 2 Concurrent Construction and Operation Timetable

Sub-Stage	Construction Activities	Operational Activities
1A	Earthworks, northern site access road and internal roads	None
1B	Sheds 1 – 8 and ancillary infrastructure	None
1C	Sheds 9 – 12	Sheds 1 – 8
1D	Sheds 13 – 16	Sheds 1 – 12
1E	Sheds 17 - 18	Sheds 1 – 16

Use of Emergency Backup Diesel Generators

A22B. The use of emergency backup diesel generators as the primary operational power supply for Stage 1 (Farm 2) of the development permitted but is limited to a maximum period of 12 months and subject to the following restrictions:

(a) the 12 month period commencing from the date of the commencement of operation of the first sub-stage of the development, being poultry sheds 1 – 8 (Sub-Stage 1C, as described in Table A in Condition A22A), notified to the Department under condition A23 of the consent

(b) no more than two 440 kVA emergency backup diesel generators at Farm 2 and one 45 kVA emergency backup diesel generator at the Namoi River water supply pump operating at any one time during the 12 month period

(c) any diesel generator that operates for a period of more than 200 hours or more per year must comply with the nitrogen oxide emission limits specified in Schedule 4 of the Protection of the Environment Operations (Clean Air) Regulation 2021.

A22C. In the event an alternate primary operational power supply is not commissioned by the end of the 12 month period specified in condition A22B(a), the Applicant must completely destock all poultry sheds prior to the conclusion of the 12 month period and not place another batch of broilers in any shed at the development until one of the following has been satisfied:

(a) the originally planned reticulated electricity power supply via the extension of Essential Energy's overhead infrastructure from Manilla to the development site has been installed and commissioned, or

(b) an alternate primary operational power supply (such as an off-grid solar/battery system) has been approved, installed and commissioned to the satisfaction of the Planning Secretary.

Note: *Condition A22C(b) does not preclude the requirement for the Applicant to seek the appropriate approvals/consent for any alternate primary operational power supply for the development.*

NOTIFICATION OF COMMENCEMENT

A23. The date of commencement of each of the following phases of the development must be notified to the Department in writing, at least one month before that date:

(a) construction;

(b) operation;

(c) cessation of operations.

A24. If the construction or operation of the development is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

Concurrent Construction and Operation of Stage 1 (Farm 2)

A24A. Prior to the commencement of operation of Sub-Stages 1C, 1D and 1E (as described in condition A22A), the Applicant must notify the Planning Secretary of the commencement date of the relevant sub-stage, in accordance with condition A24, and provide a report on the progress of the proposed alternate primary operational power supply arrangements for the development to the satisfaction of the Planning Secretary.

A24B. The Applicant must not commence operation of Sub-Stages 1C, 1D or 1E until the Planning Secretary has advised in writing it has approved the alternate primary operational power supply progress report submitted prior to the commencement of each relevant sub-stage, as required by condition A24A.

EVIDENCE OF CONSULTATION

A25. Where conditions of this consent require consultation with an identified party, the Applicant must:

(a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and

(b) provide details of the consultation undertaken including:

(i) the outcome of that consultation, matters resolved and unresolved; and

(ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

STAGING, COMBINING AND UPDATING STRATEGIES, PLANS OR PROGRAMS

A26. With the approval of the Planning Secretary, the Applicant may:

(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);

(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and

(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

A27. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

A28. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

PROTECTION OF PUBLIC INFRASTRUCTURE

A29. Before the commencement of construction, the Applicant must:

(a) consult with the relevant owner and provider of services that are likely to be affected by the development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;

A30. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:

(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; and

(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

DEMOLITION

A31. All demolition must be carried out in accordance with Australian Standard AS 2601-2001 The Demolition of Structures (Standards Australia, 2001).

STRUCTURAL ADEQUACY

A32. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA.

Note:

- *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*

SUBDIVISION

A33. Prior to the issue of a Subdivision Certificate, detailed work-as-executed drawings shall be prepared and signed by a Registered Surveyor, which show the finished surface levels of the access road, internal roads, drainage and any areas of fill, carried out under this consent. The work-as-executed drawing must be submitted to the certifier and Council prior to the issue of a Subdivision Certificate.

A34. Prior to the issue of a Subdivision Certificate, the Applicant must provide to the Certifier evidence that all matters required to be registered on title, including easements, have been lodged for registration or registered at the Land Registry Services.

A35. Prior to the issue of a Subdivision Certificate, a certificate from an electricity and telecommunications provider must be submitted to the Certifier certifying that satisfactory service arrangements to the site have been established.

A36. The Applicant is required to undertake the subdivision to ensure that each farm and the associated manager's accommodation are wholly contained within its own allotment. Evidence of lodgement with the Land Titles Office is to be submitted to the Certifier prior to the issue of any Occupation Certificate for the development.

EXTERNAL WALLS AND CLADDING FLAMMABILITY

A37. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the BCA.

A38. Prior to the issue of:
(a) any Construction Certificate relating to the construction of external walls (including the installation of finishes and claddings such as synthetic or aluminium composite panels); and
(b) an Occupation Certificate,
the Applicant must provide the Certifying Authority with documented evidence that the products and systems proposed for use or used in the construction of external walls (including finishes and claddings such as synthetic or aluminium composite panels) comply with the requirements of the BCA.

A39. The Applicant must provide a copy of the documentation given to the Certifier under condition A38 to the Planning Secretary within seven days after the Certifier accepts it.

COMPLIANCE

A40. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

CONTRIBUTIONS TO COUNCIL

A41. Before the issue of a construction certificate for any part of the development, a contribution under section 7.12 of the EP&A Act of $579,580.00 (adjusted on a quarterly basis (from the date of this consent), to account for movements in the Australian Bureau of Statistics Consumer Price Index – Building Construction (NSW)), must be paid to Council in accordance with the Tamworth Regional Council Section 7.12 (formerly S94A) Development Contributions Plan 2013 to cater for the increased demand to community infrastructure. The amount payable to Council may be varied, subject to the approval of Council in writing.

Note: The Tamworth Regional Council Section 7.12 (formerly 94A) Development Contributions Plan may be viewed at www.tamworth.nsw.gov.au or a copy may be inspected at Council's Administration Centre during normal business hours

OPERATION OF PLANT AND EQUIPMENT

A42. All plant and equipment used on site, or to monitor the performance of the development, must be:
(a) maintained in a proper and efficient condition; and
(b) operated in a proper and efficient manner.

UTILITIES AND SERVICES

A43. Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.

WORKS AS EXECUTED PLANS

A44. Before the issue of the relevant Occupation Certificate, works-as-executed drawings signed by a registered surveyor demonstrating that the stormwater drainage and finished ground levels have been constructed as approved, must be submitted to the Principal Certifier.

APPLICABILITY OF GUIDELINES

A45. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.

A46. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

ADVISORY NOTES

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

PART B ENVIRONMENTAL CONDITIONS

AIR QUALITY

Meteorological Monitoring

B1. Prior to the commencement of any works on the site, and for the life of the development, the Applicant must ensure that there is a suitable meteorological station operating on the site that:

(a) complies with the requirements in the latest version of EPA's *Approved Methods for Sampling of Air Pollutants in New South Wales* (DEC, 2007) (as may be updated or replaced from time to time); and

(b) is capable of continuous real-time measurement of the following parameters: air temperature, wind direction, wind speed, solar radiation, rainfall and relative humidity and any other requirements specified in the EPL.

Dust Minimisation

B2. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.

B3. During construction, the Applicant must ensure that:

(a) exposed surfaces and stockpiles are suppressed by regular watering;

(b) all trucks entering or leaving the site with loads have their loads covered;

(c) trucks associated with the development do not track dirt onto the public road network;

(d) public roads used by these trucks are kept clean; and

(e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.

Air Quality Management Plan

B4. Prior to the commencement of operation, the Applicant must prepare an Air Quality Management Plan (AQMP) to the satisfaction of the Planning Secretary. The AQMP must form part of the OEMP required by condition C5. The AQMP must:

(a) be prepared by a suitably qualified and experienced person(s) in consultation with EPA;

(b) detail and rank all emissions from all sources of the development, including particulate emissions;

(c) describe a program that is capable of evaluating the performance of the operation and determining compliance with key performance indicators;

(d) identify the control measures that that will be implemented for each emission source;

(e) nominate the following for each of the proposed controls:

(i) key performance indicator;

(ii) monitoring method;

(iii) location, frequency and duration of monitoring;

(iv) record keeping;

(v) complaints register;

(vi) response procedures; and

(vii) compliance monitoring.

(f) include an odour monitoring program which must:

(i) be carried out by a suitably qualified and experienced person(s) approved in writing by the EPA;

(ii) be carried out at least once per production cycle during the following periods, under odour enhancing meteorological and stocking conditions:

a. 1 February – 30 May inclusive; and

b. 1 September – 30 November;

(iii) target times that present an increased risk of odour emissions that might impact surrounding sensitive receptors (i.e. periods of peak stocking density in the sheds on the farm, and periods when receptors are most likely to be home) and when meteorological conditions are most likely to transport odour emissions towards receptor locations; and

(iv) be implemented for a period of at least two years from the commencement of operation, or as otherwise agreed to by the Planning Secretary.

B5. The Applicant must:

(a) not commence operation until the Air Quality Management Plan required by condition B4 is approved by the Planning Secretary;

(b) implement the most recent version of the Air Quality Management Plan approved by the Planning Secretary for the duration of the development; and

(c) not cease the Odour Monitoring Program required by condition B4(f) without the approval of the Planning Secretary.

Note: The odour monitoring program will be reviewed by the EPA at the completion of two years. At the completion of the review, the EPA will determine if it is appropriate for the program to continue, cease or if additional odour mitigation measures are required at the premises.

B6. The results of the Odour Monitoring Program required by condition B4 must be submitted to the EPA within two weeks of the carrying out of each odour survey.

B7. Should the Odour Monitoring Program required by condition B4 reveal that offensive odour is impacting surrounding sensitive receptors during normal operating conditions, the EPA may require the Applicant to implement odour mitigation technologies.

Odour Management

B8. The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).

B9. The development must be designed, constructed, operated and maintained in a manner that does not preclude the retrofit of air quality (including odour) emissions controls and management measures including, but not limited to, stacks to vertically exhaust emissions from the tunnel ventilation fans at height and odour abatement measures such as scrubbers.

TRAFFIC AND ACCESS

Construction Traffic Management Plan

B10. Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with Council and Transport for NSW;

(c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction;

(d) detail heavy vehicle routes, access and parking arrangements;

(e) include a Driver Code of Conduct to:

(i) minimise the impacts of earthworks and construction on the local and regional road network;

(ii) minimise conflicts with other road users;

(iii) minimise road traffic noise; and

(iv) ensure truck drivers use specified routes;

(f) include a program to monitor the effectiveness of these measures; and

(g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.

B11. The Applicant must:

(a) not commence construction until the Construction Traffic Management Plan required by condition B10 is approved by the Planning Secretary; and

(b) implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.

Parking

B12. The Applicant must provide sufficient parking facilities on-site, including for heavy vehicles and for site personnel, to ensure that traffic associated with the development does not utilise public streets.

Operating Conditions

B13. The Applicant must ensure:

(a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the development are constructed and maintained in accordance with the latest version of *AS 2890.1:2004 Parking facilities Off-street car parking* (Standards Australia, 2004) and *AS 2890.2:2002 Parking facilities Off-street commercial vehicle facilities* (Standards Australia, 2002);

(b) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant AUSTROADS guidelines;

(c) the development does not result in any vehicles queuing on the public road network;

(d) heavy vehicles and bins associated with the development are not parked on local roads or footpaths in the vicinity of the site;

(e) all vehicles are wholly contained on site before being required to stop;

(f) all loading and unloading of materials is carried out on-site;

(g) all trucks entering or leaving the site with loads have their loads covered and do not track dirt onto the public road network;

(h) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times; and

(i) the transportation of birds, feedstock and waste materials to and from the development are restricted to Rushes Creek Road from the Oxley Highway.

Operational Driver Code of Conduct

B14. Prior to the commencement of operation, the Applicant must prepare a Driver Code of Conduct. The Driver Code of Conduct must form part of the OEMP required by condition C6 and be prepared in accordance with condition C1. The Code of Conduct should include but not limited to:

(a) map of the primary transport route/s highlighting critical locations;

(b) safety initiatives for transport through residential areas and/or school zones;

(c) measures to ensure vehicles used for the transportation of birds use the Oxley Highway and Rushes Creek Road only;

(d) an induction process for vehicle operators and regular toolbox meetings;

(e) a complaints resolution and disciplinary procedure;

(f) a directive to drivers to slow down and provide right-of-way to any livestock and/or farm machinery on the transport routes; and

(g) a directive to drivers to avoid the use of compression braking along Rushes Creek Road.

B15. The Applicant must:

(a) not commence operation until the Driver Code of Conduct required by condition B14 has been approved by the Planning Secretary; and

(b) implement the most recent version of the Driver Code of Conduct approved by the Planning Secretary for the duration of the development.

SOILS, WATER QUALITY AND HYDROLOGY

Imported Soil

B16. The Applicant must:

(a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;

(b) keep accurate records of the volume and type of fill to be used; and

(c) make these records available to the Planning Secretary upon request.

Erosion and Sediment Control

B17. Prior to the commencement of any construction or other surface disturbance the Applicant must install and maintain suitable erosion and sediment control measures on-site, in accordance with the relevant requirements of the *Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book* (Landcom, 2004) guideline and the Erosion and Sediment Control Plan included in the CEMP required by condition C2.

B18. Clean water diversions shall be constructed and stabilised prior to the commencement of earthworks at each PPU.

Discharge Limits

B19. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided for in an EPL.

Stormwater Management System

B20. Prior to the commencement of operation, the Applicant must design, install and operate a stormwater management system for the development. The system must:

(a) be designed by a suitably qualified and experienced person(s);

(b) be generally in accordance with the conceptual design in the EIS and RtS;

(c) be in accordance with applicable Australian Standards;

(d) ensure that the system capacity has been designed in accordance with *Australian Rainfall and Runoff* (Engineers Australia, 2016) and *Managing Urban Stormwater: Council Handbook* (EPA, 1997) guidelines;

(e) divert existing clean surface water around operational areas of the site and discharged into natural drainage lines in a manner that prevents scouring; and

(f) be designed such that:

(i) all vegetated swales and other stormwater conveyances within the controlled drainage areas are underlain by a compacted clay layer of at least 300 mm thickness and with a permeability of less than 1 x 10-9 m/s, or other material providing an equivalent barrier to percolation;

(ii) all wastewater, recycled (irrigation) and other contaminated runoff is captured in the closed surface water management system; and

(iii) no discharges are to occur from the detention dams for events up to the 1% AEP.

Water Management

B21. The detention dams at each PPU are to be inspected annually or following significant rainfall events, and desilted if required.

Water Management Plan

B22. Prior to the commencement of operation, the Applicant must prepare a Water Management Plan to the satisfaction of the Planning Secretary. The plan must form part of the OEMP required by condition C5 and must:

(a) be prepared by a suitably qualified and experienced person(s)

(b) be prepared in consultation with the Department's Water Group and the Natural Resources Access Regulator;

(c) detail water use, metering, disposal and management on-site;

(d) detail the number and location of piezometers on-site;

(e) detail the water licence requirements for the development;

(f) detail the management of wastewater streams on-site;

(g) contain a Surface Water Management Plan, including;

(i) a program to monitor:

a. surface water flows and quality;

b. surface water storage and use;

c. sediment basin operation; and

d. the surface water discharge point from the two main drainage lines on the site;

(ii) a trigger action and response plan (TARP) program to investigate potential adverse surface water impacts, including where surface water quality parameters exceed the Australian and New Zealand Environment Conservation Council (ANZECC) guidelines;

(iii) a protocol for the investigation and mitigation where the surface water impact assessment criteria has been exceeded; and

(h) contain a Groundwater Management Plan, including:

(i) baseline data on groundwater levels and quality;

(ii) a program to monitor groundwater levels and quality (including nutrients and pathogens);

(iii) groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts; and

(iv) a protocol for the investigation and mitigation of identified exceedances of the groundwater impact assessment criteria.

(i) contain a contingency plan for the operational water supply for the facility during extreme weather events such as heat wave or drought.

B23. The Applicant must:

(a) not commence operation until the Water Management Plan required by condition B22 is approved by the Planning Secretary; and

(b) implement the most recent version of the Water Management Plan approved by the Planning Secretary for the duration of the development.

Potable Water

B24. Prior to the commencement of operation, the Applicant must prepare a quality assurance program (or drinking water management system) in accordance with the 'NSW Private Water Supply Guidelines' (NSW Health 2016).

NOISE

Hours of Work

B25. The Applicant must comply with the hours detailed in Table 1, unless otherwise agreed in writing by the Planning Secretary.

Table 1 *Hours of Work*

Activity	Day	Time
Earthworks and construction	Monday – Friday Saturday	7 am to 6 pm 8 am to 1 pm
Operation	Monday – Sunday	24 hours

B26. Works outside of the hours identified in condition B25 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;

(b) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or

(c) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Construction Noise Limits

B27. The development must be constructed to achieve the construction noise management levels detailed in *the Interim Construction Noise Guideline* (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures in 0 of this consent.

Operational Noise Limits

B28. The Applicant must ensure that noise generated by operation of the development does not exceed 35 dB(A) $L_{Aeq(15\ minute)}$ at all times (day, evening and night) at all residential receivers.

Note *Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA, 2017) (as may be updated or replaced from time to time). Refer to the plan in Appendix 1 for the location of residential sensitive receivers.*

Concurrent Construction and Operation Noise Limits

B28A. The Applicant must ensure that noise generated during concurrent construction and operation of Stage 1 (Farm 2) of the development does not exceed 40 dB(A) $L_{Aeq(15\ minute)}$ at all times (day, evening and night) at all residential receivers.

Noise Validation Monitoring

B28B. Within the first month of Stage 1 (Farm 2) operations commencing, the Applicant must carry out noise validation monitoring. Monitoring must be carried out in accordance with the requirements of the Environment Protection Authority and the EPL, and within the following parameters:

(a) at receptors R24 and R25 as identified in Appendix 1 of this consent;

(b) within 10 days of operations commencing at Farm 2 while concurrently operating one 440 kVA diesel generator at Farm 2;

(c) within 10 days of the commencement of operation of two 440 kVA diesel generators at Farm 2 concurrent with Farm 2 operations; and

(d) during the night period as defined in the Noise Policy for Industry (EPA, 2017) for a minimum of one hour during the night.

Road Traffic Noise

B29. Prior to the commencement of construction, the Applicant must prepare a Driver Code of Conduct and induction training for the development to minimise road traffic noise. The Applicant must update the Driver Code of Conduct and induction training for construction and operation and must implement the Code of Conduct for the life of the development.

ANIMAL WELFARE AND BIOSECURITY

Animal Welfare

B30. The Applicant must ensure the development complies with the relevant requirements for the welfare of livestock, particularly health, housing, watering, feeding, handling and transport, including but not limited to those contained within the latest version of:

(a) RSPCA Approved Farming Scheme Standards – Meat Chickens (RSPCA Australia 2013) (RSPCA Standards)

(b) National Animal Welfare Standards for Livestock Processing Establishments 2nd edition (Meat and Livestock Australia, 2009);

(c) Australian Animal Welfare Standards and Guidelines – Land Transport of Livestock (Animal Health Australia, 2012);

(d) National Animal Welfare Standards for the Chicken Meat Industry (Barnett et al. 2008)

(e) NSW DPI Best Practice Management for Meat Chicken Production in NSW – Manual 2 (2012);

(f) National Farm Biosecurity Manual for Chicken Growers (ACMF, 2000);

(g) Model Code of Practice for the Welfare of Animals – Domestic Poultry, 4th Edition (PISC, 2002);

(h) Model Code of Practice for the Welfare of Animals, Land Transport of Poultry (PISC, 2006); and

(i) any other relevant document that supersedes the above.

Emergency Disposal and Biosecurity

B31. Prior to the commencement of operation, the Applicant must prepare an Emergency Disposal and Bio-security Protocol, detailing the procedures for a biosecurity emergency including a mass mortality event, to the satisfaction of the Planning Secretary. The protocol must form part of the OEMP required by condition C5 and must:

(a) be prepared in consultation with Council, EPA, DPI and other relevant public authorities;

(b) be consistent with the relevant AUSTVETPLAN manuals and supporting documents;

(c) describe the notification procedures;

(d) detail all transport routes to be used in a mass mortality event;

(e) detail any requirements to stage the mass disposal of dead livestock;

(f) detail the burial location(s) for the disposal of dead livestock, including plans and drawings;

(g) detail the measures to maintain quarantine control;

(h) detail measures to prevent ground water contamination; and

(i) detail the mass mortality disposal procedures and options.

B32. The Applicant must:

(a) not commence operation until the Emergency Disposal and Biosecurity Protocol required by condition B31 is approved by the Planning Secretary; and

(b) implement the most recent version of the Emergency Disposal and Biosecurity Protocol approved by the Planning Secretary for the duration of the development.

ABORIGINAL HERITAGE

Aboriginal Cultural Heritage Management Plan (ACHMP)

B33. Before the commencement of any clearing or construction works, the Applicant must prepare an ACHMP for the development. The plan must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties and EES;

(b) be submitted to the satisfaction of the Planning Secretary prior to construction of any part of the development;

(c) describe the management actions for all Aboriginal sites within the development site;

(d) describe the measures to salvage the artefacts in Happy Hills-IF3, Bondah-IF1, Bondah-IF2, Bondah-IF7, Bondah-IF8, Happy Hills-OS3 and Bondah-OS11, including mapping, analysis and collection, and protect them in perpetuity.

B34. The Applicant must:

(a) not commence construction until the Aboriginal Cultural Heritage Management Plan is approved by the Planning Secretary; and

(b) implement the most recent version of the Aboriginal Cultural Heritage Management Plan approved by the Planning Secretary for the duration of the development.

Unexpected Finds Protocol

B35. If any item or object of Aboriginal heritage significance is identified on site:

(a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately;

(b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and

(c) the Heritage Division of DPC must be contacted immediately.

B36. Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.

BIODIVERSITY

B37. Prior to any clearing or construction works, the Applicant must purchase and retire 29 White Box grassy woodlands – derived grassland (PCT 1383) credits to offset the removal/ disturbance of 1.17 hectares of White Box grassy woodlands – derived grassland at the site. The ecosystem credits must be retired in accordance with the requirements of EES's Biodiversity Offsets Scheme and the *Biodiversity Conservation Act 2016*.

B38. The requirement to retire ecosystem credits (see condition B37) may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the number and classes of ecosystem credits, as calculated by the EES Group's Biodiversity Offsets Payment Calculator.

B39. The Applicant must provide the Planning Secretary with evidence that:

(a) the retirement of ecosystem credits has been completed (see condition B37); or

(b) a payment has been made to the Biodiversity Conservation Fund (see condition B38),

prior to undertaking any clearing of native vegetation or activities that have the potential to impact upon this native vegetation.

HAZARDS AND RISK

Pre-construction

B40. At least one month prior to the commencement of construction of the development (except for construction of those preliminary works that are outside the scope of the hazard studies), or within such further period as the Planning Secretary may agree, the Applicant must prepare and submit for the approval of the Planning Secretary the studies set out under subsections (a) to (b) below (the pre-construction studies). Construction, other than of preliminary works, must not commence until approval has been given by the Planning Secretary.

(a) A Fire Safety Study for the development. This study must cover the relevant aspects of the Department's Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines' and the New South Wales Government's Best Practice Guidelines for Contaminated Water Retention and Treatment Systems (NSW HMPCC, 1994). The study must meet the requirements of Fire and Rescue NSW.

(b) A Final Hazard Analysis of the development, prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'.

Pre-commissioning

B41. Prior to commissioning of the development, or within such further period as the Planning Secretary may agree, the Applicant must develop and implement a comprehensive Emergency Plan and detailed emergency procedures for the development. The plan must be prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'.

Further Requirements

B42. The Applicant must store all chemicals, fuels and oils used on-site in accordance with:

(a) the requirements of all relevant Australian Standards; and

(b) the NSW EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook, if the chemicals are liquids.

B43. In the event of an inconsistency between the requirements B42(a) and B42(b), the most stringent requirement must prevail to the extent of the inconsistency.

Dangerous Goods

B44. Dangerous goods, as defined by the Australian Dangerous Goods Code, must be stored and handled strictly in accordance with:

(a) all relevant Australian Standards;

(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and

(c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management – technical bulletin (EPA, 1997).

B45. In the event of an inconsistency between the requirements B44(a) to B44(c), the most stringent requirement must prevail to the extent of the inconsistency.

WASTE MANAGEMENT

Pests, Vermin and Noxious Weed Management

B46. The Applicant must:

(a) implement suitable measures to manage pests, vermin and declared noxious weeds on the site; and

(b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.

Note: *For the purposes of this condition, noxious weeds are those species subject to an order declared under the Noxious Weed Act 1993.*

Composting of mortalities on-site

B47. Composted mortalities cannot be disposed off-site until a Specific Resource Recovery Exemption is granted by the EPA for birds composted at the site.

Note: *The general manure composting resource recovery exemption does not permit the inclusion of animal waste.*

Waste Management

B48. The Applicant shall not stockpile, store or utilise spent bedding material in any way within the development., other than for the composing of birds.

B49. Broiler mortalities shall not be disposed of to land by burial or any other methods at the site, for the life of the development, unless otherwise permitted by a relevant authority during a bio-security emergency at the site.

CONTAMINATION

Unexpected Finds

B50. Prior to the commencement of earthworks, the Applicant must revise the unexpected contamination procedure in consultation with the Site Auditor to ensure that potentially contaminated material (including the Sheep Holding Shed) is appropriately managed. The procedure must form part of the of the CEMP in accordance with condition C2 and must ensure appropriate management of any material identified as contaminated.

Site Auditor

B50A. Prior to the commencement of earthworks for the development on site, the Applicant must engage a Site Auditor accredited under the *Contaminated Land Management Act 1997* NSW Site Auditor Scheme.

Remediation

B51. The Applicant must ensure the remediation works are undertaken by a suitably qualified and experienced consultant(s) in accordance with the approved Remedial Action Plan and relevant guidelines produced or approved under the *Contaminated Land Management Act 1997.*

B52. Within one month of the completion of the remediation works, the Applicant must submit a validation report/letter to the Planning Secretary, which has been prepared, or reviewed and approved, by a consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.

B52A. Within six months of the completion of the remediation works and prior to the commencement of operation, the Applicant must obtain from the Site Auditor, a Site Audit Statement and a Site Audit Report. The reports must be prepared in accordance with the relevant guidelines under the CLM Act and must confirm:

(a) the remedial works approved under this consent have been completed in accordance with the remediation objectives listed in the Remedial Action Plan; and

(b) the site is suitable for its intended use.

A copy of the final Site Audit Statement and Site Audit Report must be provided to the Planning Secretary and the EPA.

Long Term Environmental Management Plan

B52B The Long Term Environmental Management Plan (LTEMP) for the development must be submitted for consideration and approval by the Site Auditor, prior to the finalisation of the Site Audit Statement and Site Audit Report. The LTEMP is to:

(a) address all environmental impacts of the development's construction and operational phases

(b) recommend any systems/controls to be implemented to minimise the potential for any adverse environmental impact(s)

(c) include a surveyed drawing prepared by a registered surveyor clearly identifying the location and depth of any remaining on-site contamination

(d) incorporate a program for ongoing monitoring and review to ensure that the LTEMP remains contemporary with relevant environmental standards

(e) mechanisms to report results to the Planning Secretary and the EPA.

B52C. Upon completion of the Site Audit Statement and Site Audit Report, the Applicant must:

(a) implement the approved LTEMP;

(b) provide evidence to the Planning Secretary the LTEMP is listed on the relevant planning certificate for the land, issued under section 10.7 of the EP&A Act, for the development.

VISUAL AMENITY

Landscaping

B53. The Applicant must:

(a) establish a vegetation screen around the perimeter of each PPU a minimum width of 40 metres prior to the commencement of operation.

(b) maintain the vegetation screens on the site for the life of the development.

Lighting

B54. The Applicant must ensure the lighting associated with the development:

(a) complies with the latest version of AS 4282-1997 - *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 1997); and

(b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

COMMUNITY ENGAGEMENT

B55. The Applicant must consult with the community regularly throughout the development, including consultation with the nearby sensitive receivers identified in Appendix 2, relevant regulatory authorities, Registered Aboriginal Parties and other interested stakeholders.

Community Consultation Plan

B56. The Applicant must prepare a Community Consultation Plan for the development, to the satisfaction of the Planning Secretary. The Plan must:

(a) be approved by the Planning Secretary prior to the commencement of site preparation works;

(b) be implemented for the life of the development, or as otherwise agreed by the Planning Secretary;

(c) assign a central contact person to keep the nearby sensitive receivers regularly informed throughout the development;

(d) detail the mechanisms for regularly consulting with:

(i) the local community;

(ii) nearby sensitive receivers identified in Appendix 2;

(iii) relevant regulatory authorities;

(iv) Registered Aboriginal Parties; and

(v) other interested stakeholders,

throughout the development, such as holding regular meetings to inform the community of the progress of the development and report on environmental monitoring results;

(e) include contact details for key community groups, relevant regulatory authorities, Registered Aboriginal Parties and other interested stakeholders; and

(f) include a complaints procedure for recording, responding to and managing complaints, including:

(i) email, toll-free telephone number and postal address for receiving complaints;

(ii) advertising the contact details for complaints prior to and during operation, via the local newspaper and through on-site signage;

(iii) a complaints register to record the date, time and nature of the complaint, details of the complainant and any actions taken to address the complaint; and

(iv) procedures to resolve any disputes that may arise during the course of the development.

B57. The Applicant must:

(a) not commence construction until the Community Consultation Plan is approved by the Planning Secretary;

(b) implement the approved Community Consultation Plan for the duration of the development.

PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Management Plan Requirements

C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:

(a) detailed baseline data;

(b) details of:

(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);

(ii) any relevant limits or performance measures and criteria; and

(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;

(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;

(d) a program to monitor and report on the:

(i) impacts and environmental performance of the development; and

(ii) effectiveness of the management measures set out pursuant to paragraph (c) above;

(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;

(f) a program to investigate and implement ways to improve the environmental performance of the development over time;

(g) a protocol for managing and reporting any:

(i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);

(ii) complaint;

(iii) failure to comply with statutory requirements; and

(h) a protocol for periodic review of the plan.

Note: *the Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans*

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.

C3. As part of the CEMP required under condition C2 of this consent, the Applicant must include the following:

(a) Erosion and Sediment Control Plan;

(b) Construction Traffic Management Plan (see condition B10); and

(c) Community Consultation and Complaints Handling.

C4. The Applicant must:

(a) not commence construction of the development until the CEMP is approved by the Planning Secretary; and

(b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

C5. The Applicant must prepare an Operational Environmental Management Plan (OEMP) in accordance with the requirements of condition C1 to the satisfaction of the Planning Secretary.

C6. As part of the OEMP required under condition C5 of this consent, the Applicant must include the following:

(a) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;

(b) describe the procedures that would be implemented to:

(i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;

(ii) receive, handle, respond to, and record complaints;

(iii) resolve any disputes that may arise;

(iv) respond to any non-compliance;

(v) respond to emergencies; and

(c) include the following environmental management plans:

(i) Air Quality (see condition B4);

(ii) Operational Driver Code of Conduct (see condition B14);

(iii) Water (see condition B22)

(iv) Emergency Disposal and Biosecurity Protocol (see condition B31); and

(v) Aboriginal Cultural Heritage (see condition B33).

C7. The Applicant must:

(a) not commence operation until the OEMP is approved by the Planning Secretary; and

(b) operate the development in accordance with the OEMP approved by the Planning Secretary (and as revised and approved by the Planning Secretary from time to time).

REVISION OF STRATEGIES, PLANS AND PROGRAMS

C8. Within three months of:

(a) the submission of a Compliance Report under condition 0;

(b) the submission of an incident report under condition C9;

(c) the submission of an Independent Audit under condition 0;

(d) the approval of any modification of the conditions of this consent; or

(e) the issue of a direction of the Planning Secretary under condition A2(b) which requires a review,

the strategies, plans and programs required under this consent must be reviewed

If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.

Note: *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.:*

REPORTING AND AUDITING

Incident Notification, Reporting and Response

C9. The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident. Subsequent notification requirements must be given and reports submitted in accordance with the requirements set out in Appendix 3.

Non-Compliance Notification

C10. The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of any non-compliance.

A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Compliance Reporting

C11. Compliance Reports of the development must be prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2020).

C12. The Applicant must make each Compliance Report publicly available no later than 60 days after submitting it to the Planning Secretary and notify the Planning Secretary in writing at least seven days before this is done.

Independent Audit

C13. Independent auditing of the operation of the development must be carried out in accordance with the Independent Audit Post Approval Requirements (Department, 2020).

C14. In accordance with the specific requirements in the Independent Audit Post Approval Requirements (Department 2020), the Applicant must:

(a) review and respond to each Independent Audit Report prepared under condition C13 of this consent;

(b) submit the response to the Planning Secretary; and

(c) make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done.

Monitoring and Environmental Audits

C15. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.

Note: *For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.*

ACCESS TO INFORMATION

C16. At least 48 hours before the commencement of construction until the completion of all works under this consent, , the Applicant must:

(a) make the following information and documents (as they are obtained or approved) publicly available on its website:

(i) the documents referred to in condition A2 of this consent;

(ii) all current statutory approvals for the development;

(iii) all approved strategies, plans and programs required under the conditions of this consent;

(iv) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;

(v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;

(vi) a summary of the current stage and progress of the development;

(vii) contact details to enquire about the development or to make a complaint;

(viii) a complaints register, updated monthly;

(ix) the Compliance Report of the development;

(x) audit reports prepared as part of any Independent Audit of the development and the Applicant's response to the recommendations in any audit report;

(xi) any other matter required by the Planning Secretary; and

(b) keep such information up to date, to the satisfaction of the Planning Secretary.

APPENDIX 1 DEVELOPMENT LAYOUT PLANS

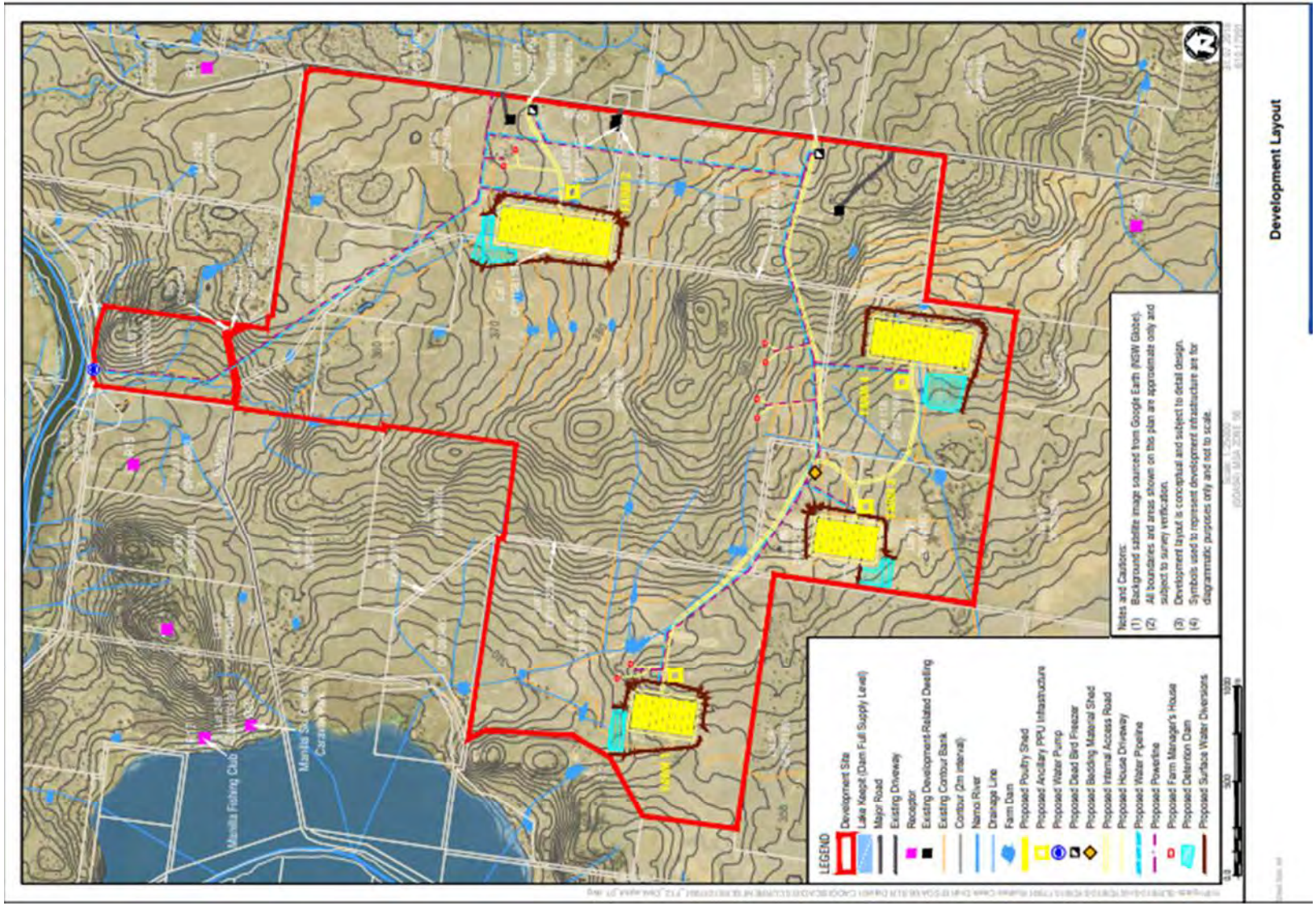

Figure 1: Site Plan(s)

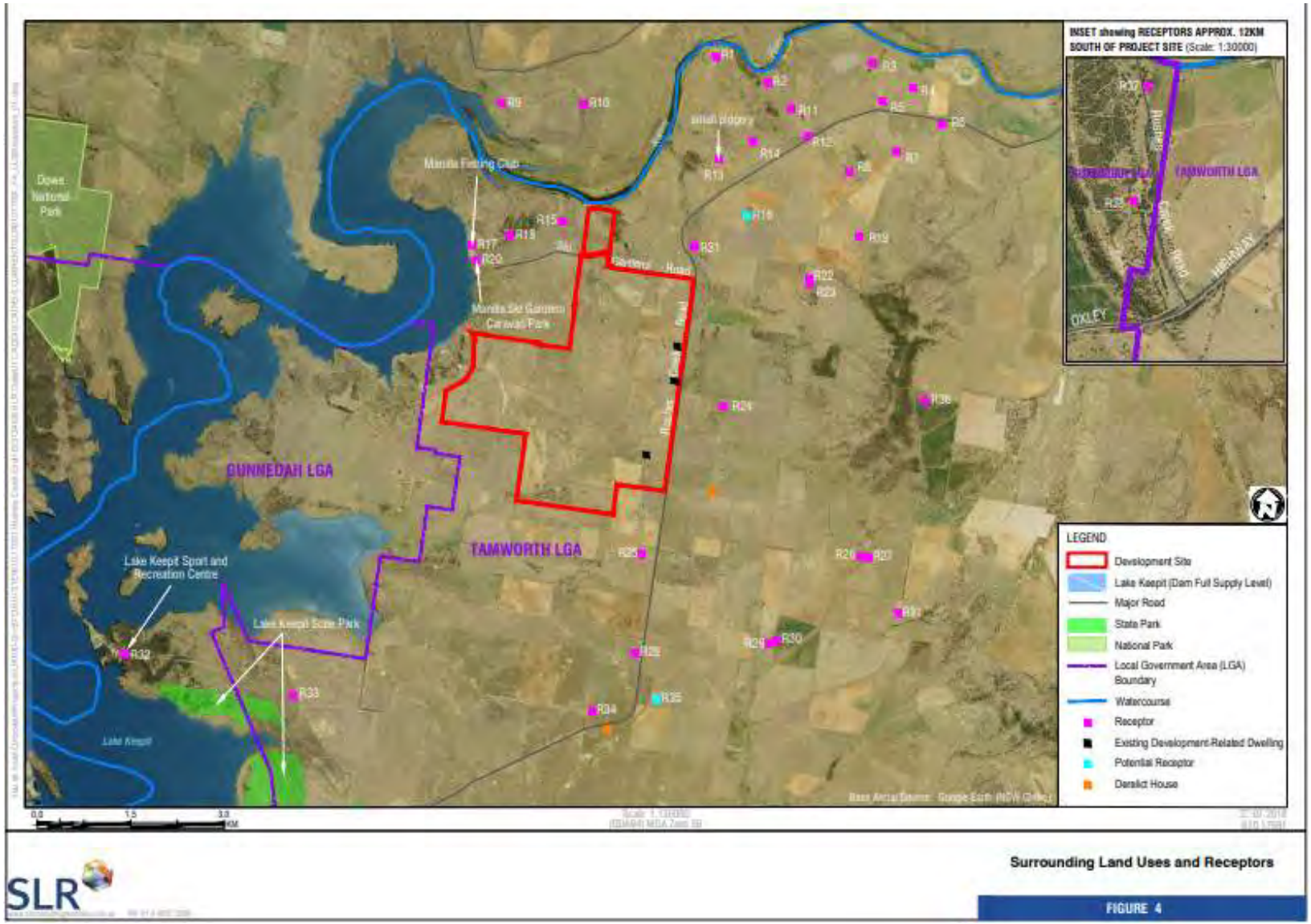

Figure 2: Sensitive Receptors

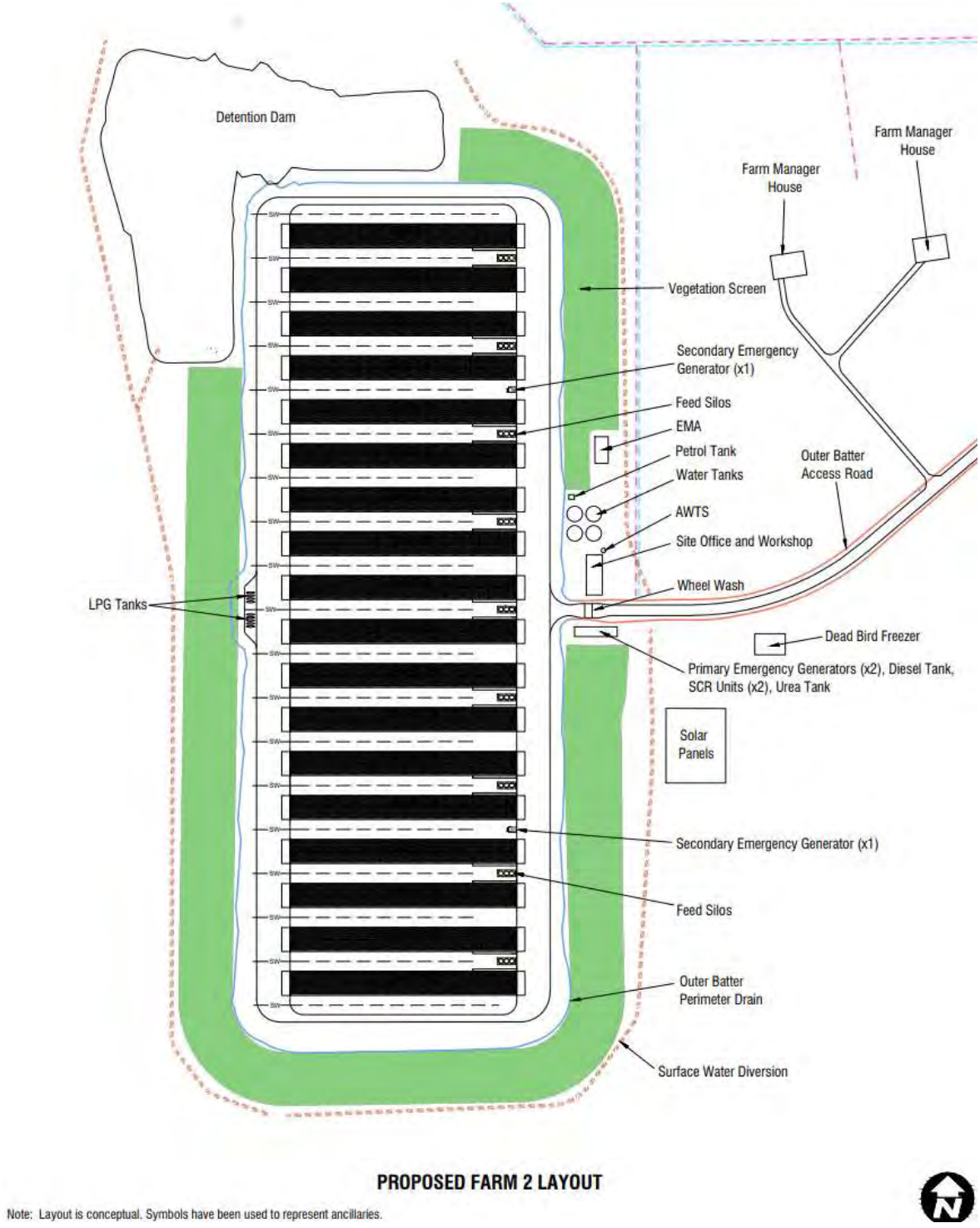

Figure 3: Modified Farm 2 Layout

APPENDIX 2 APPLICANT'S MANAGEMENT AND MITIGATION MEASURES

APPENDIX 3 INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

1. A written incident notification addressing the requirements set out below must be emailed to the Planning Secretary at the following address: compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition C9 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
   a. identify the development and application number;
   b. provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
   c. identify how the incident was detected;
   d. identify when the applicant became aware of the incident;
   e. identify any actual or potential non-compliance with conditions of consent;
   f. describe what immediate steps were taken in relation to the incident;
   g. identify further action(s) that will be taken in relation to the incident; and
   h. identify a project contact for further communication regarding the incident.

INCIDENT REPORT REQUIREMENTS

3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
   a. a summary of the incident;
   b. outcomes of an incident investigation, including identification of the cause of the incident;
   c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
   d. details of any communication with other stakeholders regarding the incident.

Appendix B:

Environmental Protection Licence

Section 58(5) Protection of the Environment Operations Act 1997

Licence Variation

Licence - 21569

PROTEN TAMWORTH LIMITED
PO BOX 1746
NORTH SYDNEY NSW 2060

Attention: Ms Kathryn Singh

Notice Number	1621460
File Number	EF21/10187
Date	

NOTICE OF VARIATION OF LICENCE NO. 21569

BACKGROUND

A. PROTEN TAMWORTH LIMITED ("the licensee") is the holder of Environment Protection Licence No. 21569 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of activities at RUSHES CREEK ROAD, RUSHES CREEK, NSW, 2346 ("the premises").

B. On 04-Aug-2022 the Environment Protection Authority (EPA) received an application for the variation of the licence.

C. The application sought to vary the licence to enable concurrent construction and operations of Stage 1 (Farm 2) of the Rushes Creek Poultry Development, as approved by Modification 3 to Development Consent SSD-7704.

D. The EPA has reviewed the submitted information and has varied the licence accordingly.

E. This licence variation enables scheduled development works, being the construction of Farm 2 and associated ancillary facilities, and concurrent operations of Stage 1 (Farm 2) of the development, for a period of up to 10 months. It also enables the operation of up to two 440 kVA generators and one 45 kVA generator for a period of up to 12 months, while long term power supply options are established.

F. The licensee must apply to the EPA to vary the licence prior to commencing construction of Stage 2 of the development (being Farms 1, 3 and 4) and its subsequent operation.

G. This variation of the licence does not authorise a significant increase in the environmental impact of the activity authorised or controlled by the licence.

VARIATION OF LICENCE NO. 21569

Licence Variation

1. By this notice the EPA varies licence No. 21569. The attached licence document contains all variations that are made to the licence by this notice.
2. The following variations have been made to the licence:
   - Condition A2.1 - amended.
   - Condition A4.1 - new condition added.
   - Condition P1.1 - new condition added.
   - Condition P1.2 - amended.
   - Condition P1.3 - amended.
   - Condition L3.1 - new condition added.
   - Condition L3.2 - new condition added.
   - Condition L3.3 - new condition added.
   - Condition L3.4 - new condition added.
   - Condition L3.5 - new condition added.
   - Condition L3.6 - new condition added.
   - Condition L3.7 - new condition added.
   - Condition L3.8 - new condition added.
   - Condition L4.4 - new condition added.
   - Condition L5.1 - new condition added.
   - Condition L6.1 - new condition added.
   - Condition L6.2 - new condition added.
   - Condition L6.3 - new condition added.
   - Condition O4.4 - new condition added.
   - Condition O4.6 - new condition added.
   - Condition O4.7 - spelling error corrected.
   - Condition O4.11 - new condition added.
   - Condition O4.12 - new condition added.
   - Condition O4.13 - new condition added.
   - Condition O4.14 - new condition added.
   - Condition O4.15 - new condition added.
   - Condition O4.16 - new condition added.
   - Condition M2.1 - new condition added.
   - Condition M2.2 - new condition added.
   - Condition M3.1 - new condition added.
   - Condition M7.1 - new condition added.

- Condition M7.2 - new condition added.
- Condition M7.3 - new condition added.
- Condition M7.4 - new condition added.
- Condition M7.5 - new condition added.
- Condition M7.6 - new condition added.
- Condition M8.1 - new condition added.
- Condition R4.1 - new condition added.

.....

Environment Protection Authority

(by Delegation)

INFORMATION ABOUT THIS NOTICE

- This notice is issued under section 58(5) of the Act.
- Details provided in this notice, along with an updated version of the licence, will be available on the EPA's Public Register (http://www.epa.nsw.gov.au/prpoeo/index.htm) in accordance with section 308 of the Act.

Appeals against this decision

- You can appeal to the Land and Environment Court against this decision. The deadline for lodging the appeal is 21 days after you were given notice of this decision.

When this notice begins to operate

- The variations to the licence specified in this notice begin to operate immediately from the date of this notice, unless another date is specified in this notice.
- If an appeal is made against this decision to vary the licence and the Land and Environment Court directs that the decision is stayed the decision does not operate until the stay ceases to have effect or the Land and Environment Court confirms the decision or the appeal is withdrawn (whichever occurs first).

Environment Protection Licence

Licence - 21569

Licence Details	
Number:	21569
Anniversary Date:	11-August

Licensee

PROTEN TAMWORTH LIMITED

PO BOX 1746

NORTH SYDNEY NSW 2060

Premises

RUSHES CREEK

RUSHES CREEK ROAD

RUSHES CREEK NSW 2346

Scheduled Activity

Livestock intensive activities

Fee Based Activity	Scale
Bird accommodation	> 1000 T accommodation capacity

Contact Us

NSW EPA

4 Parramatta Square

12 Darcy Street

PARRAMATTA NSW 2150

Phone: 131 555

Email: info@epa.nsw.gov.au

Locked Bag 5022

PARRAMATTA NSW 2124

Environment Protection Licence

Licence - 21569

Environment Protection Licence

Licence - 21569

Environment Protection Licence

Licence - 21569

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

Licence - 21569

The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

PROTEN TAMWORTH LIMITED
PO BOX 1746
NORTH SYDNEY NSW 2060

subject to the conditions which follow.

Environment Protection Licence

Licence - 21569

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled development work listed below at the premises listed in A2.

There are four stages to the scheduled development works of which the following stages are authorised by this licence:
Construction of Farm 2 and associated infrastructure.

A1.2 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Livestock intensive activities	Bird accommodation	> 1000 T accommodation capacity

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
RUSHES CREEK
RUSHES CREEK ROAD
RUSHES CREEK
NSW 2346
LOT 1 DP 44215, LOT 26 DP 752169, LOT 86 DP 752169, LOT 101 DP 752169, LOT 118 DP 752169, LOT 171 DP 752169, LOT 143 DP 752189, LOT 1 DP 1108119, LOT 1 DP 1132078, LOT 1 DP 1132298, LOT 62 DP 1276824

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:
a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

Environment Protection Licence

A4 Other administrative conditions

A4.1 The applicant must, in the opinion of the EPA, be a fit and proper person to hold a licence under the Protection of the Environment Operations Act 1997, having regard to the matters in s.83 of that Act.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Air

EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
6		Discharge to Air	Tunnel ventilation fans located on Shed 01 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
7		Discharge to Air	Tunnel ventilation fans located on Shed 02 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
8		Discharge to Air	Tunnel ventilation fans located on Shed 03 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
9		Discharge to Air	Tunnel ventilation fans located on Shed 04 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
10		Discharge to Air	Tunnel ventilation fans located on Shed 05 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
11		Discharge to Air	Tunnel ventilation fans located on Shed 06 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
12		Discharge to Air	Tunnel ventilation fans located on Shed 07 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
13		Discharge to Air	Tunnel ventilation fans located on Shed 08 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).

Environment Protection Licence

14	Discharge to Air	Tunnel ventilation fans located on Shed 09 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
15	Discharge to Air	Tunnel ventilation fans located on Shed 10 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
16	Discharge to Air	Tunnel ventilation fans located on Shed 11 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
17	Discharge to Air	Tunnel ventilation fans located on Shed 12 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
18	Discharge to Air	Tunnel ventilation fans located on Shed 13 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
19	Discharge to Air	Tunnel ventilation fans located on Shed 14 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
20	Discharge to Air	Tunnel ventilation fans located on Shed 15 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
21	Discharge to Air	Tunnel ventilation fans located on Shed 16 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
22	Discharge to Air	Tunnel ventilation fans located on Shed 17 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).
23	Discharge to Air	Tunnel ventilation fans located on Shed 18 as shown on Figure "Site Plan - Vent Fans" submitted to the EPA on 26 August 2022 (CM9 DOC22/760112).

P1.2 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
3	Groundwater Monitoring		Piezometer REG001 as shown on 'Figure 5 Proposed Surface Water and Groundwater Monitoring Locations (SLR, 2022)' and as submitted to the EPA on 05 August 2022 (refer CM9 DOC22/739443).

4	Groundwater Monitoring	Piezometer REG002 as shown on 'Figure 5 Proposed Surface Water and Groundwater Monitoring Locations (SLR, 2022)' and as submitted to the EPA on 05 August 2022 (refer CM9 DOC22/739443).
5	Groundwater Monitoring	Piezometer REG003 as shown on 'Figure 5 Proposed Surface Water and Groundwater Monitoring Locations (SLR, 2022)' and as submitted to the EPA on 05 August 2022 (refer CM9 DOC22/739443).

P1.3 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

EPA identification no.	Type of monitoring point	Location description
1	Meteorological Station	Weather station located at GPS coordinates -30.8188424 South, 150.5875648 East.

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Waste

L2.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

L2.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

L3 Noise limits

Operational Noise Limits

L3.1 Noise from the premises must not exceed:
a) an LAeq (15 minute) noise emission criterion of 35 dB(A) during the day (7am to 6pm) Monday to Friday

and 7am to 1pm Saturday; and,
b) an LAeq (15 minute) noise emission criterion of 35 dB(A) during the evening (6pm to 10pm) Monday to Friday; and,
c) at all other times, an LAeq (15 minute) noise emission criterion of 35 dB(A), except as expressly provided by a condition of this licence.

L3.2 The noise limits set out in condition L3.1 apply under all meteorological conditions, including inversion meteorological conditions determined at the meteorological station.

L3.3 For the purposes of condition L3.2:
a) Data recorded by the meteorological station identified as EPA Identification Point 1 must be used to determine meteorological conditions; and
b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Fact Sheet D - Accounting for Noise-Enhancing Weather Conditions in the NSW Noise Policy for Industry.

L3.4 To determine compliance with the noise limits in condition L3.1, the noise measurement equipment must be located:
a) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
b) within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or
c) within approximately 50 metres of the boundary of a National Park or Nature Reserve; or
d) at the most affected point at a location where there is no dwelling at the location; or
e) at the most affected point within an area at a location prescribed by conditions L3.4a.

L3.5 A non-compliance of condition L3.1 will still occur where noise generated from the premises exceeds the appropriate limit as measured:

- at a location other than an area prescribed by condition L3.4(a), L3.4(b) and L3.4(c); and/or
- at a point other than the most affected point at a location.

L3.6 For the purposes of determining the noise generated at the premises, the modification factors in Fact Sheet C - Corrections for Annoying Noise Characteristics of the NSW Noise Policy for Industry must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

Construction Noise Limits

L3.7 The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented.

Concurrent Construction and Operation Noise Limits - Stage 1 (Farm 2)

L3.8 The licensee must ensure that noise generated during concurrent construction and operation of Stage 1 (Farm 2) of the development does not exceed 40 dB(A)LAeq(15 minute) at all times (day, evening and night) at all residential receivers.

Environment Protection Licence

L4 Hours of operation

L4.1 Standard construction hours

Unless otherwise specified by any other condition of this licence, all construction activities are:
a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday;
b) restricted to between the hours of 8:00am and 1:00pm Saturday; and
c) not to be undertaken on Sundays or Public Holidays.

L4.2 This condition does not apply to the delivery of material outside the hours of operation permitted by condition L4.1, if that delivery is required by police or other authorities for safety reasons; and/or the operation or personnel or equipment are endangered. In such circumstances, prior notification must be provided to the EPA and affected residents as soon as possible or within a reasonable period in the case of emergency.

L4.3 The hours of construction specified in condition L4.1 may be varied with written consent if the EPA is satisfied that the amenity of the residents in the locality will not be adversely affected.

L4.4 Activities at the premises, other than construction work, may be carried on 24 hours a day, 7 days a week.

L5 Potentially offensive odour

L5.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

L6 Other limit conditions

L6.1 The total number of poultry meat birds accommodated on the premises must not exceed 3,051,000 birds at any one time.

L6.2 The maximum bird density within a shed, expressed as live bird weight, must not exceed 34 kilograms per square meter at any time.

L6.3 The maximum number of sheds to be populated per day is a maximum of 12 sheds.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the activity;

and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
a) must be maintained in a proper and efficient condition; and
b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a manner that prevents and/or minimises the emission of air pollutants including dust from the premises.

O3.2 All activities carried out in and on the premises must be undertaken in a manner that prevent and/or minimises the emission of air pollutants, including dust, from the premises.

O4 Other operating conditions

Shed Design

O4.1 Each shed must have fully sealed concrete flooring with 300mm (minimum) high dwarf concrete bund wall.

O4.2 The premises must be designed, constructed, operated and maintained in a manner that does not preclude the retrofit of air quality (including odour) emissions controls and management measures include, but not limited to:

- stacks vertically exhaust emissions from the tunnel ventilation fans at height; and
- odour abatement measures such as scrubbers.

O4.3 Stormwater/sediment control – Construction Phase

The licensee shall prepare and implement a Soil and Water Management Plan (SWMP) for the premises. The plan must describe measures that will be employed to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction activities. The SWMP shall be prepared in accordance with the requirements for such plans outlined in Managing Urban Stormwater: Soils and Construction (Landcom, 2004) (available from the Department of Housing).

O4.4 Stormwater/sediment control - Operation Phase

A Stormwater Management Scheme must be prepared for the development and must be implemented. Implementation of the Scheme must mitigate the impacts of stormwater run-off from and within the premises following the completion of construction activities. The Scheme should be consistent with the Stormwater Management Plan for the catchment. Where a Stormwater Management Plan has not yet been prepared the Scheme should be consistent the guidance contained in the Managing Urban Stormwater: Council Handbook

(available from the EPA).

O4.5 Vegetated swales and other stormwater conveyances within the controlled drainage areas must be underlain by a compacted clay layer of at least 300mm thickness and with a permeability of less than $1x10^{-9}$m/s, or other material providing an equivalent barrier to percolation.

O4.6 Prior to operations commencing at each sub-stage, the licensee must submit to the EPA records that demonstrate that vegetated swales and other stormwater conveyances within the controlled drainage areas have been constructed in accordance with Condition O4.5.

O4.7 A vegetation screen shall be planted around the perimeter of each Poultry Production Unit as follows:

a) minimum total width of 40 metres;

b) contain consistent, yet random plantings of a variety of tree and shrub species of differing growth habits, at a spacing of 4 metres to 7 metres;

c) include species with long, think and rough foliage;

d) achieve a porosity of 0.5 (50% of the screen will be air space);

e) include species that are hardy and fast growing;

f) foliage from base to crown (ie lower and upper storey vegetation).

O4.8 Contaminated Sites

The proponent shall implement remedial works provided in a Remedial Action Plan on Lot 165 DP752169 at the premises.

O4.9 The proponent shall submit a site validation report to the Environment Protection Authority and Tamworth Regional Council within 30 days of completing remedial works.

O4.10 All reports relating to contaminated land matters must be prepared, or review and approved, by a 'certified consultant'.

'Certified consultant' is defined as a consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)), or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.

The quality information section of a report submitted, is to include the details of the consultant's certification, which should include a personalised electronic seal for either the CEnvP(SC) scheme or CPSS CSAM scheme.

Concurrent Construction and Operation - Stage 1 (Farm 2)

O4.11 Concurrent construction and operation of Stage 1 (Farm 2) of the development must not exceed a maximum period of 10 months, and must be carried out in accordance with the timetable detailed below.

Sub-Stage	Construction Activities	Operational Activities
1A	Earthworks, northern site access road and internal roads	None
1B	Sheds 1-8 and ancillary infrastructure	None

1C	Sheds 9-12	Sheds 1-8
1D	Sheds 13-16	Sheds 1-12
1E	Sheds 17-18	Sheds 1-16

Use of Emergency Backup Diesel Generators for Stage 1 (Farm 2)

O4.12 The use of emergency backup diesel generators as the primary operational power supply for Stage 1 (Farm 2) must not exceed a period of 12 months.

O4.13 No more than two 440 kVA emergency backup diesel generators at Farm 2 and one 45 kVA emergency backup diesel generator at the Namoi River water supply pump shall operate at any one time during the 12 month period.

O4.14 Any diesel generator that operates for a period of more than 200 hours or more per year must comply with the nitrogen oxide emission limits specified in Schedule 4 of the Protection of the Environment Operations (Clean Air) Regulation 2021.

Maintain an Odour Complaint Logbook

O4.15 In the event of an odour complaint, the licensee must conduct an immediate investigation of the odour sources, take appropriate action to eliminate any identified excessive odour, and document the outcomes and the actions taken.

O4.16 If the EPA receives odour complaints the EPA may require:
a) a sensitivity analysis report to be undertaken; and/or
b) additional odour mitigation works such as outlined in Condition O4.2.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

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M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Water and/ or Land Monitoring Requirements

POINT 3,4,5

Pollutant	Units of measure	Frequency	Sampling Method
Ammonia	milligrams per litre	Every 3 months	Representative sample
Bicarbonate	milligrams per litre	Every 3 months	Representative sample
Calcium	milligrams per litre	Every 3 months	Representative sample
Carbonate	milligrams per litre	Every 3 months	Representative sample
Chloride	milligrams per litre	Every 3 months	Representative sample
Conductivity	microsiemens per centimetre	Every 3 months	Representative sample
Magnesium	milligrams per litre	Every 3 months	Representative sample
Nitrogen (nitrate)	milligrams per litre	Every 3 months	Representative sample
Nitrogen (nitrite)	milligrams per litre	Every 3 months	Representative sample
Nitrogen (total)	milligrams per litre	Every 3 months	Representative sample
pH	pH	Every 3 months	Representative sample
Phosphorus	milligrams per litre	Every 3 months	Representative sample
Potassium	milligrams per litre	Every 3 months	Representative sample
Sodium	milligrams per litre	Every 3 months	Representative sample
Standing Water Level	metres (Australian Height Datum)	Every 3 months	In situ
Sulfide (total)	milligrams per litre	Every 3 months	Representative sample
Total dissolved solids	milligrams per litre	Every 3 months	Representative sample
Total organic carbon	milligrams per litre	Every 3 months	Representative sample

M3 Testing methods - concentration limits

M3.1 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Weather monitoring

M4.1 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of

measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

POINT 1

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Rainfall	AM-4	millimetres per hour	1 hour	Continuous
Sigma Theta	AM-2 & AM-4	Degrees	10 minutes	Continuous
Siting	AM-1	-	-	-
Temperature at 2 metres	AM-4	Kelvin	10 minutes	Bi-Monthly
Temperature at 10 metres	AM-4	Kelvin	10 minutes	Continuous
Total Solar Radiation	AM-4	Watts per square metre	10 minutes	Continuous
Wind Direction at 10 metres	AM-2 & AM-4	Degrees	10 minutes	Continuous
Wind Speed at 10 metres	AM-2 & AM-4	metres per second	10 minutes	Continuous

M4.2 Alternate sampling methods specified in condition M4.1 may be used provided the alternate method is approved in writing by the EPA.

M4.3 The weather monitoring instrumentation installed and operated at the site must have a stall speed, or lower limit of measure, for measuring wind speed less than 0.2 metres per second.

M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;
c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

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M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until one month from the date of the issue of this licence.

M7 Other monitoring and recording conditions

Odour Monitoring Program

M7.1 The licensee must develop and implement an odour monitoring program, prepared by a suitably qualified and experienced person, that applied field based ambient odour assessment survey methods and is consistent with the following standards:

a) Verein Deutscher Ingenieure (VDI)-Richtlinien (2006a). *Measurement of odour impact by field inspection - Measurement of the impact frequency of recognizable odours; Grid measurement,* VDI 3940 Part 1, Kommission Reinhaltung der Luft im VDI und DIN, Dusseldorf.
b) Verein Deutscher Ingenieure (VDI)-Richtlinien (2006c). *Measurement of odour impact by field inspection - Measurement of the impact frequency of recognizable odours; Plume measurement,* VDI 3940 Part 2, Kommission Reinhaltung der Luft im VDI und DIN, Dusseldorf.
c) Verein Deutscher Ingenieure (VDI)-Richtlinien (2010). *Measurement of odour impact by field inspection - Determination of odour intensity and hedonic odour tone; VDI 3*940 Part 3, Kommission Reinhaltung der Luft im VDI und DIN, Dusseldorf.

M7.2 The odour monitoring program referred to in condition M7.1 must include but is not limited to the following:
a) More than one person to undertake the field survey;
b) Prior to conducting the field survey, a consideration of whether the persons' sense of smell is temporarily compromised by factors including, but not limited to, illness, hayfever, pregnancy and wearing strong perfume;
c) Strategically located, publicly accessible, odour monitoring locations in the vicinity of the nearest sensitive receptors to the premises and recorded on a map;
d) A 360 degree circuit to check for the presence of other odour sources;
e) A rapid screening survey to locate any odour plumes, including the odour plume centreline, where odour intensity, character and consistency are recorded at several locations for one minute;
f) A 10 minute odour assessment where:

i. odour intensity and odour character are recorded at 10 second intervals for 10 minutes at the plume centreline and each odour monitoring location; and
ii. wind speed and wind direction are recorded at the beginning and end of each 10 minute assessment period; and
iii. each person conducting the assessment records results independently.
g) An odour log sheet for the rapid screening survey that records odour intensity and character for 1 minute at several locations, including the plume centreline;

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h) An odour log sheet for the 10 minute odour assessment that records the following information:

1. Odour monitoring location.
2. Time and date of survey.
3. Name of person conducting the assessment.
4. Character and intensity of odour at the monitoring location at 10 second intervals for 10 minutes.
5. Meteorological conditions including temperature, wind speed and wind direction at the monitoring location at the start and end of the 10 minute assessment period.
6. Any changes in wind direction and wind speed during the ten minute assessment period.

i) Stocking densities and activities occurring at the premises at the time of the survey.

NOTE: In ranking the intensity of the odour, the method used must be consistent with the following German standards:

- Verein Deutscher Ingenieure (VDI)-Richtlinien (1992). *Olfactometry - Determination of Odour Intensity*. VDI 3882 Part 1, Kommission Reinhaltung der Luft im VDI und DIN, Dusseldorf.
- Verein Deutscher Ingenieure (VDI)-Richtlinien (2010). *Measurement of odour impact by field inspection - Determination of odour intensity and hedonic odour tone*, VDI 3940 Part 3, Kommission Reinhaltung der Luft im VDI und DIN, Dusseldorf.

M7.3 The odour monitoring program and the suitably qualified and experienced person(s) carrying out the odour monitoring program must be approved in writing by the EPA prior to commencement of operations.

M7.4 The odour monitoring program must be carried out at least once per production cycle during the following periods, under odour enhancing meteorological and stocking conditions:
i. 1 February - 30 May inclusive; and,
ii. 1 September - 30 November inclusive.

M7.5 The odour monitoring program must target times that present an increased risk of odour emissions that might impact surrounding receptors (i.e. periods of peak stocking density in the sheds on the farm, and periods when receptors are most likely to be home) and when meteorological conditions are most likely to transport odour emissions towards receptor locations.

M7.6 The results of the odour monitoring program, including the survey data sheet must be submitted to the EPA within 2 weeks of the carrying out of each odour survey. Submission is to be via email to: info@epa.nsw.gov.au and marked to the attention of the Armidale EPA Office.

Note: The odour monitoring program will be reviewed by the EPA at the completion of two years of surveys (where one year is considered to be the period identified in condition M7.4 i) and ii)). At the completion of the review, the EPA will determine if it is appropriate for the program to continue, cease, or if additional odour mitigation measures are required at the premises.

Note: Should the monitoring program reveal that offensive odour is impacting surrounding sensitive receptors during normal operating conditions, the EPA may require the licensee to implement odour mitigation technologies that include, but may not be limited to, the application of short stacks or air filtration systems to treat emissions from the fans at the end of some or all of the sheds on the premises.

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M8 Noise monitoring

Noise Validation Monitoring - Stage 1 (Farm 2) Operations

M8.1 Attended noise monitoring must be undertaken in accordance with Condition L3.4 and must:

a) occur at receptors R24 and R25 as identified in Figure 3 of 'Rushes Creek Poultry Production Farm - SSD 7704 - Modification 3 - Modification Report (EME Advisory, January 2022)'; and,
b) occur within 10 days of operations commencing at Farm 2; and,
c) occur while operating two 440 kVA generators at Farm 2 concurrent with Farm 2 operations; and,
d) occur during the night period as defined in the Noise Policy for Industry (EPA, 2017) for a minimum of 1 hour during the night.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;

e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

R4 Other reporting conditions

Noise Compliance Assessment Report - Stage 1 (Farm 2)

R4.1 A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the monitoring required in Condition M8.1. The assessment must be prepared by a competent person and include:
a) an assessment of compliance with noise limits presented in Condition L3.1; and,
b) an assessment of modifying factors including Low Frequency Noise in accordance with Fact Sheet C of the Noise Policy for Industry; and,
c) an outline of any management actions taken within the monitoring period to address any exceedances of the limits contained in Condition L3.1.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environmen t Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder describe d at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 mo nths. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste
Wellhead	Has the same meaning as in Schedule 1 to the Protection of the Environment Operations (General) Regulation 2021.

End Notes

Appendix C:

Air Quality Management Plan (AQMP)

Report

Air Quality Management Plan – Rushes Creek Poultry Production Farm

ProTen Tamworth Pty Ltd

Job: 21-222
Date: 1 June 2022

Astute Environmental Consulting

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Project Title	Air Quality Management Plan – Rushes Creek Poultry Production Farm
Job Number	21-222
Client	ProTen Tamworth Pty Ltd
Approved for release by	G. Galvin
Disclaimer and Copyright:	**This report is subject to the disclaimer and copyright statement located at www.astute-environmental.com.au.**

Document Control

Version	Date	Author	Reviewer
R1-1	16/02/2022	G. Galvin	W. Shillito
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1 INTRODUCTION

The Rushes Creek Poultry Production Farm ("the Development") was granted Development Consent SSD 7704 on 14 April 2020 by the Minister for Planning and Public Spaces. The Development is to occur within a rural property located on Rushes Creek Road, at Rushes Creek in the Tamworth local government area.

The Development comprises four poultry production units (PPU) or farms for a total of 54 fully-enclosed tunnel-ventilated sheds, with a maximum operational capacity of 3,051,000 birds at any one time. The tunnel ventilated shed design are consistent with best practice requirements and are suitable for upgrades over time if required.

The consent also includes associated support infrastructure and staff amenities. The Development will be operated in accordance with the relevant requirements/recommendations in the Best Practice Guidelines for Meat Chicken Production in NSW – Manual 2 – Meat Chicken Growing Management (DPI, 2012b) and the RSPCA Approved Farming Scheme Standards – Meat Chickens (RSPCA, 2013).

This Air Quality Management Plan (AQMP) has been prepared (on behalf of ProTen Tamworth Pty Ltd (ProTen)) to fulfil conditions B4 and C1 of Development Consent SSD 7704, and to manage potential air quality (odour and dust) impacts associated with the operational phase of the Development.

1.1 Scope and Objective

One of the primary objectives for the Development is to minimise dust and odour generation during ongoing operations.

The objectives of the AQMP are to:

- Comply with all relevant statutory requirements, conditions of development consent and ProTen standard operating procedures;
- Identify the major sources of dust and odour emissions and controls that will be implemented;
- Employ best practice air quality procedures to manage and minimise the impact of dust and odour on the environment and nearby sensitive receptors; and
- Maintain an effective response mechanism for dealing with issues and complaints.

This AQMP has been prepared as an appendix to the Development's Operational Environmental Management Plan (OEMP) and is to be read in conjunction with the OEMP.

This plan is prepared with the understanding that it can be modified to accommodate actual site conditions as they arise.

1.2 Relevant Standards and Documents

Documents relevant to this AQMP include:

- Approved methods for the sampling and analysis of air pollutants in New South Wales (DECC NSW, 2006);
- Best Practice Management for Meat Chicken Production in NSW - Manual 2 – Meat Chicken Growing Management (DPI, 2012b)

- Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2016);
- ProTen Rushes Creek Poultry Production Complex – Air Quality Assessment (Pacific Environment, 2018);
- Rushes Creek Poultry Production Farm SSD 7704, Response to Air Quality Issues (Astute Environmental Consulting, 2019); and
- Rushes Creek – Modification 3 Diesel Generator Air Quality Assessment (Astute Environmental Consulting 2021).

1.3 Statutory Requirements

1.3.1 Legislation

Legislation relevant to air quality management at the site includes:

- Protection of the Environment Operations Act 1997 (POEO Act); and
- Protection of the Environment Operations (Clean Air) Regulation 2021

1.3.2 Development Consent

Table 1-1 lists the specific requirements of the Consolidated Consent conditions (14/4/2020) relevant to the preparation of this AQMP in particular Conditions B4 and C1 and references which section(s) in this AQMP each requirement has been addressed.

Other requirements of the Consolidated Consent conditions (14/4/2020) relevant to air quality are summarised in Table 1-2.

Table 1-1: Consent Requirements for AQMP

Consent Condition	AQMP Section/Comment
Air Quality Management Plan B4. Prior to the commencement of operation, the Applicant must prepare an Air Quality Management Plan (AQMP) to the satisfaction of the Planning Secretary. The AQMP must form part of the OEMP required by condition C5. The AQMP must:	
(a) be prepared by a suitably qualified and experienced person(s) in consultation with EPA;	Prepared by Geordie Galvin B Eng (Env Eng) M Eng (Env) MIEAust A.AirQual Appendix B
(b) detail and rank all emissions from all sources of the development, including particulate emissions	Section 3
c) describe a program that is capable of evaluating the performance of the operation and determining compliance with key performance indicators;	Sections 2 - 8
(d) identify the control measures that that will be implemented for each emission source;	Section 3
(e) nominate the following for each of the proposed controls: (i) key performance indicator; (ii) monitoring method; (iii) location, frequency and duration of monitoring; (iv) record keeping; (v) complaints register; (vi) response procedures; and (vii) compliance monitoring.	Section 3, 5, 6, 7
(f) include an odour monitoring program which must: (i) be carried out by a suitably qualified and experienced person(s) approved in writing by the EPA; (ii) be carried out at least once per production cycle during the following periods, under odour enhancing meteorological and stocking conditions: a. 1 February – 30 May inclusive; and b. 1 September – 30 November;	Section 7
(iii) target times that present an increased risk of odour emissions that might impact surrounding sensitive receptors (i.e. periods of peak stocking density in the sheds on the farm, and periods when receptors are most likely to be home) and when meteorological conditions are most likely to transport odour emissions towards receptor locations;	Section 7
(iv) be implemented for a period of at least two years from the commencement of operation, or as otherwise agreed to by the Planning Secretary.	
Management Plan Requirements **C1**. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
(b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 1.2 and 3
(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 3
(d) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 3, 5, 6

Consent Condition	AQMP Section/Comment
(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 3
(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 10
(g) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements;	Section 8 and OEMP
(h) a protocol for periodic review of the plan.	Section 10 and OEMP

Table 1-2: Other Consolidated Consent Requirements for Air Quality

Condition	Requirement	AQMP Section/Comment
B1	Prior to the commencement of any works on the site, and for the life of the development, the Applicant must ensure that there is a suitable meteorological station operating on the site that: (a) complies with the requirements in the latest version of EPA's Approved Methods for Sampling of Air Pollutants in New South Wales (DEC, 2007) (as may be updated or replaced from time to time); and (b) is capable of continuous real-time measurement of the following parameters: air temperature, wind direction, wind speed, solar radiation, rainfall and relative humidity and any other requirements specified in the EPL.	Section 7.3
B2	B2. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.	Section 5
B3	During construction, the Applicant must ensure that: (a) exposed surfaces and stockpiles are suppressed by regular watering; (b) all trucks entering or leaving the site with loads have their loads covered; (c) trucks associated with the development do not track dirt onto the public road network; (d) public roads used by these trucks are kept clean; and (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.	Section 5
B4	AQMP	See Table 1-1
B5	The Applicant must: (a) not commence operation until the Air Quality Management Plan required by condition B4 is approved by the Planning Secretary; (b) implement the most recent version of the Air Quality Management Plan approved by the Planning	See Table 1-1

Condition	Requirement	AQMP Section/Comment
	Secretary for the duration of the development; and (c) not cease the Odour Monitoring Program required by condition B4(f) without the approval of the Planning Secretary.	
B6	The results of the Odour Monitoring Program required by condition B4 must be submitted to the EPA within two weeks of the carrying out of each odour survey.	See Table 1-1 and Section 8
B7	Should the Odour Monitoring Program required by condition B4 reveal that offensive odour is impacting surrounding sensitive receptors during normal operating conditions, the EPA may require the Applicant to implement odour mitigation technologies.	See Table 1-1 and Section 4 below
B8	The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).	See Table 1-1 and Section 4 below to Section 8
B9	The development must be designed, constructed, operated and maintained in a manner that does not preclude the retrofit of air quality (including odour) emissions controls and management measures including, but not limited to, stacks to vertically exhaust emissions from the tunnel ventilation fans at height and odour abatement measures such as scrubbers.	See Table 1-1 and Section 4 below to Section 9 including Table 4-1 and Table 4-2.

1.3.3 Environmental Protection License Requirements

The EPA regulates the operations through an Environment Protection Licence (EPL 21569) issued under Section 55 of the Protection of the Environment Operations Act 1997 (POEO Act).

EPL conditions relevant to the AQMP are outlined in Table 1-3below together with the relevant section(s) of the AQMP indicating where the requirements have been addressed

Table 1-3: EPL 21569 Operating Condition Requirements

Condition	Requirement	AQMP Section/Comment
O3 Dust	O3.1 The premises must be maintained in a manner that prevents and/or minimises the emission of air pollutants including dust from the premises.	Section 4
	O3.2 All activities carried out in and on the premises must be undertaken in a manner that prevent and/or minimises the emission of air pollutants, including dust, from the premises.	Section 4
O4 Shed Design	O4.2 The premises must be designed, constructed, operated and maintained in a manner that does not preclude the retrofit of air quality (including odour) emissions controls and management measures	Section 1. Note: The design of modern tunnel ventilated sheds does not specifically preclude upgrade to sheds at a later date, which may include the installation of stacks, windbreak walls or scrubbers (subject to the

Condition	Requirement	AQMP Section/Comment
	include, but not limited to: 1. stacks vertically exhaust emissions from the tunnel ventilation fans at height; and 2. odour abatement measures such as scrubbers.	size of scrubbers).
M2 Weather Monitoring	At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.	Section 7.3.
M3 Complaints	M3.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Section 5 and Section 6 also see the the Development's approved OEMP.
	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Section 5 and Section 6 also see the the Development's approved OEMP.
	M3.3 The record of a complaint must be kept for at least 4 years after the complaint was made.	Section 5 and Section 6 also see the the Development's approved OEMP.
	M3.4 The record must be produced to any authorised officer of the EPA who asks to see them.	Section 5 and Section 6 also see the the Development's approved OEMP.

2 RESPONSIBILITIES

ProTen's Regional Operations Manager and on-site farm managers will be responsible for the implementation of the AQMP. This will include:

- Ensuring all site users are aware of the AQMP;
- Ensuring site users are aware of the environmental responsibilities and obligations;
- Implementing and maintaining the controls identified in the document;
- Recording and responding to complaints if received; and
- Reviewing the AQMP as required (see Section 10).

3 BASELINE DATA

Condition C1(a) requires that the AQMP contain baseline data for the site.

No baseline data for particulate matter or odour was collected for the site as part of the process. There are no poultry farms in the immediate vicinity therefore odour emissions from poultry sheds would not be expected to occur in the immediate area prior to the development of this farm.

Concerning other background data including the potential for cumulative particular matter impacts, background particulate matter was discussed in the *Response to Air Quality Issues* (Astute Environmental Consulting, 2019) in particular Sections 3 and 4 of the report calculated and incorporated representative background data from regional EPA/OEH stations.

This methodology is consistent with the requirements in the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA, 2016).

4 MANAGEMENT OF ODOUR AND DUST

4.1 Source Identification

The following potential sources have been identified as primary sources of dust and/or odour (in perceived risk order):

- Particulate emissions due to:
  1. emissions from sheds;
  2. wheel generated dust from unsealed roadways;
  3. materials handling and transfer (i.e. bedding material placement and litter removal);
  4. windblown dust from open areas; and
  5. emissions from diesel generators.
- Odour emissions due to:
  1. shed operations during the growing phase;
  2. shed operations during shed cleanout;
  3. dead birds;
  4. spilt litter during cleanout; and
  5. trucks moving spent litter.

4.2 Management of Dust/Particulate Emissions

Particulate emissions from well managed poultry sheds are low. However, ProTen will take reasonable and practicable measures to prevent or minimise dust emissions from the Development as a whole. A range of design features, best management practices and mitigation measures are detailed below which will be applied to minimise and manage potential impacts.

Particulate management for the Development will be achieved through observations, job planning (in relation to weather conditions) and standard routines for specific activities (controls).

Responding to condition B4 of Development Consent SSD 7704, the dust controls, including key performance indicators (KPI) and monitoring methods, are presented in Table 4-1.

Details of record keeping, complaints register, response procedures and compliance monitoring are presented in Sections 5 and 6.

Table 4-1: Dust Management Methods

Activity	Control Method	KPI	Monitoring Methods	Inspection Location and Frequency
Shed Operation.	Vegetation screens will be progressively established and maintained around the perimeter of each farm unit.	Planting performed having regard to RIRDC (2015) and be at least 40 metres wide in line with DPI (2012a). The screen should have a mixture of vegetation with a porosity of approximately 50% with foliage from ground to crown.	Visual.	During and after construction.
	Shed bedding material moisture levels will be regularly checked and managed to ensure moisture levels remain between 15% minimum and 30% maximum.	Bedding material stays between 15% and 30% to limit dust in line with DPI (2012b).	Visual using Table 2 in DPI (2012b).	Daily during each batch.
	Poultry sheds will be cleaned between batches with a focus on the fan end of the sheds. Shed ventilation systems and evaporative cooling systems will be maintained to ensure air movement is at design levels.	Sheds, including fans and louvres/shutters, are clean before each batch is placed.	Visual.	End of each batch.
Wheel Generated Dust on Unsealed Internal Roads	Vehicles will not exceed a general speed limit of 60 km/hr along the internal access roads, with a reduced speed limit of 40 km/hr in the vicinity of the farm units.	No dust observed leaving the site.	Visual.	Ongoing.
	Internal traffic will be restricted to the designated access			

Activity	Control Method	KPI	Monitoring Methods	Inspection Location and Frequency
	roads (except in the event of an emergency or incident).			
	Internal roads will be appropriately maintained with a suitable compacted base.			
	When necessary, internal roads will be “wetted down” during dry periods.			
Diesel Generators	Generators will be contained in acoustic enclosures with vertical air discharge.	No dust observed leaving the site. Limited visible particle emissions.	Visual	Ongoing. Yearly servicing or as recommended by supplier.
	Generators will only be used in emergency situations when the main power supply is disrupted/lost.			
	* Subject to approval of Modification 3, the exception is that generators at Farm 2 and the water supply pump will be used for operations for up to 18 months while the permanent power solution is commissioned. After this time these generators will revert to their originally approved purposed of emergency standby generators.			
Bedding Material Placement.	Bedding material drop heights will be limited.	No dust observed leaving the site.	Visual.	During litter placement.
	When possible, bedding material placement and			

Activity	Control Method	KPI	Monitoring Methods	Inspection Location and Frequency
	handling will be limited to daytime hours and during favourable calm weather conditions.			
	Bedding material will be gently watered prior to placement if dust from material handling is likely to move offsite.			
Litter Removal.	Litter drop heights will be limited.	No dust observed leaving the site.	Visual.	During cleanout of each shed.
	When possible, litter handling and removal will be limited to daytime hours and during favourable calm weather conditions.			
	Litter will be promptly transported off site in covered trucks at the end of each batch.			

4.3 Management of Odour Emissions

The management of odour from the Development is required to reduce the potential risk of adverse offsite impacts. The Best Practice Management for Meat Chicken Production in NSW Manual 2 (DPI NSW, 2012), states that odour emissions are a function of many interrelated factors, including:

- the nature, strength and offensiveness of the emissions, which depend on:
    - the total number and stocking density of birds
    - the age of the birds
    - disease and digestive upsets in the birds
    - the feed formulation (e.g. the nitrogen content)
    - the amount of faecal material in the bedding material and its moisture content.
- the frequency, intensity, duration and character of odour impacts, which are influenced by:
    - local meteorological conditions and topographical features that govern the transport and dispersion of odorous emissions
    - the distance of the receptor or sensitive land use from the odour source
    - the nature and sensitivity of the receptor.

Responding to condition B4 of Development Consent SSD 7704, the odour controls, including key performance indicators (KPI) and monitoring methods, are presented in Table 4-2.

Details of record keeping, complaints register, response procedures and compliance monitoring are presented in Sections 6 and 7.

Table 4-2: Odour Management Methods

Activity	Control Method	KPI	Monitoring Methods	Inspection Location and Frequency
Shed emissions during bird growth Period.	Total bird numbers will not exceed 3,051,000 birds at any one time.	No valid odour complaints.	Field odour observations for shed odour during batch. See Section 7 below	Confirmed by batch records as required. Integrator informed of maximum limit.
	Stocking densities will comply with RSPCA Standards (2013) maximum specification of 34 kg/m^2			Confirmed by batch records as required.
	The maximum number of sheds to be populated per day is a maximum of 12.			Confirmed by batch records as required.
	Shed ventilation systems and evaporative cooling systems will be maintained to ensure air movement is at design levels.			Daily while birds are present.
	Bird drinkers will be maintained to minimise leakage that will result in wet patches in the bedding material. Any leaks will be repaired immediately.			Daily while birds are present.
	Shed bedding material moisture levels will be regularly checked and managed to ensure moisture levels remain between 15% minimum and 30% maximum. Any excessively wet and/or sticky material will be promptly replaced with fresh material.		Wet litter as defined by being above 30% moisture per Table 2 in DPI (2012b). Field odour observations for shed odour during batch. See Section 7 below.	Daily while birds are present.
	Where possible, activities that may increase odour emissions (e.g. bedding material replacement) will be undertaken during daytime hours and in favourable weather conditions. Removed wet bedding material will be placed in enclosed bins or taken offsite immediately.		Visual inspection for wet bedding daily. Visual inspection of drains after rain. Drains cleared as required. Field odour observations for shed odour during batch. See Section 7 below.	Daily while birds are present.
	Stormwater drains around the sheds will be maintained to ensure that water does not pond around the sheds.			Daily while birds are present.

Activity	Control Method	KPI	Monitoring Methods	Inspection Location and Frequency
	A minimum depth of 50 mm of uncompacted fresh bedding material will be placed throughout the sheds at the start of each batch per RSPCA requirements.			At start of batch and during batch.
	Shed stocking densities and bird health within the poultry sheds will be regularly checked and, if necessary, appropriate corrective measure implemented			Daily while birds are present.
	Shed walls and roofs will be maintained and leaks repaired immediately to prevent wet patches in the bedding material.			Daily while birds are present.
	Shed access points will remain closed at all times other than for the purposes of allowing access to the sheds.			Daily while birds are present.
	Vegetation screens will be progressively established and maintained around the perimeter of each farm unit	Planting performed having regard to RIRDC (2015) and be at least 40 metres wide in line with DPI (2012a). The screen should have a mixture of vegetation with a porosity of approximately 50% with foliage from ground to crown.	Visual.	During and after construction.
Emissions during cleanout	Where possible, litter handling and removal will be undertaken during daylight hours and during favourable weather conditions.	No valid odour complaints.	Visual during operations. Batch records and field odour observations for shed odour during batch. See Section 7.1 below.	Daily during cleanout.
	Poultry litter will be promptly removed from the poultry sheds and transported off site in covered trucks at the end of each batch.			

Activity	Control Method	KPI	Monitoring Methods	Inspection Location and Frequency
	Any spillages of litter during removal and placement in to trucks for off-site transport will be promptly cleaned up.		Records of spent litter moving offsite to be kept.	
	Poultry litter will not be stockpiled or spread within the Development Site.			
Dead Bird disposal	Dead birds will be collected from the poultry sheds daily and stored in the on-site dead bird freezers prior to being removed from site.	No valid odour complaints	Batch records and field odour observations for shed odour during batch. See Section 7.1 below	Daily during batch.
	Dead bird freezers will be maintained closed while awaiting collection and they will not be allowed to overflow.			

5 INSPECTION AND RECORD KEEPING

5.1 Inspections

General environmental site inspection and monitoring activities will be performed in accordance with the Development's approved OEMP. These will include (but not be limited) to weekly visual site inspections to ensure the required mitigation and management measures are being implemented (including those relevant to dust and odour) and any required maintenance/remedial works are promptly identified and undertaken.

On-site meteorological monitoring and odour monitoring requirements are provided in Section 7 below.

5.2 Record Keeping

5.2.1 Compliance Reporting

Condition C12 of Development Consent SSD 7704 requires compliance reporting to be carried out in accordance with the Compliance Reporting Post Approval Requirements (DPIE) and submitted to the Planning Secretary each year of operation. The reporting must include (among other things) any monitoring results, complaints records and non-compliances, and will include reporting on dust and odour.

5.2.2 EPL Annual Return

Condition R1 of the Environment Protection Licence EPL 21569 requires an Annual Return to be prepared and submitted to the Environment Protection Authority (EPA) on an annual basis. The Annual Returns must include a statement of compliance, a summary of any monitoring activities and a summary of any complaints received, and will address any dust and odour issues.

5.2.3 Incident Notification and Reporting

In line with consent condition C9 and the Protection of the Environment Operations Act 1997, ProTen Site Management will:

- Notify relevant authorities of any incident that has caused, or threatens to cause, material harm to the environment immediately; and
- Provide the same authorities with a relevant reporting on the incident once it has been appropriate dealt with.

The incident notification and reporting requirements are specify in the Development's OEMP, along with the Environmental Incident Management Strategy.

5.2.4 Non-Compliance Notification

In accordance with consent condition C10, the Planning Secretary must be notified in writing within 7 days of becoming aware of any non-compliance. A non-compliance which has been notified as an incident (see above) does not need to also be notified as a non-compliance.

6 COMPLAINT MANAGEMENT

6.1 Overview

The Complaints Management Strategy contained in the OEMP has been developed to ensure all complaints regarding operation of the poultry farm are promptly and effectively received, handled and addressed.

It is imperative that an honest assessment of the situation is carried out and documented. Every complaint received is to be recorded on ProTen's standard Complaint Report Form and a copy of the complete form is to be maintained in the Development's Complaints Register for a minimum of 4 years.

Refer to the Complaints Management Strategy in the approved OEMP.

6.2 Preventative Action

Once a complaint has been suitably handled, appropriate preventative measures should be identified and implemented to negate the possibility of re-occurrence. If the complaint is in relation to dust or odour, this AQMP should be reviewed with the aim of identifying any opportunities to avoid the possibility of re-occurrence and improve the environmental performance of the poultry farm.

6.3 Dispute Resolution

If the Complaints Management Strategy in the approved OEMP has been followed and a particular issue cannot be resolved, the complaint will be referred to ProTen's CEO for further review and DPIE will be notified. The escalated review process will include an assessment of the details of the complaint received, any findings of the investigation undertaken in response to the complaint, and any further matters raised by the complainant. It may also include ProTen's CEO seeking the advice of relevant regulatory authorities and/or specialist consultants.

If required, a third-party independent mediator may be engaged to help resolve the dispute.

7 ODOUR MONITORING

7.1 Ongoing Odour Observations

All employees and contractors will be required to report generation of significant dust and/or odour emissions to ProTen's Regional Operations Management and/or the Rushes Creek farm manager. Where odour observations are made, the intensity (strength) of the odour and the character of the odour (what it smells like) shall be recorded using the ranking scale in Table 7-1 and the odour descriptors in Table 7-3. If hedonic tone or wind speed is to be record, hedonic tone should be recorded using the descriptors in Table 7-3 and

A monitoring field sheet can be found in Appendix A.

Table 7-1: Odour intensity scale from VDI 3940-2 (1993) and Pitt (2014)[1]

Perceived odour strength	Intensity level rating	Interpretation
Extremely strong	6	In normal circumstances, this should be very rare in a field situation. For an offensive type of odour, the reaction would be to immediately mitigate against further exposure. This remains the dominant thought and motivation until the exposure level is reduced. The odour cannot be tolerated.
Very strong	5	The odour character is clearly recognisable. For an offensive type of odour, exposure to this level is considered unpleasant/undesirable to the point that action to mitigate against further exposure is considered or taken.
Strong	4	The odour character is clearly recognisable. For an offensive type of odour, exposure to this level would be considered unpleasant/undesirable.
Distinct	3	The odour character is clearly recognisable. Note that this must still apply even if in a different context or situation - for example, not knowing or expecting what type of odour may be present. The odour is tolerable – even for an offensive odour.
Weak	2	The assessor is reasonably sure that odour is present but not 100% sure of the odour character. i.e. they cannot describe the odour or define a source.
Very weak	1	The odour character is not recognisable. There is probably some doubt whether the odour is actually present. A useful strategy where the odour is borderline between "not perceptible" and "very weak" is to alternate such observations between 0 and 1.
Not perceptible	0	No odour.

[1] This table is consistent with the document "Guidance on the assessment of odour for Planning, Version 1.1, July 2018" (IAQM, 2018).

Table 7-2: Odour Descriptors (NZMfe, 2003)

ID	Descriptor	ID	Descriptor	ID	Descriptor
01	Fragrant	14	Burnt, smoky	27	Sharp, pungent, acid
02	Perfumy	15	Soapy	28	Metallic
03	Sweet	16	Garlic, onion	29	Tar-like
04	Fruity	17	Cooked vegetables	30	Oily, fatty
05	Bakery (fresh bread)	18	Chemical	31	Like gasoline, solvent
06	Coffee-like	19	Etherish, anaesthetic	32	Fishy
07	Spicy	20	Sour, acrid, vinegar	33	Putrid, foul, decayed
08	Meaty (cooked, good)	21	Like blood, raw meat	34	Paint-like
09	Sea/marine	22	Rubbish	35	Rancid
10	Herbal, cut grass	23	Compost	36	Sulphidic
11	Bark-like, birch bark	24	Silage	37	Dead animal
12	Woody, resinous	25	Sickening	38	Faecal (like manure)
13	Medicinal	26	Musty, earthy, mouldy	39	Sewer odour

Table 7-3: Hedonic Tone Descriptors

Hedonic Tone	Description
4	Extremely unpleasant
3	Moderately unpleasant
2	Unpleasant
1	Slightly unpleasant
0	Neutral
-1	Slightly pleasant
-2	Pleasant
-3	Moderately pleasant
-4	Extremely pleasant

Table 7-4: Beaufort Wind Scale

Scale	Wind Speed (m/s)	Descriptive Term	Effects Observed
0	<0.3	Calm	Smoke rises vertically.
1	0.3 -1.4	Light air	Direction of wind shown by smoke drift, but not wind vanes.
2	1.7 -3.1	Light breeze	Wind felt on face. Leaves rustle. Ordinary vane moved by wind.
3	3.3 -5.3	Gentle breeze	Leaves and small twigs in constant motion. Wind extends light flag.
4	5.6 -7.8	Moderate breeze	Raises dust and loose paper. Small branches are moved.
5	8.1 -10.6	Fresh breeze	Small trees with leaves begin to sway. Crested wavelets form on inland waters.
6	10.8 -13.6	Strong breeze	Large branches in motion. Whistling heard in telephone wires. Umbrellas used with difficulty.
7	13.9 -16.9	Near gale	Whole trees in motion. Inconvenience felt in walking against wind.
8	17.2 -20.6	Gale	Breaks twigs off trees. Generally impedes progress. Walking into wind almost impossible.
9	20.8 -24.4	Strong gale	Slight structural damage occurs, e.g. roofing shingles may become loose or blow off.
10	24.7 -28.3	Storm	Trees uprooted. Considerable structural damage occurs.
11	28.6 -32.5	Violent storm	Widespread damage.
12	32.8 -36.9	Hurricane	Rare. Severe widespread damage to vegetation and significant structural damage possible.

Note: Winds at survey locations can be highly variable and may be different to the weather station which measures at 10 metres using electronic equipment and in a different location.

7.2 Compliance Monitoring

If requested by the EPA, a compliance monitoring program will be carried out in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (DECC NSW, 2006).

This manual provides guidance and recommends methods for measuring ambient air quality and emissions of contaminants into the atmosphere. The methods and standards which may be relevant to the Development can be found in Table 7-5.

Table 7-5: Compliance Monitoring Methods

Method number	Parameter measured	Method
AM-15	Particulate matter – TSP – high volume sampler method	AS/NZS 3580.9.3:2015 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - Total suspended particulate matter (TSP) – High volume sampler gravimetric method (Standards Australia, 2015) or other recognised method.
AM-18	Particulate matter – PM_{10} – high volume sampler with size-selective inlet	Methods for sampling and analysis of ambient air - Part 9.6: Determination of suspended particulate matter - PM_{10} high volume sampler with size-selective inlet - Gravimetric method (Standards Australia, 2003) or other recognised method.
AM-19	Particulates – deposited matter – gravimetric method	AS 3580.10.1-2003 Methods for sampling and analysis of ambient air - Determination of particulate matter - Deposited matter - Gravimetric method (Standards Australia, 2003)
AM-7	Odour sampling from point sources or odour analysis using dynamic olfactometry	AS 4323.3-2001 Stationary source emissions - Determination of odour concentration by dynamic Olfactometry (Standards Australia, 2001)
AM-4	Meteorological monitoring of wind	Meteorological Monitoring Guidance for Regulatory Modelling Applications (USEPA, 2000)

7.3 On site weather station

In accordance with condition B1 of the Development Consent and Condition M2 of the EPL, ProTen commissioned Measurement Engineering Australia (MEA) to install and manage a weather station within the Rushes Creek site. A summary of the details that have been provided to Astute are as follows;

- The station is located at 30°49'8" South and 150°35'16" East;
- The station went live in October 2018 collecting valid data;
- A WindSonic Ultrasonic Anemometer measuring wind speed and wind direction is positioned at 10 m from ground level;
- A Vaisala Humidity and Temperature Probe HMP155 measures air temperature and humidity sensor in sensor shelter;
- A tipping bucket rain gauge on raised mount is located adjacent to the weather station;
- Data is logged over 10 minute periods;
- A logger with remote telemetry with data uploading to MEA's Green Brain server; and
- Wind speed and direction averaging is performed using vector averaging methods.

The station uses an ultrasonic sensor and therefore meets the stall speed requirement.

7.4 Odour Monitoring Program

7.4.1 Requirements

A specific requirement of condition B4 of the Development Consent, and also the EPA's General Terms of Approval (GTA), is a minimum of two years of odour monitoring or as agreed to by the Planning Secretary.

Due to the extensive nature of the Development Consent and GTA requirements they are reproduced below.

The requirements of the Development Consent are as follows:

B4

(f) include an odour monitoring program which must:

(i) be carried out by a suitably qualified and experienced person(s) approved in writing by the EPA;

(ii) be carried out at least once per production cycle during the following periods, under odour enhancing meteorological and stocking conditions:

a. 1 February – 30 May inclusive; and

b. 1 September – 30 November;

(iii) target times that present an increased risk of odour emissions that might impact surrounding sensitive receptors (i.e. periods of peak stocking density in the sheds on the farm, and periods when receptors are most likely to be home) and when meteorological conditions are most likely to transport odour emissions towards receptor locations; and

(iv) be implemented for a period of at least two years from the commencement of operation, or as otherwise agreed to by the Planning Secretary.

The GTA are also relevant, in particular Condition M3 which is as follows:

M3.1 The proponent must develop and implement an odour monitoring program, prepared by a suitably qualified and experienced person, that applies field based ambient odour assessment survey methods and is consistent with the following standards:

(a) Verein Deutscher Ingenieure (VDI)-Richtlinien (2006a). Measurement of odour impact by field inspection – Measurement of the impact frequency of recognizable odours; Grid measurement, VDI 3940 Part 1, Kommission Reinhaltung der Luft im VDI und DIN, Dusseldorf.

(b) Verein Deutscher Ingenieure (VDI)-Richtlinien (2006c). Measurement of odour impact by field inspection – Measurement of the impact frequency of recognizable odours; Plume measurement, VDI 3940 Part 2, Kommission Reinhaltung der Luft im VDI und DIN, Dusseldorf.

(c) Verein Deutscher Ingenieure (VDI)-Richtlinien (2010). Measurement of odour impact by field inspection - Determination of odour intensity and hedonic odour tone, VDI 3940 Part 3, Kommission Reinhaltung der Luft im VDI und DIN, Dusseldorf.[2]

M3.2 The odour monitoring program referred to in condition M3.1 must include but is not limited to the following:

(a) More than one person to undertake the field survey;

[2] "The VDI methods"

(b) Prior to conducting the field survey, a consideration of whether the persons' sense of smell is temporarily compromised by factors including, but not limited to, illness, hayfever, pregnancy and wearing strong perfume;

(c) Strategically located, publicly accessible, odour monitoring locations in the vicinity of the nearest sensitive receptors to the premises and recorded on a map;

(d) A 360 degree circuit to check for the presence of other odour sources;

(e) A rapid screening survey to locate any odour plumes, including the odour plume centreline, where odour intensity, character and consistency are recorded at several locations for one minute;

(f) A 10 minute odour assessment where:

i. odour intensity and odour character are recorded at 10 second internals for 10 minutes at the plume centreline and each odour monitoring location;

ii. wind speed and wind direction are recorded at the beginning and end of each 10 minute assessment period; and

iii. each person conducting the assessment records results independently.

(g) An odour log sheet for the rapid screening survey that records odour intensity and character for 1 minute at several locations, including the plume centreline;

(h) An odour log sheet for the 10 minute odour assessment that records the following information:

a. Odour monitoring location

b. Time and date of survey

c. Name of person conducting the assessment

d. Character and intensity of odour at the monitoring location at 10 second intervals for 10 minutes

e. Meteorological conditions including temperature, wind speed and wind direction at the monitoring location at the start and end of the 10 minute assessment period

f. Any changes in wind direction and wind speed during the 10 minute assessment period.

(i) Stocking densities and activities occurring at the premises at the time of the survey

M3.3 The odour monitoring program and the suitably qualified and experienced person(s) carrying out the odour monitoring program must be approved in writing by the EPA prior to commencement of operations.

M3.4 The odour monitoring program must be carried out at least once per production cycle during the following periods, under odour enhancing meteorological and stocking conditions:

i. 1 February – 30 May inclusive; and

ii. 1 September – 30 November.

M3.5 The odour monitoring program must target times that present an increased risk of odour emissions that might impact surrounding sensitive receptors (i.e. periods of peak stocking density in the sheds on the farm, and periods when receptors are most likely to be home) and when meteorological conditions are most likely to transport odour emissions towards receptor locations.

M3.6 The results of the odour monitoring program, including the survey data sheet are to be submitted to the Armidale office of the EPA within 2 weeks of the carrying out of each odour survey.

The following methodology is proposed to address the conditions detailed above.

7.4.2 Definition of Full Survey

The methodology will be based on VDI 3940 Parts 1 and 2 and 3940 Part 3 having regard to practical application of the surveys in line with the EPA requirements.

In line with the VDI methods, a survey will consist of each team member inhaling normally through their nose every 10 seconds for 10 minutes, and recording their observations in line with Table 7-1 and Table 7-2 above.

In addition to recording odour intensity, wind speed and direction estimates are to be recorded over the life of the survey as well as hedonic tone observations. Hedonic tone and wind speed estimates can be made using Table 7-3 and Table 7-4 and wind direction can be estimated using a compass. Alternatively, the field team can use a small portable weather station at each survey point.

One log sheet is to be filled in by each team member for each survey. Each sheet will contain the intensify observations, the co-ordinates of the survey point, name of person, date and time of start of survey.

If possible and practical the width of the plume should be defined using a series of rapid surveys (see below).

It is critical that all observations are recorded including 0 responses (no odour) and also other odours, which in a rural area may include smell of diesel fumes from passing vehicles and/or, as an example, odour from passing cattle trucks.

7.4.3 Definition of Rapid Screening Survey

A rapid screening survey uses the same methodology as above, except it is carried out of 1 minute at 10 second increments and is used to screen a site for odour.

7.4.4 Survey Points

The location of each survey point will be recorded using a handheld GPS unit which will also be used to track the teams location over time using the track function.

Survey points will be around the boundary of the farm site as well as on publicly accessible locations near receptors including Rushes Creek Road, National Fitness Camp Road, Bidford Access Road and Ski Gardens Road.

7.4.5 Period of Surveys

Surveys will be performed for the first two years (minimum), for one period in each batch where birds are at peak density between:

- 1 February – 30 May inclusive; and
- 1 September – 30 November.

In total a minimum of four periods will be surveyed over two years.

Each period will include at least two morning periods (pre-dawn to mid-morning) and two evenings (before sunset to late evening) period. Multiple surveys will be performed over each period including during daytime operations when ventilation rates are highest. Varying time of surveys is consistent with the VDI methods.

The monitoring must be implemented for a period of at least two years from the commencement of operation, or as otherwise agreed to by the Planning Secretary.

Note: By only doing surveys at peak periods the surveys will be biased towards finding odour, and will not be in line with the VDI requirements which suggest random survey periods across a period of time at random locations. Due to fluctuations in emission profiles surveys throughout a year are unlikely to detect odour.

7.4.6 Behaviour of Field Team

Survey members should only perform surveys if they are aware of, and follow Clause 9.7.1 – *Code of behaviour for assessors and panel members* of AS4323.3 (Standards Australia, 2001). In particular 9.7.1 a, c, d, e and f, as relevant to field odour surveys.

By following these requirements, issues including illness, hay fever and wearing strong deodorants or perfume can be managed.

Prior to each survey period, the team will perform a survey together away from the site and compare their responses.

7.4.7 Nose Screening

Survey members should only perform surveys if their senses of smell meet Clause 9.7.2 of AS4323.3 (Standards Australia, 2001) in that they should have an average sense of smell that falls between 20 and 80 ppb of n-butanol.

Survey members should be familiar with the various odours in the area, especially with poultry odour. Training should occur prior to the surveys to ensure other odour sources in the area are noted.

7.4.8 Number of Survey Members

The survey team will consist of at least one suitably qualified and experienced person as a team leader as well as a second person who is trained in odour surveys.

The team leader for the surveys will need to have demonstrated experience in conducting field odour survey in line with standard methods.

The second person can be an independent person i.e. consultant or a trained staff member from ProTen as agreed by the EPA.

All survey members will be required to meet the requirements detailed in this section in terms of field team behaviour/requirements and nose screening.

7.4.9 Timing of Surveys

The surveys are to be conducted at or near peak density as this period is where peak odour emissions occur.

Surveys should focus on expected odour impacts at receptors, especially having regard to prevailing winds at peak density.

Importantly, the following is noted:

- Winds may not be conducive to surveys at peak density (i.e. may not be blowing towards receptors);
- By targeting conditions under which poor dispersion occurs (i.e. early morning and night time stable conditions) odour may be found in areas which are not considered sensitive and as such odour in non-sensitive areas will be noted;
- Safe and legal access to land required for surveys is not always achievable; and
- Performing surveys during peak emission periods will lead to an overestimate of potential impacts across a year.

7.4.10 General Process

The general process of deploying for each survey is as follows:

- Identify batch placement and date of first pickup;
- Set aside a defined period in the time leading up to first pickup as the survey period;
- Review on site weather data in the period leading up to the proposed survey period;
- Review any odour test or odour complaint data;
- Travel to site and familiarise team with area and location of receptors including driving all access road identified above as well as the boundary of the farm site. A number of rapid surveys are to be performed during this period. ;
- For each survey period
    - The team will record their location using a GPS unit capable of recording a track of location over time
    - Travel upwind of the site and perform at least one odour survey
    - Travel downwind of the site (on public roads or on land held by ProTen) and perform surveys across accessible area.
- Move to another location and repeat surveys per the methodology above.
- Data will be summarised in a way that shows peak and average intensity over time at each location. This can either be performed using aerial imagery and/or pie or other charts.

8 CONTINGENCY MEASURES

ProTen have an excellent understanding of the operation of poultry sheds, in particular in managing them to best practice while keeping internal conditions as to minimise odour emissions. This has been assisted by the introduction of RSPCA requirements.

Section 4 above details odour and dust source identification and management, Section 5 details record keeping requirements and Section 6 details complaint management.

If unpredicted impacts were to occur, the following should occur:

- Review the current AQMS (controls and monitoring as highlighted above), to ensure it is effective and criteria are being met;
- Take all reasonable and feasible measures to ensure the exceedance ceases this may include developing and implementing additional dust or odour mitigation measures, including consideration of retrofitting bolt on solutions such as windbreak walls, stacks or scrubbers;
- Perform follow-up monitoring (see section 7) to assess the effectiveness of the additional measures having regard to the criteria in Table 4-1 and Table 4-2; and
- Report any exceedances and non-compliances in accordance with Section 9.

9 REPORTING

Condition M3.6 of the GTA and Condition B6 of the Development Consent require that the results of the odour monitoring program, including the survey data sheets, are to be submitted to the Armidale office of the EPA within 2 weeks of the carrying out of each odour survey.

Each report should include weather conditions during the surveys, location of surveys, timing of surveys and survey results. Field sheets should be scanned and attached to the report.

10 AQMP REVIEW AND UPDATE

This AQMP is intended as a living document that will be implemented effectively over the life of the poultry farm to mitigate and manage dust and odour impacts and will be reviewed and updated as required to achieve its objectives. The document should be read in conjunction with the OEMP.

ProTen will evaluate the performance and effectiveness of the mitigation and management measures in this AQMP on a regular basis as evidenced by the following performance indicators:

- Identified deficiencies, incidents and/or non-compliances with the development consent, EPL and/or this AQMP;
- The nature and number of complaints relating to dust and/or odour;
- Any general feedback received in relation to dust and/or odour from the local community and/or regulatory authorities.

This AQMP will be reviewed and, if necessary, updated to improve the environmental performance of the development within 3 months of any of the following:

- If an evaluation of the above performance indicators demonstrates that the objectives of the AQMP are not being adequately met;
- Submission of an incident report relating to dust or odour;
- Submission of a non-compliance report relating to dust or odour;
- Receipt of a verified complaint relating to dust or odour;
- Approval of any development modification; and/or
- At the request by DPIE or the EPA.

Where revisions are required, the updated AQMP will be submitted to the EPA and DPIE within 6 weeks of the review.

All employees and contractors will be informed of any updates to the AQMP during toolbox talks or other training sessions.

11 REFERENCES

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Appendix A – Example Record Sheets

Example Inspection Record

Date	Time	Dust Visible (y/n)	Watering Time (if not needed N/A)	Dust Visible Post Watering? (y/n)	Name of person making record

Example Complaint Register

Date	Time	Complainant	Location and time of incident	Activities Occurring	Investigation Details	Mitigation Employed

Appendix B – EPA CONSULTATION

Appendix D:

Operational Drivers Code of Conduct (ODCC)

OPERATIONAL DRIVERS CODE OF CONDUCT

Rushes Creek Poultry Production Farm

Prepared for:

ProTen Tamworth Pty Ltd
PO Box 1746
North Sydney NSW 2060

SLR Ref: 620.30288-R02
Version No: -v1.0
December 2021

PREPARED BY

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with ProTen Tamworth Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
620.30288-R02-v1.0	20 December 2021	Chris Lawlor	Jeffrey Baczynski	Chris Lawlor

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DOCUMENT REFERENCES

TABLES

FIGURES

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APPENDICES

1 Introduction

1.1 Context

SLR Consulting Australia Pty Ltd (**SLR**) has been engaged by ProTen Tamworth Pty Ltd (**ProTen**) to prepare an Operational Drivers Code of Conduct (**ODCC**) for the Rushes Creek Poultry Production Farm (**Rushes Creek PPF** or **the development**) located at Rushes Creek Road, Rushes Creek NSW.

This ODCC has been prepared in accordance with the following relevant conditions contained within Development Consent SSD 7704 issued by the NSW Government Department of Planning, Industry and Environment (**DPIE**) on 16 April 2020 (**Development Consent**):

- Condition B14 (Operational Driver Code of Conduct);
- Condition C1 (Management Plan Requirements).

The specific requirements of the above conditions are reproduced at **Appendix A** along with a response as to how each requirement has been addressed herein.

This ODCC is intended to be a living document that will be implemented effectively over the life of the project to manage safety for all road users. Details of the ODCC monitoring, review and an improvement process that is triggered by any incidents that may occur is identified in **Section 4** herein.

1.2 Previous Traffic Assessments

The following assessments should be referred to for a detailed consideration of the traffic impacts associated with the operational phase of the development:

- *Traffic Impact Assessment* dated 25 June 2018 prepared by RoadNet (**RoadNet TIA**);
- *Supplementary Traffic Assessment* dated 20 December 2018 prepared by SLR (**SLR STA**);
- *Modification 3: Assessment of Traffic Matters* dated 2 December 2021 prepared by SLR (**MOD3 TA**).

The above traffic assessments are referred to herein where necessary.

2 Site Context

2.1 Site Location

The Rushes Creek PPF is located on Rushes Creek Road approximately 14km to the northeast of the intersection of Rushes Creek Road and the Oxley Highway (NSW State Route B56). The subject site is shown in the context of the surrounding area on **Figure 1**. The approved site layout and external access arrangements are shown indicatively on **Figure 2**.

Figure 1 Site Location

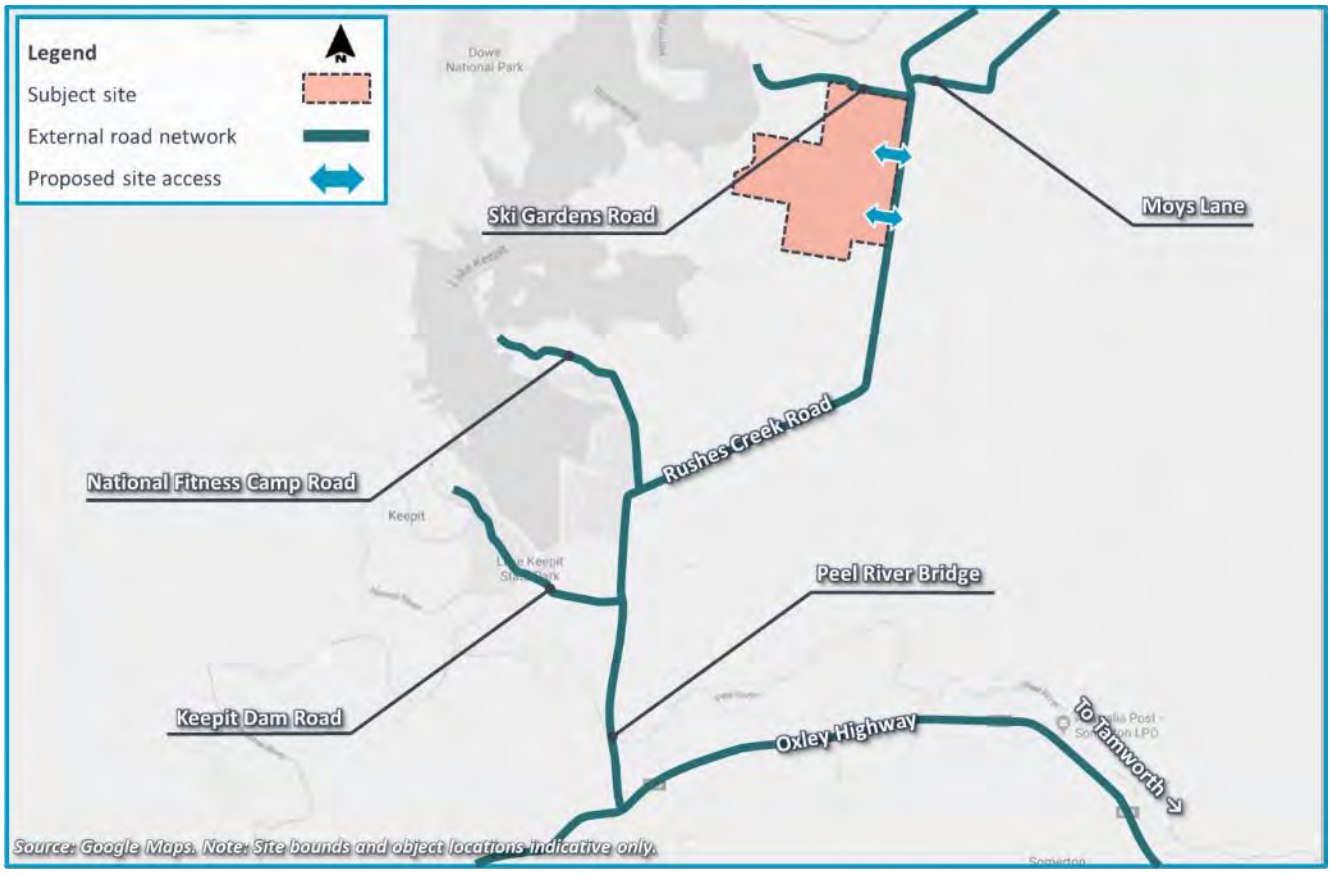
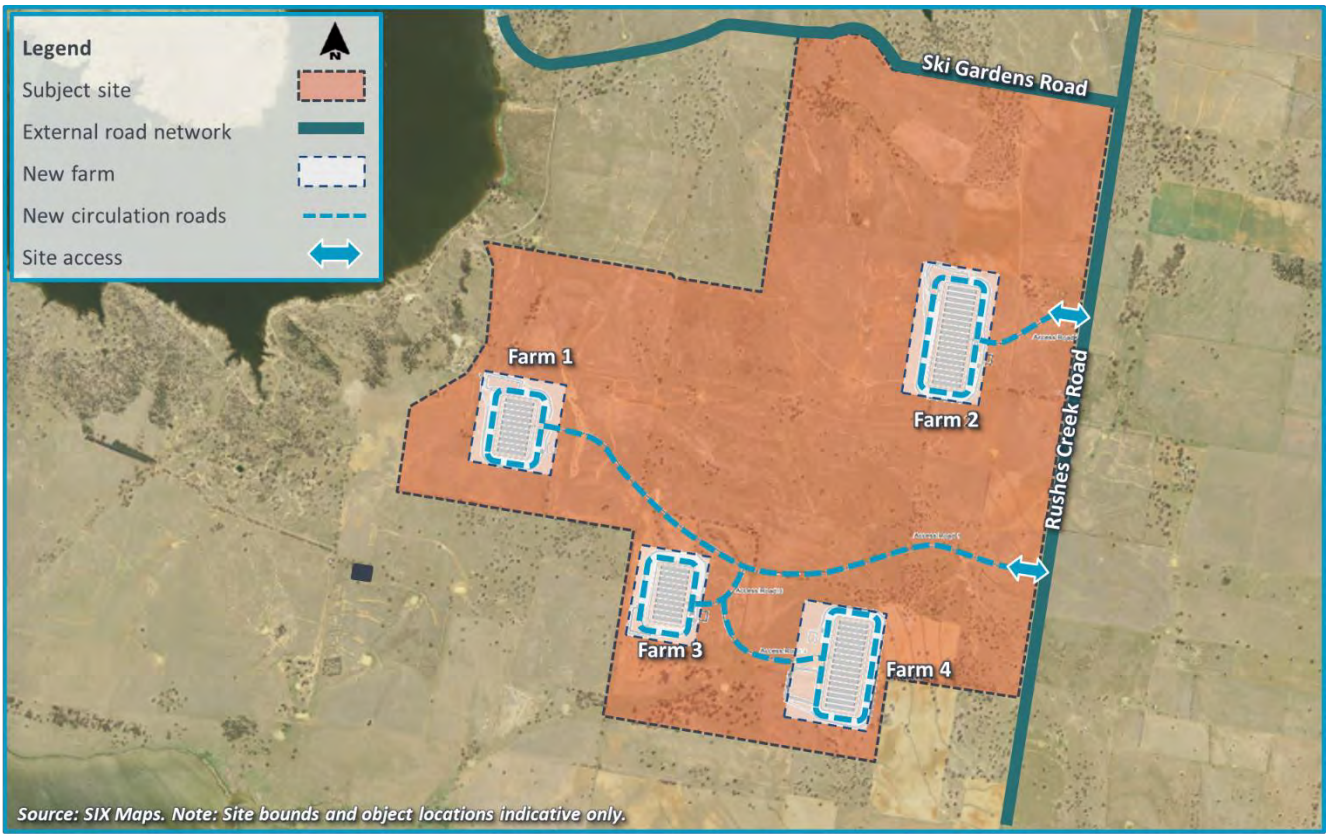


Figure 2 Approved Site Layout and External Access Arrangements



2.2 Surrounding Road Network

Details of the key roads surrounding the subject site are detailed in **Table 1**.

Table 1 Key Roads

Road Name	Classification	Authority	Existing form	Posted Speed
Oxley Highway	State Road	TfNSW	Two lane, undivided single carriageway (~7.0m + shoulders), rural cross-section (swales)	100km/h
Rushes Creek Road	Unclassified	TRC	Two lane, undivided single carriageway (6.5 – 7.0m seal width), rural cross-section (swales)	100km/h

3 Drivers Code of Conduct

3.1 Overview

As part of the mandatory site induction required for heavy vehicle drivers entering the Rushes Creek PPF, all drivers are required to read this ODCC, complete and sign the Confirmation of Understanding provided at **Section 5** herein and return to an authorised ProTen staff member for secure storage onsite.

The following sections of this ODCC detail the directives, requirements and standards expected of drivers entering the Rushes Creek PPF, as well as disciplinary action resulting from non-compliance with this ODCC.

3.2 General Requirements

All heavy vehicle drivers are required to:

- Undertake a site induction carried out by authorised site personnel or suitably qualified person under the direction of the site manager.
- Obey all site signage and the directions of site personnel.
- Hold a valid driver's licence which is appropriate for the class of vehicle under their operation.
- Ensure that vehicles entering the subject site are registered, roadworthy, and of sound mechanical condition. Site management may request to inspect any vehicle or request maintenance records for any vehicle and reserves the right to prohibit any vehicle from entering the subject site should there be any indication that the vehicle is not roadworthy or safe to operate.
- Operate vehicles in a safe and courteous manner, within and external to the subject site.
- Ensure their load is legal, covered and secure before entering or exiting the site.
- Comply with the relevant requirements of Chain of Responsibility legislation.

Note, with regard to toolbox meetings, no heavy vehicles are based at the Rushes Creek PPF, and hence it is not possible to hold toolbox meetings involving drivers. For clarity, it is understood that Rushes Creek PPF will hold regular toolbox meetings, however, the only attendees will be site-based personnel.

3.3 Site Specific Requirements

3.3.1 Site Access and Management

The following procedures are to be observed by all heavy vehicle drivers accessing the subject site:

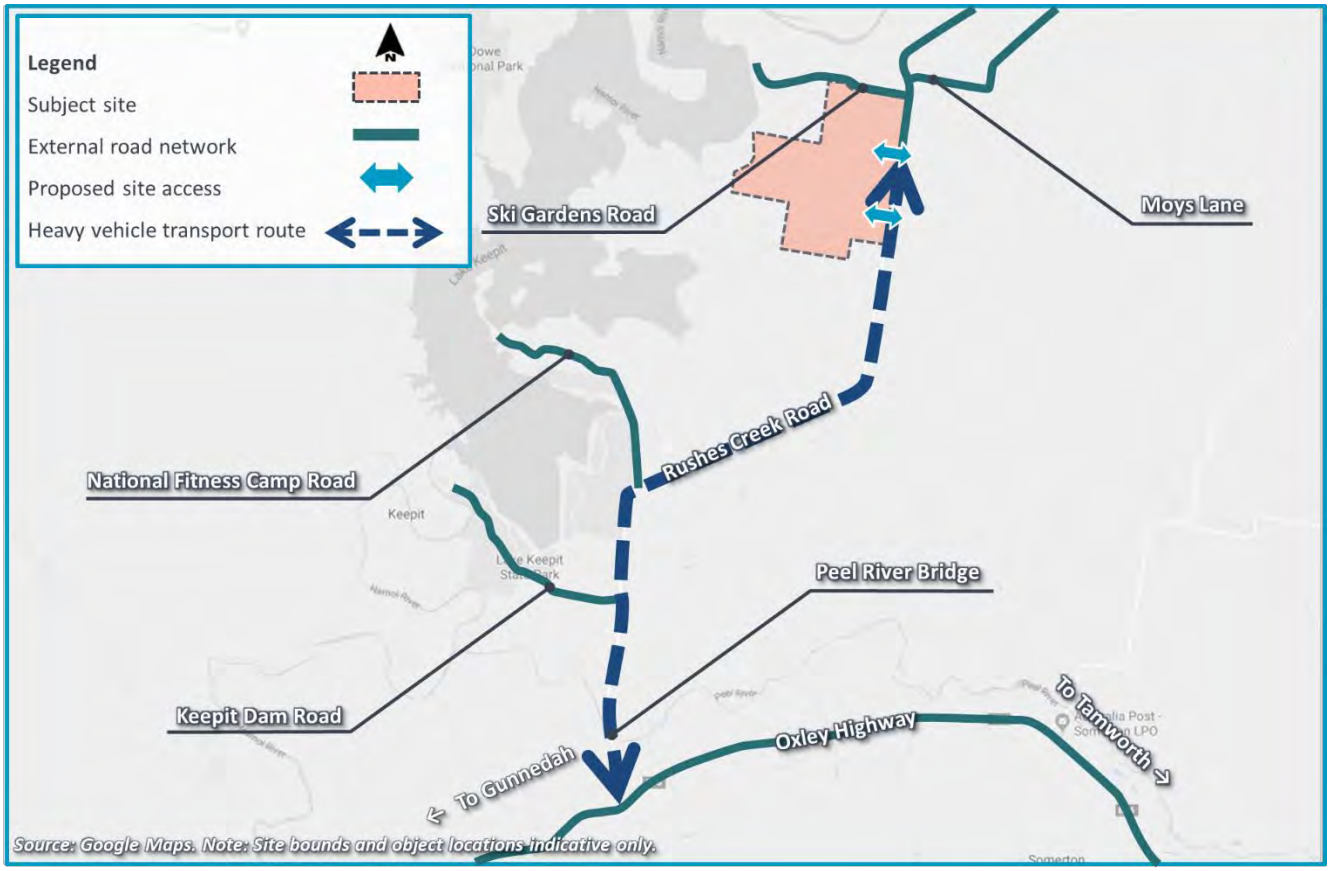
- All vehicles requiring access to Farm 2 are to use the northern site access to Rushes Creek Road.
- All vehicles requiring access to Farms 1, 3 and 4 are to use the southern site access to Rushes Creek Road.
- The site has a drug and alcohol policy which includes random testing.
- All vehicles are to park and load/unload within the site using designated parking and loading areas where possible. Vehicles are not to park or load/unload within the public road reserve.

- Any accidents, incidents, complaints, hazards, spillages or near misses must be reported immediately to the site manager. This includes incidents along the designated heavy vehicle transport route on the external road network.

3.3.2 Designated Heavy Vehicle Transport Route

To minimise the safety and amenity impacts to residential areas and school zones, the designated transport route for heavy vehicles for the subject site is via Rushes Creek Road to the south of the site towards the Oxley Highway as indicated on **Figure 3**. Heavy vehicles are not to use Rushes Creek Road to the north of the subject site (i.e. towards Manilla), as the appropriateness of this route for heavy vehicle movements has not been assessed.

Figure 3 Designated Heavy Vehicle Transport Route



Through minimising heavy vehicle movements along roads in the vicinity of the site that include either school zones or that facilitate lower speed residential property access, the designated heavy vehicle transport route minimises the safety impacts on residential areas and school zones through limiting the potential for haulage vehicles to interact with the following:

- Students walking or cycling to school, or boarding/alighting buses.
- Pedestrians and children around residential properties.
- Vehicles or cyclists entering or leaving residential property accesses.

The typical framework applied to risk management seeks to (1) Avoid; (2) Manage, and (3) Mitigate risks (in order of preference). By avoiding residential areas and school zones, the proposed heavy vehicle transport route is consistent with this framework.

To ensure heavy vehicles use only the Oxley Highway and Rushes Creek along the designated transport route mapped on **Figure 3**, the following measures are to be implemented:

- As per **Section 3.2** herein, all drivers are required to undertake a site induction.
- All drivers are required to read this ODCC and then complete, sign and return the Confirmation of Understanding provided at **Section 5** herein. Accordingly, drivers are expected to be highly familiar with the designated transport route.

The previous traffic assessments (refer to **Section 1.2** herein) did not highlight any particular existing safety deficiencies along the transport route, however, drivers should take particular care at the following critical locations mapped on **Figure 3**:

- The Oxley Highway/Rushes Creek Road intersection and all other Rushes Creek Road intersections mapped on **Figure 3**.
- The Peel River Bridge.
- The northern and southern site accesses to Rushes Creek Road.

Drivers are to slow down and provide right-of way to any livestock and or farm machinery along the designated transport route mapped on **Figure 3**.

3.3.3 Speed Management

Posted speed limits along the designated heavy vehicle transport route indicated on **Figure 3** are as follows:

- Within the subject site: 60km/h generally, 40km/h within the vicinity of work sites or farms.
- Rushes Creek Road: 100km/h.
- Oxley Highway: 100km/h.

3.3.4 Noise Management

To limit heavy vehicle noise associated with construction activities, drivers are to abide by the following requirements:

- Vehicle access to the subject site is to be via the designated haulage route of Rushes Creek Road to the south of the site towards the Oxley Highway.
- Heavy vehicles using Rushes Creek Road are not to use engine or compression braking systems, except where required for safety reasons.
- Posted speed limits on the external road network are to be observed, and vehicle speeds are to be restricted to 60km/h within the subject site, or 40km/h within the vicinity of work sites or farms.
- Vehicles are to be turned off when not in use.

3.3.5 Dust Management

To minimise the potential for dust production within the subject site, drivers are to abide by the following requirements:

- Vehicle speeds are to be restricted to 60km/h within the subject site, or 40km/h within the vicinity of farms.
- Vehicles are to use designated circulation roads within the site where possible.
- Drivers are to report excessive dust production from internal circulation roads to the site manager.
- Water trucks will be used to wet down internal circulation roads during dry conditions and when excessive dust production is reported to the site manager.

3.4 Non-Compliance

Should any driver be found to have acted in breach of this ODCC, through either a formal complaint, or through observations by authorised site personnel, disciplinary action will be taken, which could include the following:

- Verbal notification (if possible) and written confirmation to the driver of non-compliance with the Drivers Code of Conduct.
- Refusal to load/unload affected vehicles and direction to the driver to leave the site.
- Implementation of a temporary ban of the affected vehicle and/or driver until such time as sufficient evidence has been provided to authorised site personnel that the breach has been rectified and will not reoccur.
- In the case of a serious breach or repeated non-compliance with the Drivers Code of Conduct, a permanent site ban of the affected vehicle and/or driver will be considered.

4 ODCC Monitoring, Review and Improvement Process

4.1 Implementation

In accordance with Condition B15 of the Development Consent:

- Operation of the development must not commence until this ODCC has been approved by the Planning Secretary.
- The most recent version of this ODCC approved by the Planning Secretary must be implemented for the duration of operation of the development.

4.2 Monitoring

4.2.1 Incidents, Complaints and Non-Compliances Notification

Incidents

Any incidents of relevance to this ODCC are to be handled in accordance with the Environmental Incidents Management Strategy in the Operational Environmental Management Plan (OEMP) prepared for Rushes Creek. A copy of the latest approved OEMP can be found on ProTen's website:

https://proten.com.au/Sustainability/Environmental-Documents

Any incidents of relevance to this ODCC that involves actual or potential material harm to the health and safety of human beings, or the environment, are to be notified and reported to DPIE in accordance with Condition C9 and Appendix 3 (Incident Notification, Reporting and Response) of the Development Consent SSD 7704.

Complaints

Any complaints in relation to traffic generated by the poultry farm are to be handled in accordance with the Complaints Management Strategy in the OEMP prepared by Rushes Creek. A copy of the latest approved OEMP can be found on ProTen's website: https://proten.com.au/Sustainability/Environmental-Documents

Non-Compliances

Any non-compliance with the Development Consent or this ODCC are to be notified to DPIE in accordance with Condition C10 of the Development Consent.

4.2.2 Non-compliance Response Procedure

Compliance with this ODCC will be measured according to the following performance indicators:

- An authorised site staff member or suitably qualified person under the direction of the site manager will undertake formal observations of compliance at six-monthly intervals.
- Contractor and employee awareness of this ODCC.
- The frequency and nature of complaints reported to the subject site in relation to operational traffic.

Incident and non-compliance reporting is to be undertaken as per the requirements in **Section 4.2.1**. In the event of an incident or non-compliance, the following actions will be undertaken:

- Establish the details in relation to the incident (date, location, vehicle, driver etc.).
- Confirm that the reported incident involves a vehicle associated with the subject site.
- Conduct an investigation into why the incident occurred and evaluate the effectiveness of the current mitigation strategy.
- Provide details of any corrective actions and/or preventative measures to be implemented in order to address the incident and prevent reoccurrence.
- Report details of any non-compliance to DPIE in accordance with **Section 4.2.1.**
- Identify any necessary improvement processes that become apparent as a result of the incident and implement relevant improvements to this ODCC.

Should any driver be found to have acted in breach of this ODCC, through either a formal complaint, or through observations by authorised site personnel, disciplinary action will be taken, which could include the following:

- Verbal notification (if possible) and written confirmation to the driver of non-compliance with the Drivers Code of Conduct.
- Refusal to load/unload affected vehicles and direction to the driver to leave the site.
- Implementation of a temporary ban of the affected vehicle and/or driver until such time as sufficient evidence has been provided to authorised site personnel that the breach has been rectified and will not reoccur.
- In the case of a serious breach or repeated non-compliance with the Drivers Code of Conduct, a permanent site ban of the affected vehicle and/or driver will be considered.

4.3 ODCC Review and Improvement Process

Incident reporting is to be undertaken as per the requirements in **Section 4.2**. In the event of an incident or non-compliance, the following actions in addition to those captured in **Section 4.2** will be undertaken:

- Document and implement any necessary improvements to the ODCC that become apparent as a result of the incident.
- Issue an updated version of the ODCC to relevant stakeholders which:
  - Describes the incident which is the catalyst for the update of the ODCC.
  - Describes the ODCC refinement in an improvement register that would likely be an appendix to the ODCC to aid stakeholder review.
  - Captures the improvement as appropriate within the body of the ODCC.

5 Confirmation of Understanding

I, …… of ……

(name) **(company)**

have read/had explained to me, the *Rushes Creek Poultry Production Farm: Operational Drivers Code of Conduct* and understand my obligations with regard to its content.

I further confirm I will comply with all requirements of the *Rushes Creek Poultry Production Farm: Operational Drivers Code of Conduct* and also that I understand the consequences of non-compliance with this document.

Signed: ……

Date: ……

Endorsed by: ……
(Authorised site representative)

APPENDIX A

ODCC Requirements

Table 2 Consent Conditions B14 and B15 - ODCC Requirements

Item	Condition Requirement	ODCC Section
B14.	*Prior to the commencement of operation, the Applicant must prepare a Driver Code of Conduct. The Driver Code of Conduct must form part of the OEMP required by condition C6 and be prepared in accordance with condition C1.* *The Code of Conduct should include but not limited to:*	
(a)	*map of the primary transport route/s highlighting critical locations;*	Section 3.3.2 and Figure 3
(b)	*safety initiatives for transport through residential areas and/or school zones;*	Section 3.3.2
(c)	*measures to ensure vehicles used for the transportation of birds use the Oxley Highway and Rushes Creek Road only;*	Section 3.3.2
(d)	*an induction process for vehicle operators and regular toolbox meetings;*	Section 3.2
(e)	*a complaints resolution and disciplinary procedure;*	Section 4.2
(f)	*a directive to drivers to slow down and provide right-of-way to any livestock and/or farm machinery on the transport routes; and*	Section 3.3.2
(g)	*a directive to drivers to avoid the use of compression braking along Rushes Creek Road.*	Section 3.3.4

Table 3 Consent Condition C1 – Management Plan Requirements

Item	Condition Requirement	ODCC Section
C1.	*Management plans required under this consent must be prepared in accordance with relevant guidelines, and include[1]:*	
(a)	*detailed baseline data;*	Section 1.2 and Section 2
(b)	*details of:*	
	i. The relevant statutory requirements (including and relevant approval, license or lease conditions);	Section 1.1
	ii. any relevant limits or performance measures and criteria; and	Section 3
	iii. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures.	Section 4.2
(c)	*a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;*	Section 3
(d)	a program to monitor and report on the:	
	i. impacts and environmental performance of the development; and	Section 4.2
	ii. effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 4.2
(e)	*a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;*	Section 4.2
(f)	*a program to investigate and implement ways to improve the environmental performance of the development over time;*	Section 4.2 and Section 4.3
(g)	*a protocol for managing and reporting any:*	
	i. incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);	Section 4.2
	ii. complaint;	Section 4.2
	iii. failure to comply with statutory requirements; and	Section 4.2
(h)	*a protocol for periodic review of the plan.*	Section 4.3

1 - the Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular plans.

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Appendix E:

Soil & Water Management Plan (SWMP)

Rushes Creek Poultry Production Farm (SSD 7704)

Stage 1 Soil and Water Management Plan

02 August 2022

Document Control

Client	ProTen Tamworth Pty Ltd			
Project	ProTen Rushes Creek Water Management Plan			
Report Issue	**Date**	**Author**	**Reviewed by**	**Authorised by**
REV4.0	02/08/2022	Braiya White	Ben Hunter	Ben Hunter
REV3.0	03/05/2022	Braiya White	Ben Hunter	Angela Ruthenberg
REV2.0	21/04/2022	Braiya White	Ben Hunter	Ben Hunter
REV1.0	28/11/2021	Braiya White, Angus McFarlane	Angela Ruthenberg	Angela Ruthenberg

Prepared for
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Prepared By
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Tables

Figures

1. Introduction

ProTen Tamworth Pty Limited (ProTen) obtained Development Consent SSD 7704 from the Department of Planning, Industry and Environment (now the Department of Planning and Environment [DPE]) (as delegate for the Minister for Planning and Public Spaces) on 14 April 2020 under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to construct and operate an intensive poultry broiler production farm within a rural area known as Rushes Creek in the Tamworth Regional local government area. In summary, the approved Rushes Creek Poultry Production Farm development (the "Development") comprises four individual poultry production units (PPUs), which are identified as Farms 1 to 4, where broiler birds will be grown for the purpose of producing poultry meat (for human consumption). Each farm will contain between 10 and 18 tunnel-ventilated, fully enclosed, climate-controlled poultry sheds, which will each have the capacity to house 56,500 birds, along with associated support and servicing infrastructure. The Development will comprise a total of 54 poultry sheds and house a combined site population of 3,051,000 birds.

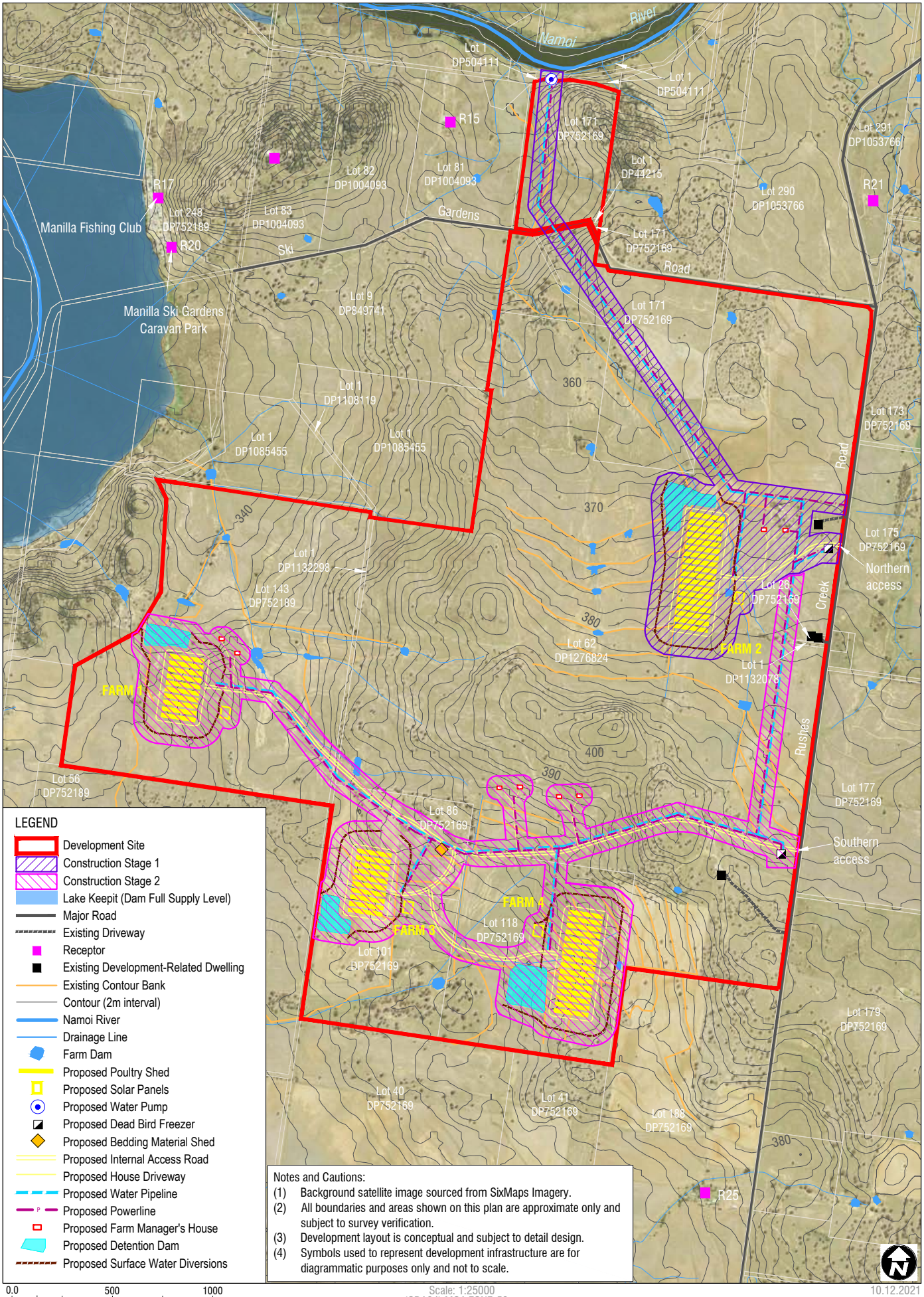
Refer to the Operational Environment Management Plan (OEMP) for a copy of the latest development consent.

The Development is planned to be established over two separate stages, with Stage 1 comprising the construction and operation of Farm 2 and associated ancillaries, and Stage 2 comprising the construction and operation of Farms 1, 3 and 4 and associated ancillaries. Construction of Stage 1 commenced in August 2021 and is anticipated to be completed in mid-late 2022. The timeframes for Stage 2 are unknown at this point.

This Soil and Water Management Plan (SWMP) is specific to Stage 1, which, as shown in **Figure 1** and **Figure 2**, comprises Farm 2 (18 poultry sheds) and associated support and servicing ancillaries.

The SWMP has been prepared in consideration of information regarding the Development as described in:

- Environmental Impact Statement, Intensive Livestock Agriculture, Rushes Creek Poultry Production Farm, SSD 7704, Volumes 1-3 (SLR 2018);
- Rushes Creek Poultry Production Farm, SSD 7704, Response to Submissions (EME Advisory 2019a);
- Rushes Creek Poultry Production Farm, SSD 7704, Supplementary Response to Submissions (EME Advisory 2019b);
- Rushes Creek Poultry Production Farm, SSD 7704, Section 4.55(1A) Modification Report (EME Advisory 2021a) (Modification 1);
- Rushes Creek Poultry Production Farm SSD 7704, Modification Report – Condition B53(a) (EME Advisory 2021b) (Modification 2);
- Rushes Creek Poultry Production Farm SSD 7704, Modification 3, Modification Report (EME Advisory 2022) (Modification 3);
- Rushes Creek Poultry production Farm, Development Consent SSD 7704, Stage 1 Construction Environmental Management Plan (EME Advisory 2021c) (CEMP).



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Scale: 1:25000
(GDA94) MGA ZONE 56

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610.17991

Sheet Size: A4

SLR
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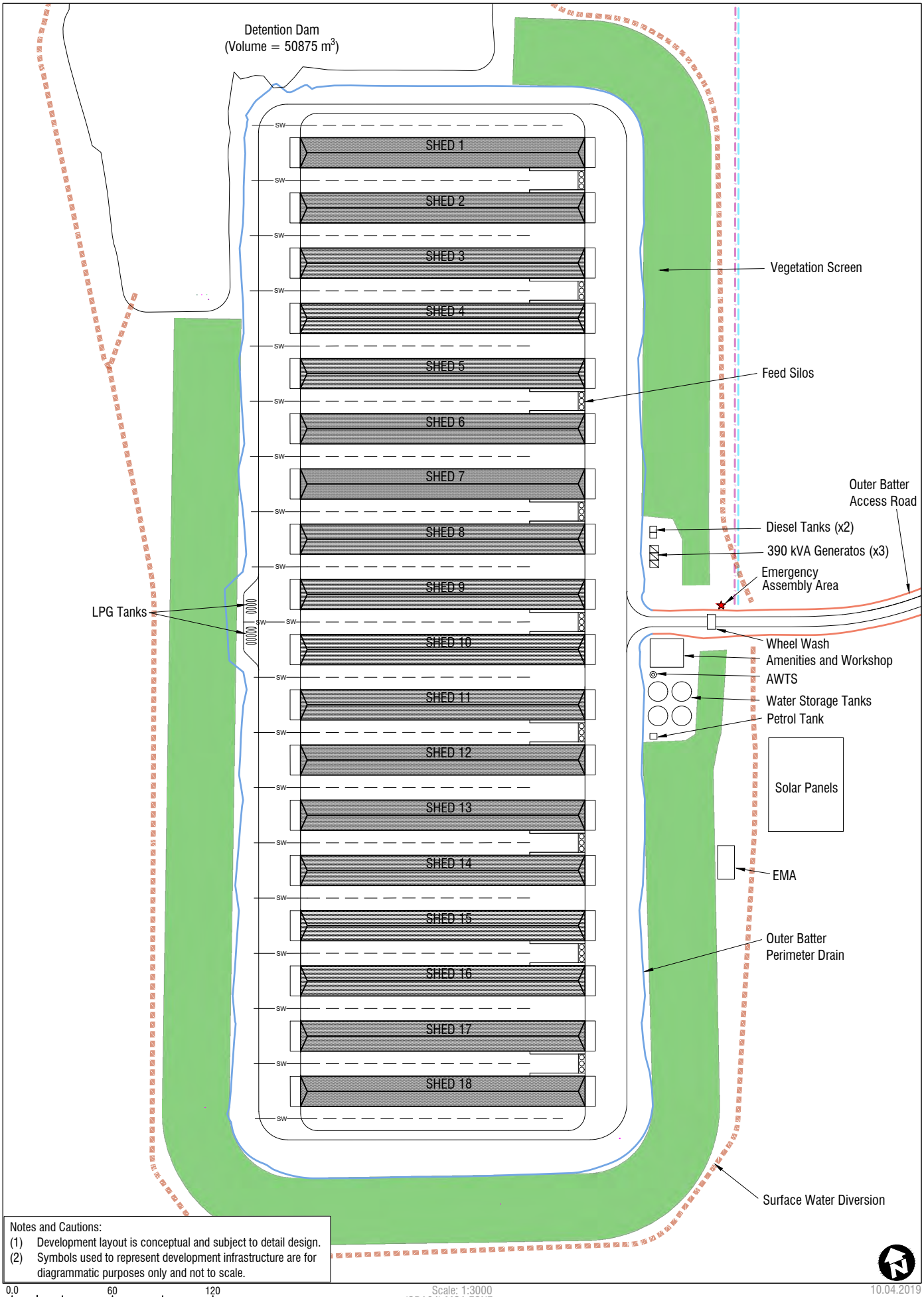
EME advisory

Rushes Creek SSD 7704
Layout and Staging

FIGURE 1



Notes and Cautions:
(1) Development layout is conceptual and subject to detail design.
(2) Symbols used to represent development infrastructure are for diagrammatic purposes only and not to scale.

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EME advisory

Farm 2 Layout and Surface Water Diversions

FIGURE 2

1.1. Purpose and Scope

This SWMP has been prepared by SAGE Environmental Services (SAGE), on behalf of ProTen Tamworth Pty Ltd (ProTen), for the operational phase of Stage 1 of the Development. It has been prepared to satisfy the Development Consent SSD-7704 Condition B22 (Water Management Plan) and is intended to be used in conjunction with the OEMP. The requirements of consent condition B22 are outlined in **Table 1**.

Table 1 Development Consent Conditions

Development Consent Condition No.	Condition	WMP Section
B22.	Prior to the commencement of operation, the Applicant must prepare a Water Management Plan to the satisfaction of the Planning Secretary. The plan must form part of the OEMP required by condition C5 and must:	N/A
(a)	be prepared by a suitably qualified and experienced person(s)	Section 1.1
(b)	be prepared in consultation with the Department's Water Group and the Natural Resources Access Regulator;	Section 1.2
(c)	detail water use, metering, disposal and management on-site;	Section 5.2
(d)	detail the number and location of piezometers on-site;	Section 4.4.1
(e)	detail the water licence requirements for the development;	Section 2.4
(f)	detail the management of wastewater streams on-site;	Section 5.2.3 and 5.2.4
(g)	contain a Surface Water Management Plan, including; (i) a program to monitor: a. surface water flows and quality; b. surface water storage and use; c. sediment basin operation; and d. the surface water discharge point from the two main drainage lines on the site; (ii) a trigger action and response plan (TARP) program to investigate potential adverse surface water impacts, including where surface water quality parameters exceed the Australian and New Zealand Environment Conservation Council (ANZECC) guidelines; (iii) a protocol for the investigation and mitigation where the surface water impact assessment criteria has been exceeded; and	Section 7
(h)	contain a Groundwater Management Plan, including: (i) baseline data on groundwater levels and quality; (ii) a program to monitor groundwater levels and quality (including nutrients and pathogens); (iii) groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts; and (iv) a protocol for the investigation and mitigation of identified exceedances of the groundwater impact assessment criteria.	Section 8
(i)	contain a contingency plan for the operational water supply for the facility during extreme weather events such as heat wave or drought.	Section 5.2.2

1.2. Regulatory Consultation

A draft version of this SWMP was issued to DPE Water and DPE Water: Licensing and Approvals (formerly NRAR) for review and comment in May 2022. **Table 2** below summarises the comments received from these agencies and the updates made to the WMP in response. Additionally, comments from the NSW Environment Protection Authority (EPA) was provided in July 2022 following an inspection of the Development in May 2022.

Table 2 Summary of Regulatory Consultation

Agency	Comment	Response and section where addressed
DPE Water (2022)	1. Include dates and duration of surface water flow events which lead to sampling and reporting in Annual Reports. 2. Amend the dam lining requirement referred to in Section 5.3.4 to be consistent with the specifications listed in Consent Condition B20(f)(i): "*drainage areas are underlain by a compacted clay liner of at least 300mm thickness and with a permeability of less than 1x10^{-9}m/s or other material providing an equivalent barrier to percolation*".	Amended, see Sections 7.1 and 7.2.2. Amended, see Section 5.3.4.
DPE Water: Licensing and Approvals (2022)	No comments provided.	No response required.
NSW EPA (2022)	**Erosion and Sediment Control / Concrete Washout Practices** Include details pertaining to erosion and sediment controls for the borrow pit and laydown area. This plan should be sufficient to "minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004). **Licence Variation – Operational Activities** ProTen will need to apply to vary their licence with the EPA to allow operational activities. The following information is to be provided to the EPA[1]: 2. A map showing the location and coordinates of groundwater monitoring wells to be installed at the premises.	See Section 6.2. Locations of surface and groundwater monitoring locations are presented on **Figure 5.**

[1] Only relevant items reproduced in this table. Please refer to NSW EPA, 2022b for full advice.

2. Planning requirements

2.1. Legislation and Guidelines

This SWMP has been prepared with consideration of the following state and federal legislation, policies, and publications:

- *Protection of the Environment Operations Act* 1997 (POEO Act) (NSW).
- *Environmental Planning and Assessment Act* 1979 (EP&A Act) (NSW).
- *Water Management Act* 2000 (WM Act) (NSW).
- *Water Management (General) Regulation* 2018 (NSW).
- *Water Act* 1912 (NSW).
- *Basin Plan* 2012 (Cwlth). Developed under subparagraph 44(3)(b)(i) of the *Water Act* 2007 (Cwlth)
- NSW Office of Water (NOW), 2012b. *NSW Aquifer Interference Policy.*
- ANZG, 2018. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.
- NSW Environment Protection Agency (EPA), 2022. *Approved methods for the sampling and analysis of water pollutants in NSW*.
- Landcom, 2004. *Managing Urban Stormwater: Soils and Construction*, Volume 1, 4th edition. This is more commonly referred to as “the Blue Book”.
- Department of Environment, Climate Change and Water (DECCW), 2008. *Managing Urban Stormwater: Soils and Construction Volume 2C: Unsealed Roads*.
- NSW OEH, 2012a. *Erosion and Sediment Control on Unsealed Roads*.
- Department of Agriculture, Fisheries and Forestry (DAFF), 2009. *National Water Biosecurity Manual – Poultry Production*.
- National Health and Medical Research Council (NHMRC), 2011. *Australian Drinking Water Guidelines 6*, version 3.6, updated March 2021.

2.2. Development Consent

As outlined in Section 1.1 this SWMP was prepared to satisfy consent condition B22 of Development Consent SSD 7704. However, it is noted that several additional consent conditions are relevant to the preparation and implementation of this SWMP. These additional conditions, and how or where they are addressed in the SWMP, are listed in **Table 3**.

Table 3 Other relevant Consent Conditions

Condition No.	Condition	How these Conditions are addressed in the SWMP
B20	**Stormwater Management System** Prior to the commencement of operation, the Applicant must design, install and operate a stormwater management system for the development. The system must: (a) be designed by a suitably qualified and experienced person(s); (b) be generally in accordance with the conceptual design in the EIS and RtS; (c) be in accordance with applicable Australian Standards; (d) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997) guidelines; (e) divert existing clean surface water around operational areas of the site and discharged into natural drainage lines in a manner that prevents scouring; and (f) be designed such that: (i) all vegetated swales and other stormwater conveyances within the controlled drainage areas are underlain by a compacted clay layer of at least 300 mm thickness and with a permeability of less than 1 x 10^{-9} m/s, or other material providing an equivalent barrier to percolation; (ii) all wastewater, recycled (irrigation) and other contaminated runoff is captured in the closed surface water management system; and (iii) no discharges are to occur from the detention dams for events up to the 1% AEP.	This condition refers to construction requirements and specifications for the Development for stormwater, erosion, and sediment control measures. This SWMP has been prepared assuming that all water management systems have been designed by a suitably qualified and experienced engineer, appropriately installed, and signed off by the Principal Certifying Authority prior to issue of the first occupation certificate. See Section 5.3
B21	**Water Management** The detention dams at each PPU are to be inspected annually or following significant rainfall events, and desilted if required.	Section 5.3.4 and Section 7.2
B22	**Water Management Plan**	See Section 1.1
B23	The Applicant must: (a) not commence operation until the Water Management Plan required by condition B22 is approved by the Planning Secretary; and (b) implement the most recent version of the Water Management Plan approved by the Planning Secretary for the duration of the development.	Noted
B24	**Potable Water** Prior to the commencement of operation, the Applicant must prepare a quality assurance program (or drinking water management system) in accordance with the 'NSW Private Water Supply Guidelines' (NSW Health 2016).	Section 5.2.4
C1	**Management Plan Requirements** Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
	(a) detailed baseline data;	Baseline data will be collected for surface water (Section 7) and groundwater (Section 8) monitoring locations. Once sufficient data is available this SWMP will be updated as per Section 10.2.6.
	(b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and	(i) Section 2 (ii) and (iii) Section 7.3 and 8.3

Condition No.	Condition	How these Conditions are addressed in the SWMP
	(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	
	(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 7.3 and 8.3
	(d) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 7, Section 8 and Section 10.2.6.
	(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 5.3, Section 5.4 and Section 9
	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 10.2.6.
	(g) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and	Section 10
	(h) a protocol for periodic review of the plan.	Section 10.2.6.

2.3. Environmental Protection Licence

The Development is considered to be a “scheduled activity” in accordance with Schedule 1 of the POEO Act. As a scheduled activity the occupier is required to hold an environment protection licence (EPL) administered by the NSW Environment Protection Authority (EPA).

The Development will operate under the provisions of EPL 21569, as issued by the EPA, as provided in OEMP. Relevant conditions in EPL 21569 with respect to surface water and groundwater management are listed in **Table 4**.

Table 4 EPL21569 Conditions

Condition No.	Condition	Section of SWMP
P1	Location of monitoring/discharge points and areas	
P1.2	Groundwater monitoring points to be determined prior to commencing operations.	Section 8.2.1
L1	Pollution of Waters	
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with Section 120 of the Protection of the Environment Operations Act 1997.	Measures to prevent the pollution of waters are addressed in Section 5.3.

2.4. Water Licences

2.4.1. Surface water licences

The full Development (i.e. Farms 1 to 4) will require a total water supply of around 330 megalitres (ML) per annum (0.9 ML per day averaged over a year) (SLR, 2018). This supply will include water for shed ventilation, bird consumption, shed cleaning and vehicle wheel washes (SLR, 2018). The total water supply for Stage 1 of the Development is approximately 110 ML per annum. As per the EIS (SLR, 2018), surface water will be extracted from the Namoi River under the provisions of the two existing water access licences (WALs) held by ProTen:

- WAL41834 – general security licence with a share component of 317.2 units from the Upper Namoi Regulated River Water Source; and
- WAL37794 - general security licence with a share component of 120 units from the Upper Namoi Regulated River Water Source.

NRAR issued “miscellaneous work” number 90MW833079 in August 2021 for the Namoi River pump site. Pursuant to section 4.41(1) of the *EP&A Act*, no further authorisations are required under the *Water Management Act* 2000 (WM Act 2000).

The detention dams at each PPU are to ensure wash down water from the poultry sheds and rainfall runoff from within the PPU environs (i.e. within the upstream clean water diversions) is captured and does not compromise the clean water flows and downstream environments. The dams will be a turkey-nest design and will not receive any clean water inflows or harvestable rights. As such, the dams meet the definition and purpose advised in Clause 3 of Schedule 1 of the *Water Management (General) Regulation* 2018 and, therefore, are exempt from licencing requirements under the WM Act 2000.

2.4.2. Groundwater Licences

There is no groundwater extraction or use currently proposed or approved as part of the Development. As such, no groundwater licences are required for the Development.

3. Principles of Water Management

The pollution of waters is an offence under Section 120 of the POEO Act unless specifically licensed to do so. EPL 21569 requires that ProTen adhere with this legislative requirement and avoid the pollution of waters by site activities.

Appropriate water management procedures have been developed based on the classification of the various water sources within the Development. **Table 5** lists the classes of water within the Development Site and describes their respective sources, design objectives and treatment/management.

The following general water management principles shall apply for the management of surface water and groundwater resources throughout the operational phase of the Development:

- Clean water will be diverted around all disturbance and operational areas;

- Dirty water will be contained within sediment basins or directed through appropriate sediment control structures before being released to the environment in a suitable area;
- Wash down waters will be contained within the engineered surface water management systems at each PPU;
- Where possible, wash down activities will be avoided during periods of high rainfall such as to minimise the potential for off-site discharge of nutrient rich water;
- An erosion and sediment control plan (ESCP) will be developed for any new disturbance areas and appropriate ESC measures will be installed such as to contain and treat any dirty water runoff;
- All water management infrastructure will be subject to regular inspections to ensure their functionality and reduce the potential for uncontrolled overflow or release of potentially pollutant laden waters; and
- Disturbed areas and rehabilitation areas will be managed to ensure the risk of erosion is minimised and rehabilitation is effective.

Table 5 Water Management Principles and Classifications

Water Classification	Source and Character	Target Design Objective	Treatment
Dirty Water	Runoff from exposed soils and disturbed surfaces, including unsealed roads. Generally high in turbidity and sediment load.	Based on: • The Blue Book (Landcom, 2004); and • *Managing Urban Stormwater: Soils and Construction Volume 2C: Unsealed Roads* (DECCW, 2008).	Dirty water runoff is to be contained within sediment basins or passed though sediment control devices to detain sediments and reduce turbidity prior to discharge into the natural environment.
Wash Down Water	Water produced from the cleaning and washing down of the poultry sheds at the end of each production cycle/batch. Characterised by elevated nutrient levels.	An engineered surface water management system designed, installed and maintained at each PPU to capture the wash down water from the poultry sheds and rainfall runoff from within the PPU environs, as detailed in Section 5.3. Each system has the capacity to handle the runoff from a 1% annual exceedance probability (AEP), 72-hour rainfall event.	The engineered surface water management system at each PPU will comprise clean water upstream diversions, grassed swale drains between the poultry sheds to capture wash down water and rainfall runoff, a table drain around the perimeter of the PPU and a large detention dam. There will also be stormwater pipes to convey water under the PPU roadways and into the perimeter table drain.
Clean Water	Surface water runoff produced from undisturbed clean water catchments. Characterised by low nutrient load, sediment load and turbidity.	Clean water diversions designed, installed and maintained to convey runoff from the upstream catchment for rainfall events up to the 1% AEP event.	Diversions will be maintained around the upstream sides of the PPUs to convey clean water runoff around the poultry sheds and ancillaries and safely back in to the downstream overland flow path. They will prevent this water from entering the PPU's controlled surface water management system.
Groundwater	Water contained within aquifers. Characteristics of groundwater vary depending on the source aquifer.	N/A	No groundwater is currently approved to be extracted or used. The internal surfaces of the engineered stormwater structures, including the swale drains and detention dam, will be compacted or lined to provide a barrier to percolation.
Sewage	Sewage produced by staff amenities and residences. High in nutrient load and anthropogenic content.	Designed, installed and managed in accordance with relevant council guidelines.	Treated and disposed of via on-site aerated wastewater management systems.

4. Water Management Environment

4.1. Meteorology

The Development is situated within the New England North West region of NSW, which is characterised by a dry semi-arid climate with hot summers and cool winters. Rainfall levels in the region are generally low, with the area quite susceptible to periods of drought. The highest monthly rainfall levels typically occur in November and December. Summer rainfall tends to occur mainly from thunderstorms, resulting in higher mean monthly rainfall and mean number of days of rain. The average monthly rainfall for all years on record (1993 – 2022 (until July)) is presented in **Table 6** for the Bureau of Mereology's (BoM's) automated weather station 055325, located at the Tamworth Airport approximately 34 km to the southwest of the Development.

Table 6 Mean Rainfall for BoM Station 055325 at Tamworth Airport

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	61.2	73.9	57.2	25.3	30.4	53.4	41.0	38.1	42.9	55.2	82.3	80.4	641.4

Accessed 28 July 2022 via http://www.bom.gov.au/climate/data/.

4.2. Soil Types

The topography of the Development ranges between around 325 and 410 metres Australian height datum (m AHD). While there is a natural southeast-northwest trending ridgeline running through the centre of the Development, it is relatively flat, with typical grades of 2% (2 m in every 100 m).

Soil information presented within the EIS (SLR, 2018) advised that the Development consists of two soil landscapes, these being the residual "Wongo" landscape and the transferral "Oodnadatta" landscape. The EIS (SLR, 2018) further advised soil profiles at the Development are considered Brown Chromosols.

Historical clearing, cultivation and grazing pressure on the soil have resulted in extensive sheet and gully erosion and structural decline of the soil profile within the region (SLR, 2018). The current pasture management regimes have assisted in stabilising surface soils, however many erosion scalds remain.

Due to the distance of the Development from the coastal zone (~230 km) and higher elevations (325 to 410 m AHD), the risk of acid sulphate soils is considered very low (SLR, 2018; ACLEP, 2013).

4.3. Surface Water Environment

The Development is located within the catchment of the Namoi River, which is one of the Murray-Darling Basin's major NSW sub-catchments. It covers a total area of approximately 42,000 km^2 between Tamworth and Walgett. The catchment supports significant dryland and irrigated agricultural production, and the region's local councils also depend on the Namoi River (and Peel River) to meet the urban water requirements of many of the region's urban centres (SLR, 2018; NOW 2011).

The Namoi River flows westerly to the north of the Development into Lake Keepit. The Namoi River is a regulated system to meet the needs of water users and the environment from Split Rock Dam to its confluence with the Barwon-Darling River at Walgett.

Lake Keepit, which is located to the west and southwest of the Development, was commissioned in 1960 as the major irrigation storage for the Namoi Catchment. It also provides flood mitigation, generates hydropower via a hydropower station and supplies town water for Walgett (SLR, 2018; NOW, 2011). Lake Keepit is a popular sport and recreation destination.

The location of the Development in relation to the relevant surface water features is presented on **Figure 1**. While there are no notable surface water features within the bounds of the Development, there are several intermittent drainage lines traversing through the Development and several farm dams. Runoff to the east of the ridgeline trending southeast-northwest through the centre of the Development is directed to the Namoi River via contour banks and shallow swales, and runoff to the west of this ridgeline is channelled to Lake Keepit through drainage lines in the south, west and southwest of the Development Site (SLR, 2018).

Farm 2 is to be positioned at the confluence of a first order drainage line and second order drainage line (SLR, 2018). These drainage lines are ephemeral and drain north towards the Namoi River.

4.4. Groundwater Environment

4.4.1. Primary Aquifer of Interest at the Development

The Development is situated in the New England Fold Belt Groundwater Management Area (GMA) under the *Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011*. The New England Fold Belt groundwater system is characterised as a fractured rock system, with groundwater dominantly stored and transmitted within fractures rather than the rock mass itself (SLR, 2018).

The main hydro-stratigraphic units underlying the Development are (SLR, 2018 and 2020):

- Tulcumba Sandstone - a coarse to fine grained, cross bedded sandstone, siltstone, polymict conglomerate, calcareous mudstone and limestone. This comparatively erosion-resistant unit forms the southeast-northwest trending ridgeline that runs through the centre of the Development;
- Mandowa Mudstone - a thinly bedded, laminated and massive mudstone with thin siltstone; and
- Namoi Formation - fine grained sandstone beds with marine rich facies, with thinly bedded mudstone.

A search of the NSW Government's on-line groundwater works database and an in-field groundwater bore survey conducted by SLR in November 2016 identified a total of nine groundwater bores or wells within the Development. A review of available drill bore logs confirmed the New England Fold Belt groundwater system as a fractured rock system and indicated that the water bearing zones are greater than 30 m deep (SLR, 2018). The bore survey (SLR 2017) identified that the depth to groundwater is greater than 9 metres below ground level (mbgl) across the Development. A relatively shallow depth of 3.49 mbgl was recorded at a tenth identified bore to the northwest of the Development, however this bore

was likely influence by seepage from a farm dam immediately adjacent to the bore (SLR, 2018).

The results of the bore survey indicated that the direction of groundwater flow is a subdued replica of topography, with groundwater flowing away from the southeast-northwest trending ridgeline in the centre of the Development towards the Namoi River in the north, west and northwest. Field analysis of the groundwater bores indicates that the groundwater quality is fresh to slightly brackish, with electrical conductivity ranging between 977 and 1,609 microSiemens per centimetre (µS/cm) and pH ranging between 6.9 and 7.6 (i.e. neutral) (SLR, 2018).

Table 7 lists the identified bores/wells, including their registration identification, standing water levels (SWL) and referenced standing water levels (RSWL) measured during SLR's field survey in 2016. Doyle 5 was unable to be measured due to no access, and McCrae 4 was unable to be measured due to the well being collapsed and dry. **Figure 3** shows the locations of these bores/wells.

Table 7 On-site Groundwater Bores and wells

Local Bore ID	Registration ID	Bore status	SWL 2016 (mbgl)	RSWL (m AHD)
Doyle 5	GW967889	Operational	N/A	N/A
Doyle 5A	GW011498	Non-operational	9.05	364.1
Doyle 6	GW967028	Operational	15.00	351.3
Doyle 7	GW016839	Operational	10.94	341.9
Doyle 8	-	Operational	3.49	343.9
Doyle 9	GW011958	Non-operational	17.83	370.7
McCrae 1	-	Operational	19.00	376.1
McCrae 2	GW970840	Operational	20.83	372.1
McCrae 3	GW014483	Non-operational	11.29	353.9
McCrae 4 (well)	-	Non-operational	N/A	N/A

4.4.2. Alluvium and regolith

Groundwater is known to be contained within the unconsolidated sediments (alluvium) associated with the Namoi River further to the west and northwest of the Development and downstream of Lake Keepit where the Namoi River alluvium is known to form an extensive and widely utilised aquifer (SLR, 2018). The alluvial aquifer is typically comprised of coarse sand, gravel, silt and clay deposits. The Manilla 9036 1:100,000 geological map sheet does not show any occurrence of alluvium adjacent to the Development. Analysis of aerial imagery suggests that if the alluvial aquifer does exist adjacent to the Development it is well constrained spatially to within and adjacent to the Namoi River channel itself (SLR, 2018).

Bore logs indicate the presence of a weathered clay-rich regolith layer above basement rocks across the Development acting as an aquitard and restricting any downward seepage of water from the surface in to the groundwater system (SLR, 2018). There have been no recorded intersections of groundwater from within the weathered clay-rich regolith layer above the basement materials.

To support the monitoring requirements established in this SWMP, three new regolith monitoring bores were constructed in July 2022. These bores were installed to monitor the dry regolith surrounding Farm 2 for any possible impacts from the Development (see Section 8.2). Details of these bores are presented in **Table 8** and the location of these bores are presented on **Figure 5** (as REG001, REG002 and REG003 respectively) and presented on a

schematic plan of Farm 2 in **Appendix A** monitoring bore construction details are provided in **Appendix B**.

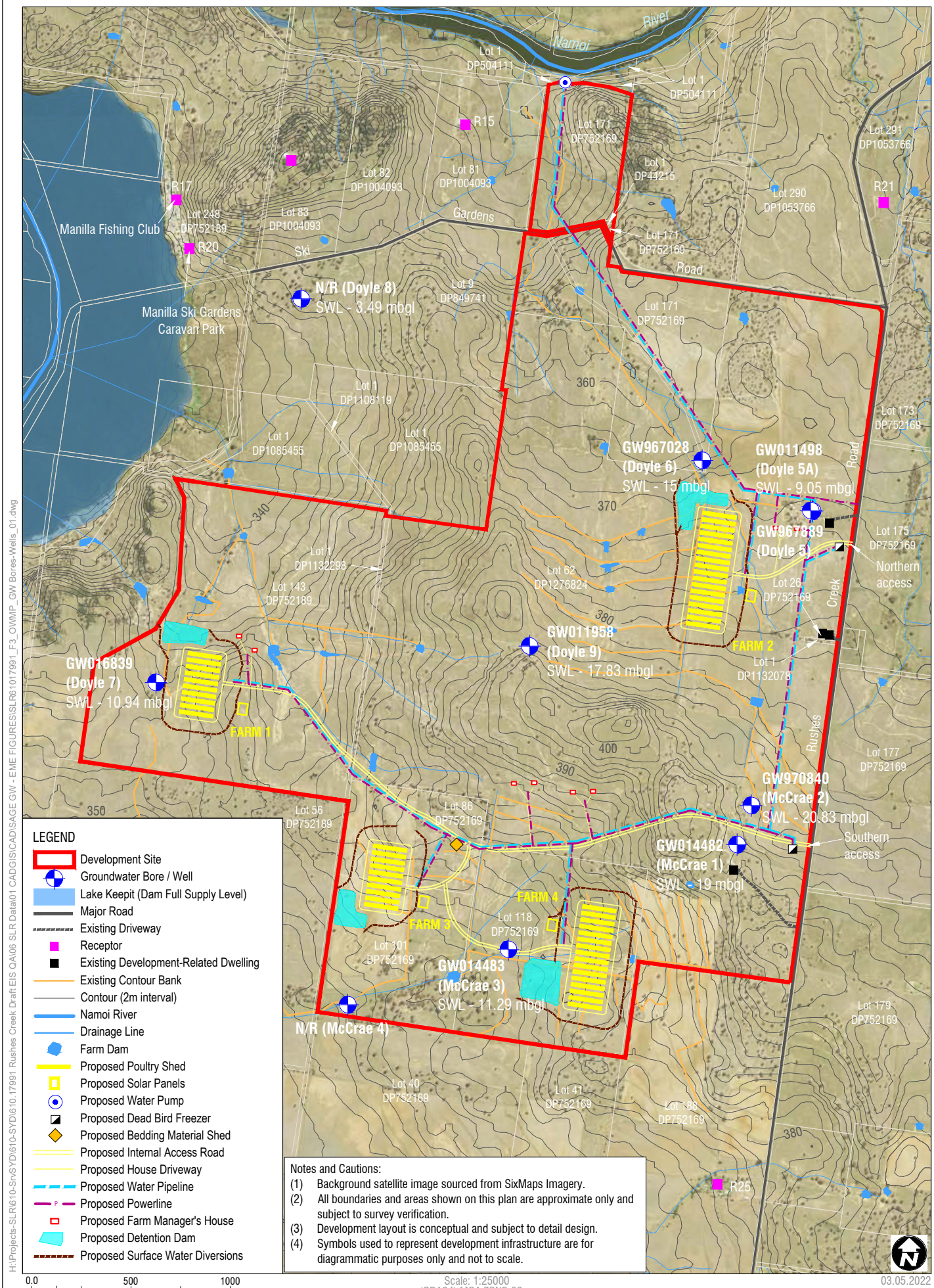
Table 8 Farm 2 Regolith Monitoring Bores

Local Bore ID	Bore status	Easting (MGA Z56)	Northing (MGA Z56)	Ground level (m AHD)	Screened Interval (m bgl)	Bore depth (m bgl)
REG001	Operational	269678.5	6587815.0	381.8	0.5-1.74	1.74
REG002	Operational	269908.1	6588706.3	367.7	0.7-2.72	2.72
REG003	Operational	269624.5	6588800.0	364.0	0.7-2.73	2.73

4.4.3. Groundwater use surrounding the Development

The New England Fold Belt Groundwater Source has a total entitlement of 7,672 unit shares available for licensed extraction under the Murray-Darling Basin Water Sharing Plan (NOW, 2012a). This value excludes water used for stock and domestic purposes.

A search of the BoM Groundwater Explorer shows that there are 20 registered bores within a 5 km radius of the Development. Of these bores, only one is used for irrigation, eight are used for water supply, eight are used for stock and domestic purposes and three are of unknown use. The depth of these bores ranges from 7.9 mbgl to 85.3 mbgl. It is likely that the shallower bores are completed in the alluvium or surficial layers and are not connected to the fractured rock system.



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On-site Groundwater Bores and Wells

FIGURE 3

5. Site Water Management

5.1. Surface Water Production

The poultry farm development will be a largely dry operation, with no effluent generated from the poultry-rearing process. The main operational water sources from the Development will be:

- Wash down water from within the poultry sheds at the end of each 65-day (approximately) production cycle (approximately 5.6 times per year);
- Rainfall runoff from shed roofs; and
- Rainfall runoff from the ground surfaces around the poultry sheds and ancillaries.

The poultry sheds will be blown and swept (i.e. dry cleaning practices) before being washed using high-pressure low-volume sprays, sanitised and disinfected. Approximately 12 kilolitres (kL) of water will used be in the wash down process for each poultry shed at the end of each production cycle. For Farm 2, this amounts to a total volume of approximately 216 kL every 9.3 weeks (approximately 1,210 kL annually).

While the water captured in the detention dam at the PPU will have some level of nutrients, the levels are predicted to be low given that the poultry sheds will be thoroughly blown and swept prior to being washed, the grassed swales between the poultry sheds will provide an effective means of nutrient removal, and there will be mixing and dilution in the dam. An analysis of wash down water from one of ProTen's poultry broiler production farms where operational procedures, litter management and shed clean out are very similar to that proposed at Rushes Creek was undertaken by GHD (2007). This analysis indicates that the wash down water will have the typical concentrations listed in **Table 9**. Also listed are the typical annual pollutant load removal efficiencies for vegetated swales according to *Australian Runoff Quality* (Engineers Australia, 2006).

Table 9 Typical Wash Down Water Pollutant Loads

Pollutant	Typical Wash Down Water Concentrations[1]	Typical Removal Efficiencies for Grassed Swales[2]
Total suspended solids	2,500 mg/L	60 to 80%
Total nitrogen	65 mg/L	25 to 40%
Total phosphorus	45 mg/L	30 to 50%

1 – based on analysis undertaken by GHD 2007.
2 – based on Engineers Australia 2006.

Analysis of the water captured in the detention dams at ProTen's Narrandera poultry farm (SSD 6882) between April 2017 and April 2018 (quarterly grab samples) was reported in the farm's Annual Review 2017-2018. The results show the following pollutant concentrations:

- Total suspended solids – 9 to 1,660 mg/L, with an average of 417 mg/L;
- Total kjeldahl nitrogen – <2 to 15 mg/L, with an average of 5 mg/L;
- Total nitrogen – <2 to 16 mg/L, with an average of 7 mg/L;
- Nitrate/Nitrite as N - 0.1 to 5.9 mg/L, with an average of 1.4 mg/L; and

- Total phosphorous – <0.01 to 2.7 mg/L, with an average of 0.7 mg/L.

It is evident that the quality of the water in the detention dams has even lower solids and nutrient loads than previously anticipated, indicating lower levels within the poultry shed wash down water and/or greater removal efficiencies in the grassed swales and/or mixing and dilution in the detention dams.

5.2. Operational Supply and Reuse

5.2.1. Operational Water Supply

The full Development (i.e. Farms 1 to 4) will require a total water supply of around 330 ML per annum (0.9 ML per day averaged over a year) for purposes including shed ventilation, bird consumption, shed cleaning and vehicle wheel washes, which will be serviced using the two existing WALs held by ProTen that provide a combined 437.2 units of surface water annually from the Namoi River.

The total water supply for Stage 1 of the Development is approximately 110 ML per annum. Water will be pumped from the Namoi River and piped to four 375 kL water storage tanks at Farm 2 (1,500 kL combined storage capacity). The tanks will be automatically filled from pressurised lines to remain near capacity at all times. Low level alarms will be fitted to the tanks at approximately two-thirds full capacity and will alarm if the water level drops below this point. This water supply will also be available for firefighting purposes.

The water extracted from the Namoi River will be treated as per the recommendations in the *National Water Biosecurity Manual – Poultry Production* (DAFF, 2009) as a biosecurity measure and to ensure it is suitable for bird consumption. This process will involve (SLR, 2018):

- Filtering the extracted water through a sand filtration media;
- Monitoring of the pH of the water and, if it is found to be high, adding citric acid to maintain the pH at approximately 7.0;
- Chlorinating the water to deliver approximately 3 parts per million (ppm) total dissolved solids in the water storage tanks; and
- Dosing chlorine dioxide in to the water delivery system supplying the poultry sheds at between 0.5 to 0.1 ppm.

5.2.2. Operational Water Supply Contingency

While the unit share of water available for extraction from the Namoi River may vary from year-to-year depending on the available water determination, the combined 437.2 units provided by the two WALs is anticipated to be able to service the Development's annual water demand of approximately 330 ML most years. If the water requirements of the Development cannot be met, for example during times of low flow or drought, this is a commercial risk for ProTen. If such a time presents itself there are three options to source additional supply and a fourth fall-back option as outlined in the RTS (EME Advisory, 2019a):

- **Option 1**: The purchase of temporary tradeable water (if available) from other licensed user(s) in the Upper Namoi system at an agreed rate. This is the preferred option for ProTen and has been successfully undertaken by ProTen at other poultry

farms in NSW where a temporary water shortfall was experienced. It is subject to an approved application by WaterNSW, with 90% of allocation trades processed within 5 business days. A temporary water transfer (also known as an allocation assignment) is the assignment or transfer of current year allocation from one WAL to another on a temporary basis. The assignment has no permanent effect on the share component of the WAL.

- **Option 2**: The purchase and transfer of another WAL or share component of a WAL (if available). This would be subject to firstly identifying a suitable WAL that is available for transfer and secondly obtaining approval from Water NSW to change the zone and/or nominated work on the WAL. ProTen is continually searching for and investigating potentially suitable and available WALs for sale in the Tamworth area to secure additional water allocation for existing and potential future developments.
- **Option 3**: The purchase and trucking of additional water supply. This option would only be considered if there was a very minor and very limited/short-term volume shortage.
- **Option 4**: The fall-back option of reducing the operating capacity of the Development (i.e. destock) until the required water supply can be obtained.

5.2.3. Water Reuse

Some of the water captured in the detention dam at each PPU is proposed to be reused for regular irrigation of the vegetation screens to be established around the perimeter of each PPU. Based on a conservative averaged application rate of 50 mm per week over the entire landscaped area, this has been calculated to reuse between 3 ML and 4.8 ML per week at each PPU (SLR, 2018).

The vegetation screens at each PPU will be positioned inside of the upstream clean water diversions to ensure that any runoff from these areas is captured in the controlled surface water management system and will not compromise the clean water flows and downstream environments.

5.2.4. Sewage

Sewage generated by the on-site staff amenities at each PPU and the houses will be appropriately treated and disposed of via separate on-site aerated wastewater treatment systems (AWTSs) (one at each PPU and house) installed and operated in accordance with the manufacturer's specifications and Council approval requirements. Each system will have a treatment capacity of 10 equivalent persons at 200 L/p/d and treated effluent will be released over an effluent management area (EMA) of approximately 200 m^2 via sub-surface irrigation.

The installation of each AWTS and EMA will be subject to approval from Council under Section 68 of the *Local Government Act 1993*.

The AWTS and EMA at each PPU will be positioned inside of the upstream clean water diversions to ensure that any runoff from these areas is captured in the controlled surface water management system and will not compromise the clean water flows and downstream environments. Furthermore, there is significant land area available at each house site for

effluent application and significant separation distances to any surrounding surface water features.

There is negligible risk associated with sewage management at the PPUs and houses. SLR (2018) noted the following:

- The AWTSs and EMAs are considered conservatively over-sized for the relatively low volumes of sewage to be generated by the staff amenities and farm manager houses;
- The AWTSs will provide secondary level treatment, including disinfection;
- Each AWTS will be maintained by an approved service provider on a quarterly basis or as recommended by the manufacturer;
- The EMAs will be relatively flat and the grass cover will be regularly mown to promote uptake of hydraulic and nutrient loads;
- Groundwater levels generally range between 10 and 20 mbgl across the Development and a weathered clay-rich regolith layer approximately 2 m below ground surface will restrict any downward movement of treated effluent to groundwater; and
- The Development is not flood-liable land.

5.2.5. Drinking Water

While consent condition B24 requires ProTen to prepare a water quality assurance program or drinking water management system for potable water supply in accordance with the *NSW Private Water Supply Guidelines* (NSW Health, 2016), ProTen has now committed to using a commercial water delivery service for the potable/drinking water supply at the site offices and farm manager's houses. As such, the requirement for a water quality assurance program will fall on the commercial water carter. In accordance with the *NSW Private Water Supply Guidelines,* ProTen will ensure that the water carter is compliant with the *NSW Guidelines for Water Carters* (NSW Health, 2012), has an established quality assurance program, has notified the business to Council and is capable of readily demonstrating the source of the water.

The Development's operational water supply from the Namoi River (see Section 5.2.1) will be used for non-potable water requirements at the site office and houses.

5.3. Engineered Surface Water Management System

An engineered surface water management system will be installed at each PPU to capture and manage all wash down water and stormwater runoff from within the PPU environs throughout the life of the Development. In summary, each system will comprise:

- Upstream clean water diversions;
- Grassed swale drains between the poultry sheds;
- Stormwater pipes to convey water under roads;
- A perimeter table drain; and
- A large detention dam.

The engineered surface water management system to be installed at Farm 2 is detailed **Figure 2** and described in summary in the below sub-sections. It will essentially operate as a closed water system, ensuring that all runoff from within the PPU environs is captured and does not compromise clean water flows and downstream environments. It has been designed with sufficient capacity to capture the runoff generated by rainfall events up to the 1% AEP, 72-hour event. The system is required to be installed and stabilised prior to commencing operations at Farm 2 and maintained throughout the life of Farm 2.

Based on the design and function of the surface water management system, the low frequency of shed washing and the relatively low volumes of wash down water, there is a negligible risk of runoff flowing off site for events up to the 1% AEP, 72-hour event. The potential for impact to local water resources by runoff of nutrients, chemicals or pathogens is considered negligible.

The surface water management system will be constructed in accordance with the designs provided, the design provided in the EIS and RTS, and in accordance with applicable Australian Standards. As per condition B20 (**Table 3**), engineered surface water management features (such as swales and controlled drainage lines) will be constructed so that they are underlain by a material of suitable thickness and permeability to act as a barrier to percolation.

5.3.1. Clean Water Diversions and Flood Immunity

Clean water diversions comprising a deflection bank and swale drain will be installed around the upstream side of Farm 2 to divert clean water runoff originating upstream of the farm around the poultry sheds and associated ancillaries and safely back into the existing downstream drainage line and/or overland flow path ensuring the clean water flows do not enter the controlled surface water management system. These diversions have been designed to convey the runoff from the upstream catchment for rainfall events up to the 1% AEP event and to prevent scour from the flow of water. These features will be maintained for the life of Farm 2.

The upstream diversions and construction pads for the poultry sheds will ensure that the sheds have immunity from the 1% AEP event. Runoff from the roofs of the poultry sheds will discharge to the grassed swales and subsequently into the detention dam (see below).

5.3.2. Grassed Swale Drains

Each poultry shed will have fully sealed concrete flooring and will be surrounded by a 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.

Figure 4 illustrates the typical arrangement of the grassed swale drains. The drains will have a triangular cross-section and will have a low grade to maximise infiltration and stormwater treatment potential in the topsoil and grass cover. A deflection bank will be constructed to allow runoff to be constrained to the swale drain until infiltration has been achieved. During construction, as required by consent condition B20, the internal surfaces of the swale drains will be compacted or lined to provide an impermeable surface.

As outlined in Section 5.1, it has been demonstrated that the grassed swale drains provide an effective means of nutrient removal from the wash down water.

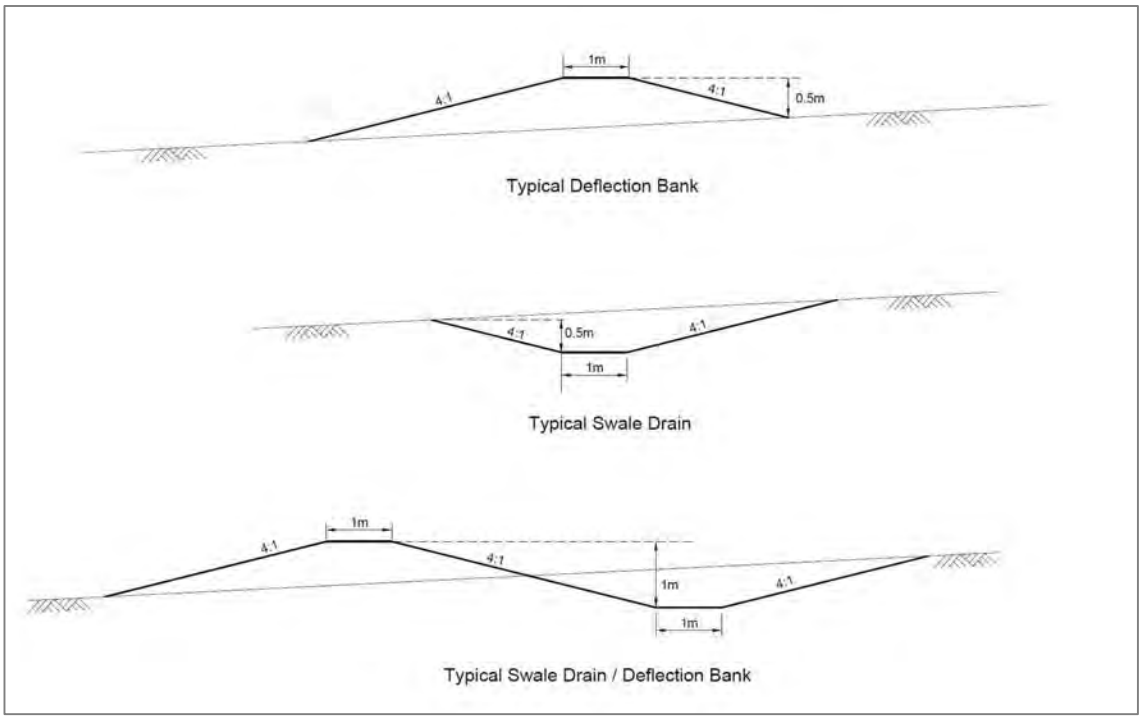


Figure 4 Grassed swale design and construction (LRCE, 2021)

5.3.3. Table Drains

During heavy rainfall events excess water from the grassed swales will be conveyed via underground pipes under the PPU ring road and into a table drain around the perimeter of the PPU. The construction of the perimeter table drain will ensure that all rainfall runoff from the ground surfaces within the PPU environs will be contained within the controlled surface water management system.

The table drain will be constructed to have a trapezoidal cross-section, with side batter slopes of approximately 4:1, horizontal to vertical. During construction, as required by consent condition B20, the internal surfaces of the table drain will be compacted or lined to provide an impermeable surface.

5.3.4. Detention Dam

The table drain around the perimeter of Farm 2 will convey the water to a large detention dam with a storage capacity of approximately 50,875 cubic metres (m^3). As previously advised, this dam has been designed to capture the runoff from inside the PPU environs (i.e. all area inside of the upstream diversions) for rainfall events up to the 1% AEP, 72-hour event. While the water captured in the detention dam will have some level of nutrients, as outlined in Section 5.1, the levels are predicted to be low given that the poultry sheds will be thoroughly blown and swept prior to being washed, the grassed swales will provide a very effective means of nutrient removal and there will be dilution and mixing in the dam.

Given the design of the surface water management system at Farm 2, the detention dam is only expected to receive runoff during large rainfall events. As outlined in Section 5.2.3,

ProTen has committed to reusing some of the captured water for regular irrigation of the planted vegetation screens around the perimeter of Farm 2.

Based on the design volume of the detention dam and the water reuse strategy, there should not be any off-site discharge from the dams for rainfall events up to the 1% AEP, 72-hour event.

During construction, as required by consent condition B20(f) (**Table 3**), the dam will be constructed so that drainage areas are underlain by a compacted clay liner of at least 300mm thickness and with a permeability of less than $1x10^{-9}$m/s or other material providing an equivalent barrier to percolation.

5.4. Mitigation and Management

The Development will be managed in 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.

The best management practices and mitigation measures listed in **Table 10** will be implemented to safeguard local surface water and groundwater resources and/or minimise and manage potential adverse impact.

Table 10 Surface Water and Groundwater Mitigation and Management Measures

Control	Responsibility	Timing / Frequency
The poultry sheds will be fully enclosed and surrounded by a dwarf concrete bund wall to prevent stormwater entering the sheds and allow for the controlled discharge of wash down water from the sheds.	Construction Site Manager	Construction
Clean water diversions will be installed and maintained around the upstream sides of the PPU to convey clean water run‐off around the PPU and prevent this water from entering the controlled surface water management system. The diversions will be designed and maintained to convey the runoff from the upstream catchment for rainfall events up to the 1% AEP event.	Construction Site Manager Farm Manager	Construction and on-going maintenance
An engineered surface water management system will be installed and maintained at the PPU to capture and manage wash down water and stormwater runoff from within the PPU environs, providing long‐term structural management controls throughout the life of the operation. Each system will be designed to capture the runoff from rainfall events up to the 1% AEP 72‐hour event.	Construction Site Manager Farm Manager	Construction and on-going maintenance
The internal surfaces of the grassed swale drains, perimeter table drain and detention dam will be compacted or lined to provide an impermeable surface.	Construction Site Manager	Construction
AWTSs will be installed and maintained to manage the sewage generated by the staff amenities at the PPU and the farm managers' houses in accordance with the manufacturer's specifications and Council approval requirements. Each AWTS will have a treatment capacity of 10 equivalent persons at 200 L/p/d and the treated effluent will be released over an area of approximately 200 m^2 via sub‐surface irrigation.	Construction Site Manager Farm Manager	Construction and on-going maintenance
The extraction of surface water from the Namoi River to service water supply requirements will be under the provisions of the two existing water access licences held by ProTen (WAL41834 and WAL37794). Extraction will not exceed the combined licensed allocation of 437.2 units per year.	Farm Manager	On-going
There will not be any groundwater extraction or use by the Development.	Farm Manager	On-going
An on-going inspection and maintenance program will be implemented to ensure the continued integrity of the surface water management system, including upstream diversions. They will be visually inspected on a monthly basis and following significant rainfall events and any required maintenance work will be promptly undertaken to ensure the system's design capacity is maintained.	Farm Manager	Monthly and after significant rainfall
The detention dam will be visually inspected on an annual basis and, if necessary, will be desilted to ensure the dams maintain their design capacity.	Farm Manager	Annually
The grassed swale drains between the poultry sheds will be carefully managed to minimise soil disturbance and maximise infiltration and stormwater treatment potential in the topsoil and grass cover. They will be regularly slashed to encourage continual grass growth and associated nutrient up-take.	Farm Manager	On-going
Dry cleaning practices at the end of each production cycle will be maximised within the poultry sheds prior to washing with water to minimise the volume of wash water and the amount of poultry litter (and associated sediments and nutrients) in the wash down water.	Farm Manager	End of each production cycle
Water captured in the detention dam will be reused for regular irrigation of the planted vegetation screens around the PPU.	Farm Manager	As required
The waste management system listed in the approved OEMP will be implemented to ensure that each waste stream generated is effectively	Farm Manager	On-going

Control	Responsibility	Timing / Frequency
managed and disposed of off-site. There will not be any on-site stockpiling or disposal of waste.		
The best management practices and mitigation measures listed in the approved OEMP will be implemented for the storage of chemicals and fuels.	Farm Manager	On-going

6. Erosion and Sediment

6.1. Erosion Potential

The potential for erosion and sedimentation is highest during the construction phase and was addressed in the approved Stage 1 CEMP (EME Advisory, 2021c), which included site-specific erosion and sediment control plans.

The potential for erosion and sedimentation after completion of construction activities and revegetation works is limited. Once operational, all surface water runoff from within the poultry farm environs will be directed into the grassed swale drains (see Section 5.3.2). Possible areas of concern with respect to erosion and sedimentation during the operation phase include:

- Unsealed roads;
- Soil stockpiles;
- Unsealed/hardstand laydown areas;
- Areas where revegetation has not yet achieved a stable landform;
- Any additional areas of construction.

6.2. Erosion and Sediment Control

Appropriate erosion and sediment control (ESC) structures and management measures will be installed and maintained during the operation phase (as needed) in accordance with:

- Landcom, 2004. *Managing Urban Stormwater: Soils and Construction,* Volume 1, 4th edition. This is more commonly referred to as “the Blue Book”.
- DECCW, 2008. *Managing Urban Stormwater: Soils and Construction Volume 2C: Unsealed Roads.*
- NSW OEH, 2012a. *Erosion and Sediment Control on Unsealed Roads*.

Examples of appropriate ESC structures and management measures are presented in **Table 11**.

Table 11 Measures for erosion and sediment control

Potential source of erosion	Management Measure	ESC Structure
Unsealed roads and laydown areas	Implement a regular maintenance program to identify and a repair any faults in structures.	Shaping and grading of roads and laydown areas to limit sediment removal potential and velocity of runoff across the structure.

Potential source of erosion	Management Measure	ESC Structure
	Limit vehicle movement on-site to designated access roads.	Where necessary, swale drains to be installed adjacent to roads and hard surfaces to manage runoff.
Soil stockpiles	Position these features away from surface water management structures and hard surfaced areas (e.g. roads). Where possible, cover or vegetate stockpiles to control sediment movement. See Section 6.3.2	Stockpiles to be surrounded by sediment fencing to limit sediment transport.
Construction disturbance	Revegetation and rehabilitation of disturbed areas to occur once landform has been stabilised and construction activities complete.	Temporary structures to be installed prior to soil and sediment disturbance. This may include the installation of: - Silt fences - Windrows - Diversion bunds and drainage lines
Engineered surface water management system	Conduct regular inspections of the integrity and effectiveness of the structures. Ensure that vegetation is maintained on-site, particularly in vegetated swale drains.	See Section 5.3.
Borrow Pit and concrete waste areas	Management measures include: - No removal of trees for works associated with the borrow pit. - Stripping and stockpiling of all existing topsoil for later spreading on the finished surface. - All works to be completed in accordance with Australian Standards (i.e. AS 2780,1, and AS 3798) to the satisfaction of the Council's Development Guidelines. - ESC to be implemented to prevent erosion from construction area and contamination of receiving waters. - All ESC must be maintained throughout the period of works, including repair and/or replacement of damaged sections. - Periodic inspections, including after storm events. - Sediment trapping devices to be cleared when 75% full. Collected sediment to be used for topsoil during revegetation where practical. - Stockpiled material to be limited in height to 5 m with batters 1:4. These features shall not impede surface water flow.	Schematic of the ESC structures for the borrow pit and the concrete waste areas are presented in **Appendix A**. ESC features include: - Sediment fencing installed downstream of the borrow pit to prevent contamination of receiving waters. Where sediment fences are not used, contour banks and swale drains may be used. - Bunding of concrete waste areas with earthen mound. - Earthen bank to be constructed on upslope side of stockpile to divert runoff. - Wet concrete area is to be lined with black plastic.

6.3. Revegetation

Vegetated cover offers the most effective strategy for minimising and managing erosion and sedimentation. Established vegetation can protect sediments and soils by effectively binding it together, which in-turn improves the infiltration capacity of the soil. Therefore, where possible established vegetation should be retained and protected.

6.3.1. General Disturbance Areas

Areas of general disturbance should be rehabilitated to a stable landform and revegetated following completion of the construction/disturbance activities. Broadcast seeding will be utilised as the preferred revegetation method for all disturbance areas requiring revegetation. For critical areas requiring quick revegetation or for areas where poor revegetation is identified, more intensive revegetation methods (for example, hydromulching) may be warranted. Broadcast seeding involves the spreading of a suitable pasture seed mix over the area to be revegetated and will be undertaken according to the following notes:

- Where possible, topsoil will be re-spread to a minimum depth of 100 mm in the reverse sequence to its removal so that the organic layer containing any seed or vegetation is returned to the surface. Re-spreading on the contour will aid runoff control and increase moisture retention for subsequent plant growth. The re-spread topsoil will be levelled to achieve an even surface (avoiding a compacted or an over-smooth finish) and tilled.
- After surface soil tillage is completed for any given area, revegetation will commence as soon as practicable.
- An appropriate fertiliser will be applied during the seeding operation if considered necessary.

Suitable pasture grass and legume options for revegetation are provided in **Table 12**.

Table 12 Suitable Pasture Grasses and Legume for Revegetation

Species	Application Rate (kg/ha)	
	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

Rehabilitation areas will be inspected on a monthly basis to:

- Assess the success of revegetation works;
- Identify and undertake any required maintenance/remedial works (e.g. watering, re-seeding, fertiliser application, herbicide application); and
- Remove temporary erosion and sediment controls on completion of the rehabilitation works.

Successful rehabilitation is a stable landform with greater than 70% permanent ground cover (excluding weeds).

6.3.2. Topsoil Stockpiles

In accordance with the Blue Book (Landcom, 2004), any long-term soil stockpiles (i.e. greater than 10 days) will be sown with a cover crop immediately after stockpile formation. The cover crop specifications in **Table 13** are recommended for temporary erosion control protection.

Table 13 Topsoil Stockpile Cover Crop

Species	Application Rate (kg/ha)	
	Spring/ Summer	Autumn/ Winter
Japanese Millet	10	20
Ryecorn/ Oats	20	10

7. Surface Water Monitoring Program

The surface water monitoring program will be implemented in two phases. The first phase will involve the collection of sufficient data (two years of data) to build a baseline dataset for surface water features. The second phase is related to the operational surface water monitoring program. The operational monitoring will involve the collection of data from the relevant surface water monitoring locations and making a comparison to the available baseline data. This data will also be compared to the adopted water quality trigger values to assess the potential influence of the Development on surface water. Should the data show impacts to surface water that exceed the baseline data and trigger thresholds, the surface water response plan will be implemented (Section 9).

7.1. Baseline Data

The closest perennial watercourse to Farm 2 is the Namoi River, approximately 2 km to the north. Approximately 3.5 km to the west (when at maximum capacity) of the Development is Lake Keepit. Additionally, there are several ephemeral drainage lines close to Farm 2, with the closest draining to the Namoi River via a culvert under Ski Gardens Rd.

No specific water quality values are recorded for the Namoi River stream gauge at the township of Manilla or Lake Keepit (WaterNSW Stations 419022 and 419041 respectfully).

To establish a baseline, monitoring will be conducted during rainfall events when both the drainage line under Ski Gardens Rd and the Namoi River are both in flow. Baseline sampling will be conducted once construction of the engineered surface water management system components are complete and following significant rainfall events. When sampling occurs, dates and duration of the surface water flow event are to be recorded.

7.2. Surface Water Monitoring

Surface water monitoring will involve the collection of samples for water quality analysis. This monitoring will be undertaken in order to:

- Establish the quality of water outside the designed surface water containment system should there be a loss of containment in the future;
- Review and monitor the effectiveness of ESC structures and drainage control infrastructure.

7.2.1. Visual Inspections

Visual inspections of the engineered surface water management systems and ESC structures shall be undertaken on the following basis:

- Monthly;
- Prior to any predicted significant rainfall events; and
- Following any significant rainfall events.

The inspections should be focused on:

- Assessing the general condition of the surface water and ESC structures and their operational capacity.
- Assessment of the water retention in structures such as the detention dam and grassed swale drains.

- Condition of vegetation (grass) within the swale drains.
- Overall water management practices across the Development.

If the inspection indicates that a surface water management or ESC structure has reduced operational capacity or are in poor condition, remediation works will be undertaken without delay. If the structures have excessive sediment build-up or scouring, they will be desilted, regraded and/or reshaped to ensure the structures maintain their design capacity and can handle subsequent rainfall events.

The results of any visual inspections and any remediation works required/undertaken shall be recorded in a ProTen inspection checklist and retained for future reference.

7.2.2. Surface Water Quality Monitoring

Surface water quality monitoring will be undertaken in accordance with the schedule outlines in **Table 14**. The locations, frequency and analytical suite have been selected to detect any potential environmental impact to downstream water resources at Farm 2. This sampling will be undertaken during the operational phase of the Development.

Field measurement of water quality parameters will be undertaken using appropriate field equipment that is maintained and calibrated in accordance with the manufacturer's recommendations. Analytical testing will be undertaken by a NATA accredited laboratory. Sampling will be undertaken by suitably qualified personnel. Surface water quality sampling will be undertaken according to the Approved Methods for the sampling and analysis of water pollutants in New South Wales (EPA, 2022).

As there are no predicted impacts to nearby surface water bodies, sampling will be restricted to periods of high rainfall during an overflow event, which is anticipated only to occur during storms that are greater than a 100 ARI 72-hour event. Reporting on surface water sampling undertaken during these events should record the dates and duration of the flow events that have resulted in the sampling occurring.

Table 14 Surface Water Quality Monitoring Schedule

Monitoring Site	Parameters	Frequency
Periodic Sampling		
Detention dam	pH (field) EC (field) TSS Nutrients (nitrogen and phosphorous) Water level Photographs	Six-monthly for the first 24 months of operation and until baseline conditions are established. Annually thereafter if no adverse impacts are identified. Annual inspections are to be undertaken annually (as per condition B21) and desilted if required.
Reactive Sampling		
Any surface water impacted by a spill, overflow or other incident.	Targeted analytes selected based on the nature of the incident. Dates and duration of event are to be recorded.	Immediately and/or as instructed by consulted government agencies.

Monitoring Site	Parameters	Frequency
Overflow from detention dam If present, water flowing through the ephemeral drainage line to the north of Farm 2 (approx. 100 m north of the detention dam – see **Figure 5**)	pH (field) EC (field) TSS Nutrients (nitrogen and phosphorous) Photographs Dates and duration of event are to be recorded.	Grab sample during overflow event.

7.3. Surface Water Quality Trigger Values

The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018) have been developed to protect environmental values relating to water uses such as irrigation and stock use. The guideline values are used to establish species and environmental protection criteria for a range of physico-chemical parameters. These have not been designed to act as hard indicators of impacts (trigger values) but are to be used as an indicator that an investigation should be initiated to understand the source of any exceedance.

ANZG (2018) recommends that wherever possible, site-specific data should be used to define trigger values for physical and chemical factors which can adversely impact the environment. Trigger values developed in accordance with the guidelines are to be statistically based, accommodate site-specific anomalies and use a statistical measure to represent the variability of natural conditions. A minimum of two years of monthly data at the reference site is required before a valid trigger value can be established.

The absence of any perennial surface water features on the Site means there is insufficient data available to develop site-specific trigger values. Regional guideline values (targets) developed for the Murray-Darling Basin have been adopted. These targets are derived from the *Basin Plan* 2012 (Cwlth) which was developed under the *Water Act* 2007 (Cwlth). Schedule 11 of the *Basin Plan* 2012 outlines the target application zones of the Basin and defines the target values for various water quality properties (e.g. turbidity, phosphorous, nitrogen, dissolved oxygen, pH). The Development is located within target application zone *B2 (Border Rivers, Gwydir and Namoi valleys; Upland zone) – other water dependent ecosystems* (*Basin Plan* 2012, Schedule 11). The use of these values to monitor water quality within the Namoi River is further endorsed by the Namoi Surface Water Resource Plan – Water Quality Management Plan (DPIE, 2019). The relevant target values for this zone are outlined in **Table 15**.

Table 15 Surface Water Quality Trigger Values

Analyte	Units	*Basin Plan* 2012 Target Values for zone B2 (Border Rivers, Gwydir and Namoi valleys; Upland zone) – other water dependent ecosystems (Annual median)	
		Lower Limit	Upper Limit
Total Phosphorous (TP)	µg/L	-	80
Total Nitrogen (TN)	µg/L	-	750
Dissolved Oxygen Saturation	% sat.	60	110
pH		7.5	8.5
Salinity (as EC)[1]	µS/cm	475 (median, 50%ile)	715 (peak, 80%ile)
Turbidity	NTU	-	30

1 = Salinity targets have been adopted from Schedule B, Appendix 1 of the *Water Act* 2007 (Cwlth) as suggested by the Namoi Surface Water Resource Plan – Water Quality Management Plan (DPIE, 2019, pp32).

Where the surface water monitoring activities (see **Table 14**) results in a measurement outside the above trigger values, the Surface Water and Groundwater Response Plan detailed in Section 9 will be activated.

Reactive surface water monitoring will be conducted in the event of an overflow from the detention dam for the ephemeral drainage line to the north of Farm 2, as described in **Table 14**. This monitoring will only occur when flow within the drainage line is at a sufficient volume to generate flow and obtain a representative surface water sample. This monitoring will be used to assess the risk of any runoff leaving the site that may impact receiving environments.

Surface water runoff and wash down water will be managed as outlined in Section 5. Rainfall runoff from within the PPU environs or from the poultry shed roofs will be directed to the engineered surface water management system.

It is considered that the potential impact to surface water flows is considered negligible. Surface water quantity issues that will trigger additional investigation and mitigation include:

- Overflow of detention dam;
- Off-site discharge;
- Significant erosion of land surfaces and/or surface water management structure.

8. Groundwater Data and Monitoring Program

Groundwater has not been encountered at the Development within the weathered clay-rich regolith layer that overlies the basement materials, and there are currently no known monitoring or stock and domestic bores constructed within the regolith. Additionally, there is no alluvial groundwater source within the Development. Although there are no monitoring bores on the Site at the time of writing, one full round of groundwater level gauging and sampling and one partial sampling round and aquifer testing has been undertaken for some of the stock and domestic bores that exist on site. All the stock and domestic bores are constructed in the fractured rock aquifer.

8.1. Groundwater Level and Quality Baseline Data

8.1.1. Groundwater Levels

The most recent groundwater levels for the on-site groundwater wells and bores were recorded on 8 November 2016 (SLR, 2018). These bores are all constructed within the fractured rock aquifer. To support the monitoring requirements established in this SWMP, three new regolith monitoring bores (REG001, REG002 and REG003) were constructed in July 2022. These bores were installed to monitor the dry regolith surrounding Farm 2 for any possible impacts from the Development (see Section 4.4.2).

These levels are summarised in **Table 16**.

Table 16 Groundwater levels

Local Bore ID	Registration ID	Elevation reference point (m AHD)	SWL 2016 (m AHD)	SWL 2016 (m below ground level)
Doyle 5	GW967889	N/A	N/A	N/A
Doyle 5A	GW011498	373.15	364.10	9.05

Local Bore ID	Registration ID	Elevation reference point (m AHD)	SWL 2016 (m AHD)	SWL 2016 (m below ground level)
Doyle 6	GW967028	366.30	351.30	15.00
Doyle 7	GW016839	352.84	341.90	10.94
Doyle 8		347.39	343.90	3.49
Doyle 9	GW011958	388.53	370.70	17.83
McCrae 1		395.10	376.10	19.00
McCrae 2	GW970840	392.93	372.10	20.83
McCrae 3	GW014483	365.19	353.90	11.29
McCrae 4 (well)		N/A	N/A	N/A
REG001		381.8	-	-
REG002		367.7	-	-
REG003		364.0	-	-

8.1.2. Groundwater Quality

Groundwater quality measurements were not taken from any regolith or alluvial aquifer as the former is known to be dry and no alluvium exists on the Site. Measurements are available from selected bores targeting the fractured rock aquifer from samples collected in two separate rounds (as reported in SLR, 2018 and SLR, 2020 respectively). The bores sampled in the separate rounds are outlined below:

The bores sampled in 2016 were:

- Doyle 5
- Doyle 6
- Doyle 7
- Doyle 8
- McCrae 1, and
- McCrae 2.

The bores sampled in 2020 were:

- Doyle 6
- Doyle 8
- McCrae 1, and
- McCrae 2.

Samples were collected from six operational bores during the first sampling round in 2016. In 2020, four samples were collected. Samples had both field and laboratory analysis undertaken. The results of these sampling events are summarised in **Table 17**.

In both 2016 and 2020, the groundwater quality was noted in the field as fresh to slightly brackish, with field electrical conductivity (EC) ranging between 977 and 1,800 µS/cm and field pH ranging between 6.9 and 7.6 (i.e. neutral). The laboratory results show that the ionic composition of groundwater across the Site is relatively similar, with major ion compositions dominated by calcium-sodium water types and total dissolved solids (TDS) ranging between 800 and 1,500 mg/L. The majority of dissolved metals were below the respective laboratory detection limits, with the exception of barium, boron, iron, manganese and strontium, which all had low recorded concentrations. For detailed chemical analyses refer to SLR, 2018 and SLR, 2020.

Table 17 Physio-chemical Water Quality Parameters (from SLR, 2018 and SLR, 2020)

Parameter	Doyle 5		Doyle 6		Doyle 7		Doyle 8		McCrae 1		McCrae 2	
	2016	2020	2016	2020	2016	2020	2016	2020	2016	2020	2016	2020
pH	7.59	N/A	7.45	7.39	7.21	N/A	6.97	7.55	7.11	7.28	6.88	7.35
EC (µS/cm)	1045	N/A	1013	1800	977	N/A	1609	1500	1120	1570	1233	1470

8.2. Groundwater Monitoring Program

During the operational phase, the following groundwater monitoring should be undertaken:

- Monitoring of the dry surficial regolith to provide early detection should the engineered surface water containment system begin to leak;
- Monitoring of the deeper fractured rock system.

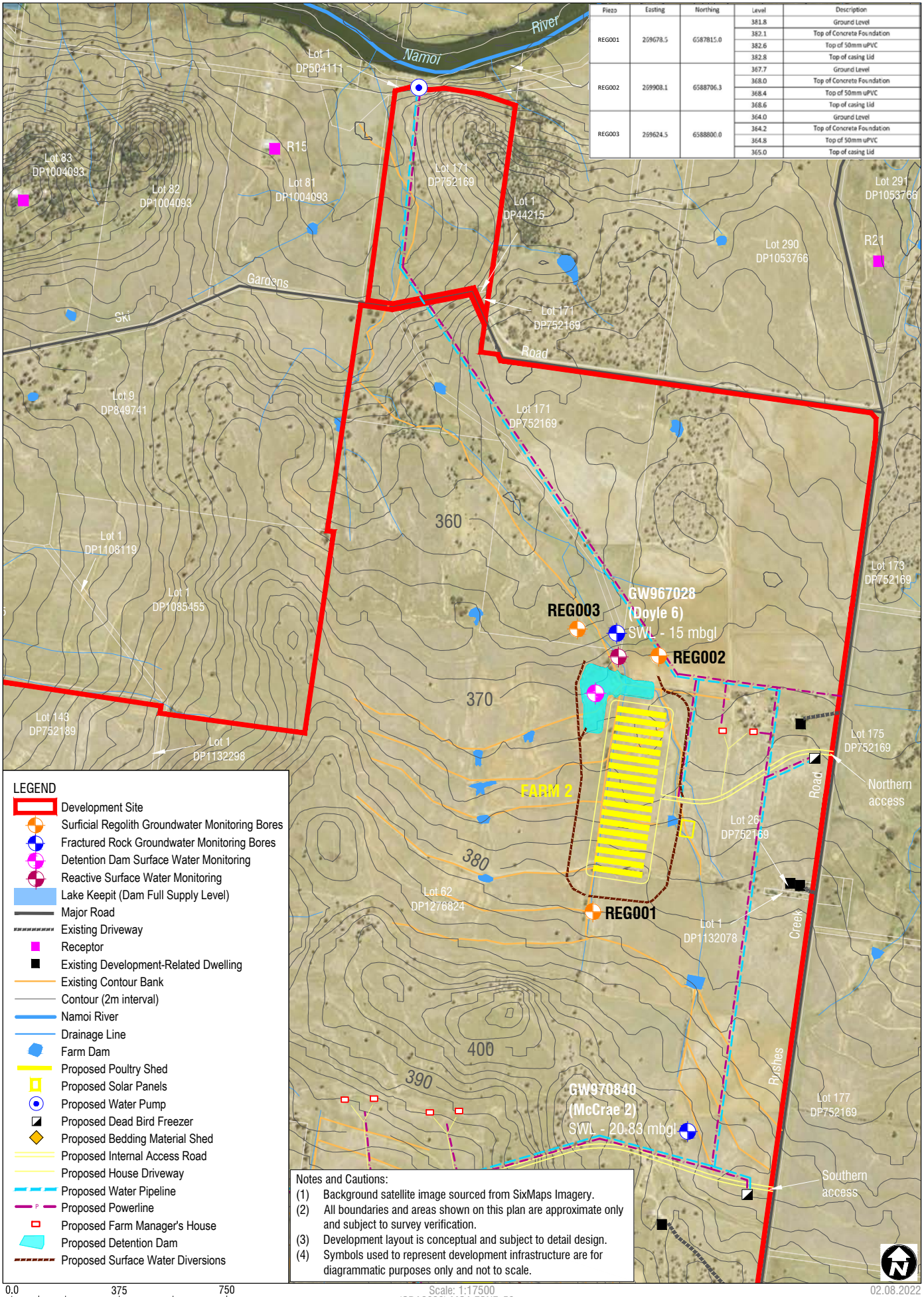
In order to collect representative groundwater data the program outlined in the following sub-sections will be implemented.

8.2.1. Regolith Monitoring

Three new monitoring bores have been installed to monitor the surficial regolith to determine if Farm 2 has any impact on the dry regolith. The downgradient bores (REG002, REG003) were installed to a depth of 1 m below the depth of detention dam excavation. One bore (REG001) has been installed upgradient of Farm 2 within the regolith. The location and frequency of the monitoring program are outlined in **Table 18** with the monitoring points displayed in **Figure 5** and presented on a schematic plan of Farm 2 in **Appendix A**.

Table 18 Alluvial and Regolith Monitoring Program

Monitoring Point	Frequency	Monitoring regime
REG001, REG002 and REG003 (see **Figure 5**)	Six-monthly for the first 24 months of operation and until baseline conditions are established. Annually thereafter if no adverse impacts are identified.	pH (field) EC (field and laboratory) Total dissolved solids (TDS) Sodium (dissolved) Calcium (dissolved) Potassium (dissolved) Magnesium (acid extractable) Sulphate Chloride Carbonate as HCO3 Bicarbonate as HCO3 Total organic carbon (TOC) Ammonia as N Nitrate as N Phosphorus



Piezo	Easting	Northing	Level	Description
REG001	269678.5	6587815.0	381.8	Ground Level
			382.1	Top of Concrete Foundation
			382.6	Top of 50mm uPVC
			382.8	Top of casing Lid
REG002	269908.1	6588706.3	367.7	Ground Level
			368.0	Top of Concrete Foundation
			368.4	Top of 50mm uPVC
			368.6	Top of casing Lid
REG003	269624.5	6588800.0	364.0	Ground Level
			364.2	Top of Concrete Foundation
			364.8	Top of 50mm uPVC
			365.0	Top of casing Lid

LEGEND

- Development Site
- Surficial Regolith Groundwater Monitoring Bores
- Fractured Rock Groundwater Monitoring Bores
- Detention Dam Surface Water Monitoring
- Reactive Surface Water Monitoring
- Lake Keepit (Dam Full Supply Level)
- Major Road
- Existing Driveway
- Receptor
- Existing Development-Related Dwelling
- Existing Contour Bank
- Contour (2m interval)
- Namoi River
- Drainage Line
- Farm Dam
- Proposed Poultry Shed
- Proposed Solar Panels
- Proposed Water Pump
- Proposed Dead Bird Freezer
- Proposed Bedding Material Shed
- Proposed Internal Access Road
- Proposed House Driveway
- Proposed Water Pipeline
- Proposed Powerline
- Proposed Farm Manager's House
- Proposed Detention Dam
- Proposed Surface Water Diversions

Notes and Cautions:

(1) Background satellite image sourced from SixMaps Imagery.
(2) All boundaries and areas shown on this plan are approximate only and subject to survey verification.
(3) Development layout is conceptual and subject to detail design.
(4) Symbols used to represent development infrastructure are for diagrammatic purposes only and not to scale.

0.0 375 750 m

Scale: 1:17500 (GDA2020) MGA ZONE 56

02.08.2022 610.17991

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Proposed Surface Water and Groundwater Monitoring Locations

FIGURE 5

8.2.2. Fractured Rock

There is no approved extraction of groundwater from the fractured rock system at the Development. However, to monitor any potential long-term effect the Development may have on the deeper fractured rock it is necessary to monitoring both groundwater level and quality of the aquifer. It is proposed to utilise the existing stock and domestic bores that are constructed into the fractured rock as monitoring bores for the Development. For this purpose, Doyle 6 and McCrae 2 have been selected as they provide a data point from both upgradient and downgradient of Farm 2 (see **Figure 5**). The following monitoring program for the fractured rock aquifer will be implemented to identify if any changes occur as a result of operations.

Table 19 Fractured Rock Aquifer Monitoring Program

Monitoring Point	Frequency	Monitoring regime
Doyle 6 and McCrae 2	Six-monthly for the first 24 months of operation and until baseline conditions are established. Annually thereafter if no adverse impacts are identified.	Standing water level pH (field) EC (field and laboratory) Total dissolved solids (TDS) Sodium (dissolved) Calcium (dissolved) Potassium (dissolved) Magnesium (acid extractable) Sulphate Chloride Carbonate as HCO3 Bicarbonate as HCO3 Total organic carbon (TOC) Ammonia as N Nitrate as N Phosphorus

The analytical suite for both the shallow and deeper fractured rock has been devised to detect any environmental impact to groundwater resulting from operation of the Development. Field measurement of water quality parameters will be undertaken using appropriate field equipment maintained and calibrated in accordance with the manufacturer's recommendations. Analytical testing will be undertaken by a NATA accredited laboratory. Sampling will be undertaken by suitably qualified personnel.

Groundwater quality sampling will be undertaken according to the following relevant guidelines:

- Approved Methods for the sampling and analysis of water pollutants in New South Wales (EPA, 2022);
- Groundwater Sampling and Analysis - A Field Guide (Geoscience Australia, 2009); and
- AS/NZS 5667.11:1998 Water Quality - Sampling - Guidance on Sampling of Groundwaters.

8.3. Groundwater Monitoring Trigger Values

Impact assessment criteria for groundwater levels and quality will be developed using statistical analysis of the baseline data and compared against existing background information as no impacts were predicted in the EIS (SLR, 2018).

The following triggers will be used to determine if the impact investigation procedure should be initiated:

- Breaching of relevant groundwater water quality or level triggers; and/or
- When a legitimate complaint is received from a local landholder.

8.3.1. Groundwater Level Triggers

Statistically defined groundwater level triggers for the three proposed Regolith piezometers will be defined on the basis of collection of a sufficient (statistically significant) dataset for each piezometer/bore, to remove the influence of external factors such as seasonal fluctuations and/or long-term trends in regional water levels. It is expected that this may require up to two years of data. Following collection of a sufficient dataset, trigger values will be established by statistical analysis that factors in the influence of seasonal and longer-term trends, as well as the predicted impacts arising from operation of the Development. Until location specific water level trigger values are developed based on site monitoring data interim water level trigger values will be adopted. The interim trigger values are presented in **Table 20** below.

Table 20 Groundwater Level Trigger Values

Aquifer	Bore ID	Trigger Value Maximum Water Level Change (m)
Regolith	REG001 REG002 REG003	2 m
Fractured Rock	Doyle 6 McCrae 2	

8.3.2. Groundwater Quality Trigger Values

Quality triggers have been established for each analyte at each monitoring point. The trigger levels have been developed using historical site data and the National Health and Medical Research Council (NHMRC) Australian Drinking Water Guidelines 6 (Updated 2021). Although groundwater is not extracted for potable supply on the Development, the NHMRC guidelines have been adopted as groundwater triggers as they provide the most conservative values for monitoring groundwater quality. Largely, the NHMRC guidelines values have been adopted as the groundwater quality trigger for monitored bores as these values were consistent with historical site data. However, where historical data has indicated water quality exceeds the guideline values, or where no trigger value is available from NHMRC, the adopted trigger is 10% higher than the maximum measured value. The 10% increase provides a buffer for naturally occurring fluctuations in groundwater quality.

Table 21 outlines the groundwater quality trigger values for each of the monitored analytes.

Table 21 Groundwater Quality Trigger Values

Parameter	Units	Trigger limit type	NHMRC, 2021 Guideline Values	Maximum historic measurement	Bore with maximum measurement (Source)	Adopted Trigger Value
pH	-	Upper	8.5	7.59	Doyle 5 (SLR, 2018)	8.5

Parameter	Units	Trigger limit type	NHMRC, 2021 Guideline Values	Maximum historic measurement	Bore with maximum measurement (Source)	Adopted Trigger Value
		Lower	6.5	7.28	McCrae 1 (SLR, 2020)	6.5
EC	µS/cm	Upper	-	1900	Doyle 7 (SLR, 2018)	2090
TDS	mg/L	Upper	1200	1500	Doyle 7 (SLR, 2018)	1650
Sodium	mg/L	Upper	180	180	Doyle 7 (SLR, 2018)	198
Calcium	mg/L	Upper	-	170	Doyle 7 (SLR, 2018)	187
Potassium	mg/L	Upper	-	3	Doyle 7 (SLR, 2018)	3.3
Magnesium	mg/L	Upper	-	87	Doyle 7 (SLR, 2018)	95.7
Sulphate	mg/L	Upper	250	138	Doyle 8 (SLR, 2020)	250
Chloride	mg/L	Upper	250	230	Doyle 7 (SLR, 2018)	250
Carbonate as HCO_3	mg/L	Upper	200	-	-	200
Bicarbonate as HCO_3	mg/L	Upper	200	703	McCrae 1 (SLR, 2020)	773.3
Total Organic Carbon	mg/L	Upper	-	-		-
Ammonia as N	mg/L	Upper	0.5	0.07	Doyle 8 (SLR, 2020)	0.5
Nitrate as N	mg/L	Upper	50	2.26	McCrae 2 (SLR, 2020)	50
Phosphorus	mg/L	Upper	-	-	-	-

9. Surface water and Groundwater Response Plan

9.1. Impact Investigation Procedure

If any of the surface water or groundwater trigger values identified in Sections 7.3 and 8.3 indicate an exceedance, the following impact investigation procedure will be activated:

- If a trigger value within the dataset indicates an exceedance the Environmental Incident Management Strategy in the OEMP will be followed. If it has caused or threatens to cause material harm to the environment, the relevant regulatory authorities (including DPE, NRAR, and EPA) will be immediately notified and reporting provided as specified in the OEMP and any instructions will be strictly adhered to.
- If a complaint is received, the Environmental Complaint Management Strategy in the OEMP will be followed.
- Where a detention dam overflows or an off-site surface water discharge is identified, additional sampling will be initiated to characterise the quality and an estimate of the quantity of waters discharged.

- If a trigger value exceedance is identified in a data set, the following actions will be undertaken (in addition to the required notifications and reporting to regulatory authorities – see the OEMP):
    - The first step will be to verify the data if it appears anomalous. The relevant data set will be reviewed by an appropriately qualified person who will determine if further investigation is necessary and/or additional sampling is necessary.
    - Once the validity of the breach is established or a landholder complaint has been verified, a preliminary investigation will be undertaken by an appropriately qualified specialist involving the evaluation of the monitoring results/complaint in conjunction with Development activities being undertaken at the time, baseline water data, local water use, the prevailing and preceding meteorological conditions and other any relevant factors.
    - The preliminary investigation may deem that further additional investigation and monitoring is required to determine the cause of the breach and whether or not it is directly related to Development activities.
    - If the investigations deem that triggers have been breached as a result of the Development, contingency measures may need to be implemented, and additional monitoring may be deemed necessary to measure the effectiveness of any contingency measure implemented.
- In the event that trigger values or impact assessment criteria continue to be exceeded, further investigations may be undertaken (i.e. a process of continual improvement or adjustment of the relevant triggers if warranted).
- If regular exceedances occur, an action plan (corrective actions) will be developed in consultation with the relevant regulatory agencies.
- The results of any breaches of trigger values and investigations will be documented for reporting and audit purposes.

9.2. Impact Mitigation

In the event that the preliminary and any follow-up investigations conclusively identify that the Development has adversely impacted a neighbouring water user (affected groundwater user or surface water resource), ProTen will work with the impacted user and the relevant regulatory authorities and attempt in “good faith” to negotiate suitable mitigation measures in a timely manner to rectify the identified problem.

ProTen may involve an appropriately qualified environmental specialist to assist with development of the mitigation measures. The development of suitable mitigation measures will be based on the outcomes of an appropriate scientific investigation.

10. Data Reporting and Management

10.1. Data Management

The data gathered from the surface water and groundwater monitoring programs will be collated into a database which will include:

- A site plan showing sample locations;

- Periodic inspection reports and photos;
- Tabulated results of the monitoring compared with applicable background/trigger values;
- All data collected during each monitoring round;
- A record of chain of custody of the samples from sampling through to analysis;
- Laboratory analysis certificates; and
- A description of the procedures, methods and calculations used.

10.2. Reporting

10.2.1. Incident Notification and Reporting

In accordance with consent condition C9 and the POEO Act, there is a duty to notify and report any incident that causes or threatens to cause material harm to the environment. The notification and reporting requirements to DPE and other regulatory authorities are provided in the OEMP.

10.2.2. Impact/ Incident Investigation

If a surface water or groundwater level or quality trigger is exceeded, then an investigation into the potential for environmental harm will be completed as detailed in Section 9.1 and reported to the regulatory authorities as per Section 10.2.1 (see OEMP).

As outlined in Appendix 3 of SSD-7704 Consolidated Consent Conditions, an impact report must include:

- A summary of the impact/ incident;
- Outcomes of the impact/ incident investigation, including identification of the cause;
- Details of the corrective and preventive actions that have been, or will be, implemented to address the incident and prevent recurrence; and
- Details of any communication with other stakeholders regarding the incident.

10.2.3. Annual Return

EPL 21569 requires an Annual Return, comprising a statement of compliance, a summary of any monitoring activities and a summary of any complaints received, to be submitted to the EPA within 60 days of the end of each annual reporting period. This Annual Return will include reporting on surface water and groundwater monitoring, trigger breaches and any additional investigations and/or mitigation measures implemented.

10.2.4. Compliance Reporting

In accordance with consent conditions C12 and C13, compliance reporting for the Development will be carried out in accordance with the Compliance Reporting Post Approval Requirements (DPIE, 2020a). The reports will be prepared and submitted to DPE on an annual basis and uploaded to the Rushes Creek development webpage on ProTen's website. They will include (among other things) monitoring results, trigger breaches and any additional investigations and/or mitigation measures implemented.

10.2.5. Independent Auditing

In accordance with consent conditions C15 and C16, independent auditing will be commissioned and completed for the Development in accordance with the Independent Audit Post Approval Requirements (DPIE, 2020b). Auditing will be undertaken within 26 weeks of the commencement of operations and subsequently at intervals no greater than 3 years or as otherwise agreed by the Planning Secretary. The audit reports, which will address water management and monitoring, will be submitted to DPE and uploaded to the Rushes Creek development webpage on ProTen's website.

10.2.6. SWMP Review and Update

This SWMP will be reviewed and, if necessary, revised in response to the following:

- Development modification, including notable operational and/or management changes.
- Where is it identified (via on-going inspections/monitoring) that the water management system is not meeting the objectives of this SWMP and/or adverse environmental impacts are identified as a result of the Development.
- Changes to the relevant conditions imposed by the Development Consent and/or the EPL;
- Any environmental incident caused by water management at the Development;
- Verified complaints from downstream water users; and/or
- At the request of DPIE or NRAR.

Where revisions are required, the updated SWMP will be submitted to NRAR and DPE within 6 weeks of the review.

11. References

Legislation

Basin Plan 2012 (Cwlth)

Protection of the Environment Operations Act 1997 (POEO Act) (NSW)

Water Management Act 2000 (WM Act) (NSW)

Water Act 1912 (NSW)

Publications

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12. Statement of Limitations

This management plan was prepared for the exclusive use and benefit of ProTen Pty Ltd and should not be relied upon by any other party without SAGE's prior written consent. Any advice, opinions or recommendations contained in this document should be read and relied upon only in the context of the document as a whole and are considered current to the date of this document. This document has been prepared on the specific instructions of ProTen having regard to its particular requirements. SAGE Environmental Services Pty Ltd (SAGE) accepts no liability for the reliance of any third party on this document, or the advice, opinions or recommendations contained within it.

This report, including all findings, conclusions and recommendations are based, in part, on information obtained from various sources including those provided by the Client and are strictly limited to the scope of work set out in the Letter of Engagement. SAGE takes reasonable care to avoid reliance on data and information that is inaccurate or unsuitable, however SAGE is not responsible for verifying the accuracy of completeness of any information and data made available to it.

SAGE assumes no responsibility or liability for:

(a) Errors in any data obtained from these sources, including from the Client, regulatory agencies, statements from sources outside SAGE or developments resulting or occurring from work outside the scope of works set out in the Letter of Engagement; and

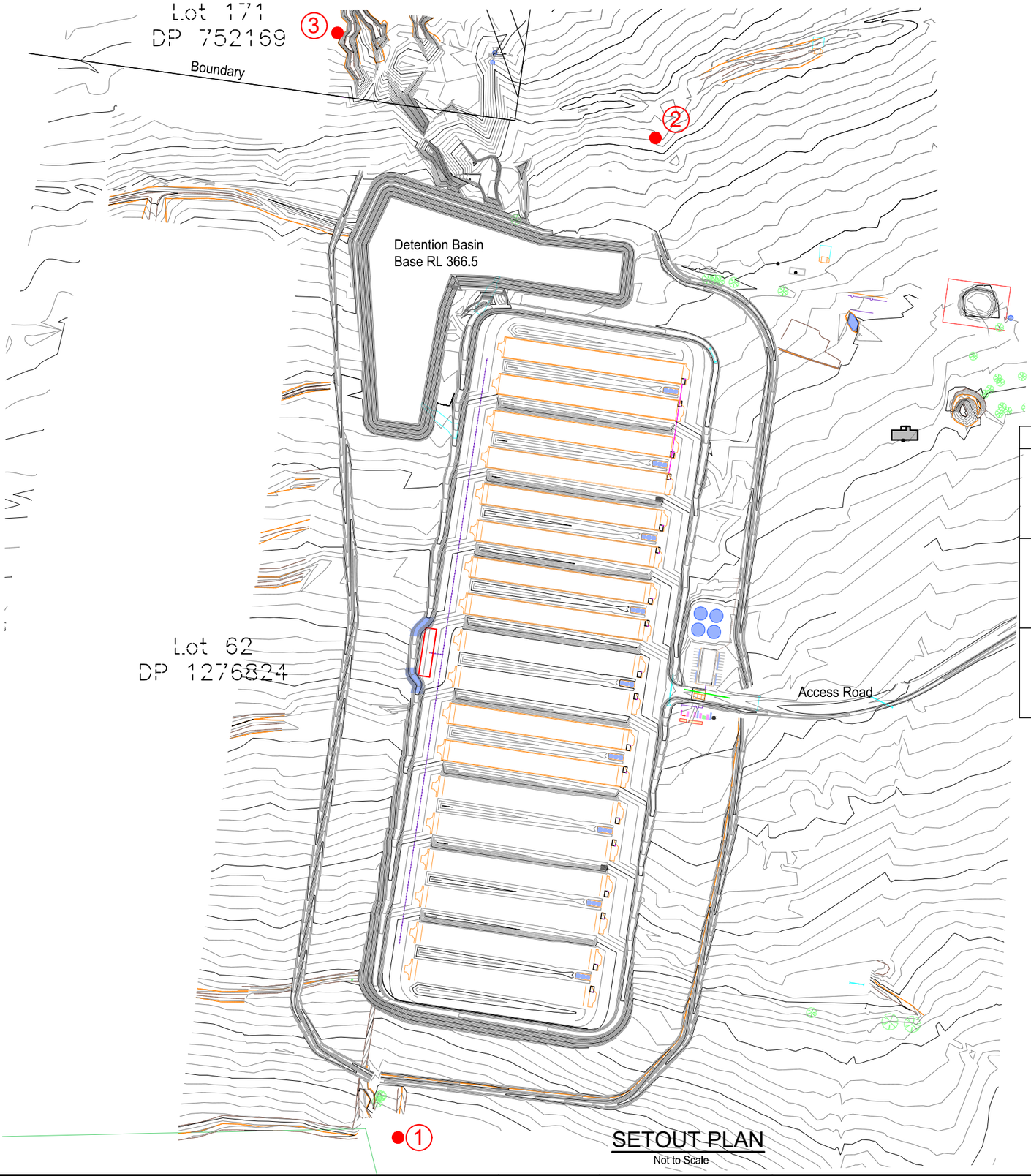
(b) Deficiencies, inaccuracies or gaps in data used in the report due to the unavailability, lack of cooperation or otherwise through no fault of its own, inability of SAGE to obtain data from the sources, including from the Client regulatory agencies and other sources.

The absence of any adverse findings should not be interpreted as a guarantee that such circumstances do not exist.

From a technical perspective, the subsurface environment at any site may present substantial uncertainty. It is a heterogeneous, complex environment, in which small subsurface features or changes in geologic conditions can have substantial impacts on water and chemical movement. Uncertainties may also effect source characterisation assessment of chemical fate and transport in the environment, assessment of exposure risks and health effects, and remedial action performance.

SAGE's professional opinions are based upon its professional judgement, experience and training. It is possible that additional testing and analysis might produce different results and or different opinions. SAGE has limited its assessment to the scope agreed upon with the client. SAGE's opinions are based on the professional standard of care for the environmental consulting profession in this area at this time. This standard of care may change as new methods, technology and approaches evolve in the future, which may produce different results and conclusions to those presented herein. SAGE's professional opinions contained in this report are subject to modification if any additional information is obtained through further investigation, observations, testing or analysis during future assessment or remedial activities.

Appendix A
Farm 2 Site Plan Schematic – Bore locations and Borrow Pit



Piezo	Easting	Northing	Level	Description
1	269678.5	6587815.0	381.8	Ground Level
			382.1	Top of Concrete Foundation
			382.6	Top of 50mm uPVC
			382.8	Top of casing Lid
2	269908.1	6588706.3	367.7	Ground Level
			368.0	Top of Concrete Foundation
			368.4	Top of 50mm uPVC
			368.6	Top of casing Lid
3	269624.5	6588800.0	364.0	Ground Level
			364.2	Top of Concrete Foundation
			364.8	Top of 50mm uPVC
			365.0	Top of casing Lid

LEGEND

Piezo Location and Number

SETOUT SKETCH NOTES

1. This sketch shows the location of the Piezo located by Survey on 15th July 2022
2. GDA 2022 Co-Ordinate system
3. Australian Height Datum (AHD)

SETOUT PLAN

Not to Scale

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DIAL1100 BEFORE YOU DIG

LEGEND (EXISTING – LIGHT PROPOSED – DARKER)
CENTRE LINE
KERB AND GUTTER
TOP OF BATTER
SURFACE DRAINAGE
EDGE OF BITUMEN SEAL
FENCELINE
SEWERMAIN
WATERMAIN (& SIZE) W100
STORMWATER DRAINAGE
OVERHEAD POWER
UNDERGROUND ELECTRICAL E
TREE SHRUB SIGN
SEWER MANHOLE, INSPECTION PIT
DOWNPIPE & ROOFWATER OUTLET
POWER POLE
STREETLIGHT GUIDE POST
WATER (HYDRANT,VALVE,METER)
TELSTRA PIT AND CABLES T

Rev.	DESCRIPTION	APPROVED	DATE
ZO	Piezo installation sketch & data	M.Beath	19.07.22
ZN	Amenities Building setout sketch	M.Beath	12.07.22

Cad: 21079 Rev ZO
Civilcad: 21079V80
Survey: MJAB & A.H.
Drawn: M.Beath
Designed: N/A
Checked: J.Herdegen

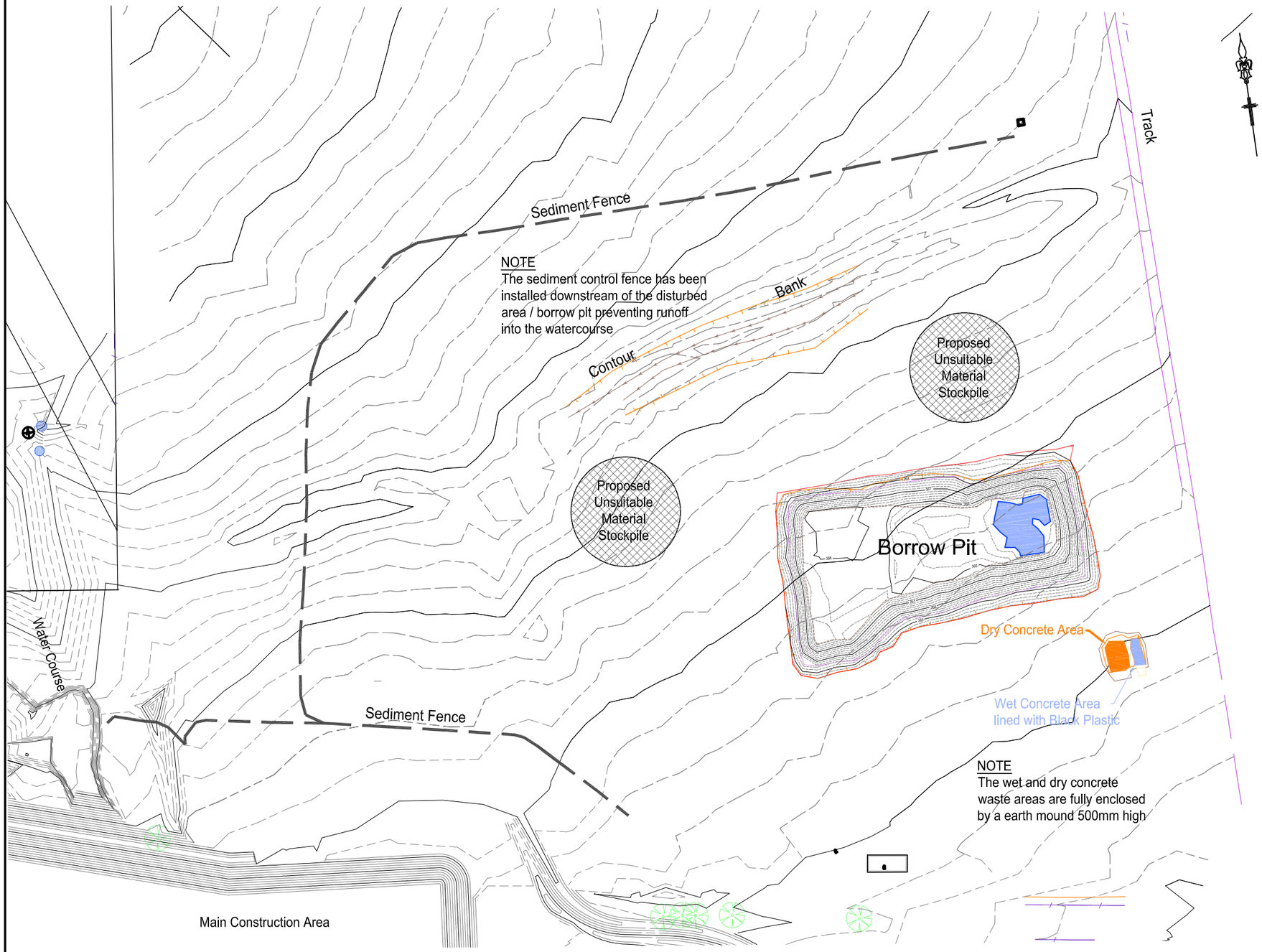
Original A3 Drawing Scale Bar:
Not to Scale

Datum Description:
PM 117735 RL 349.753 GDA 2020
Located on the eastern side of Rushes Creek Rd 130m south of Rushes Creek

BATH STEWART ASSOCIATES
DEVELOPMENT CONSULTANTS
SURVEYORS – ENGINEERS – PLANNERS – PROJECT MANAGERS
239 Marius Street TAMWORTH NSW 2340
Telephone (02) 6766 5966 A.C.N. 002 745 020
office@bathstewart.com.au

PROTEN
1582 RUSHES CREEK RD RUSHES CREEK
Lot 171 DP 752169 & Lot 62 DP 1276824
PIEZO LOCATION SKETCH & DATA

Ref. No: 21079
Sheet No : 01 of 01
Revision : ZO



LAYOUT PLAN

Not to Scale

LEGEND

Silt Fence / Diversion Drain / Contour Bank

Stockpile Areas
(shaped to suit site conditions)

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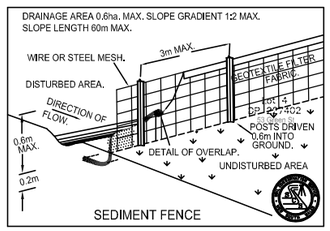
DIAL 1100 BEFORE YOU DIG

This plan is the minimum requirements needed for the soil and erosion control associated with the borrow pit. Additional may be required after review based on the dynamic construction process of the pit



SOIL MANAGEMENT NOTES

1. Although detailed on this sheet, the contractor is responsible to ensure that erosion and sediment control measures are installed and maintained in accordance with the "Blue Book" Managing Urban Stormwater - Soils and Construction (Landcom 2004)
2. Although silt fence, sediment traps have been shown on this drawing, additional sediment & environmental controls may be required depending upon the amount of disturbance caused during construction and shall be carried out immediately when instructed by the Superintendent
3. The actual limit of disturbance / filling / reshaping SHALL be determined by the Superintendent during the course of construction works to ensure that sufficient materials have been won to complete construction requirements
4. NO trees shall be removed for any works associated with the borrow pit
5. All existing topsoil material shall be stripped from the excavation area and be stockpiled for later spreading on the finished surface to the satisfaction of the superintendent
6. Prior to the placement / compaction of materials, a pre-construction site meeting shall be carried out between the Contractor, the Project Manager and the Geotechnical Consultant to confirm that the works shall be carried out in accordance with AS 2780.1 & AS3798 to satisfy Council's Development Guidelines
7. Certification of filling (within the borrow pit area) shall be provided by a geotechnical testing authority registered under NATA. The testing authority shall be required to certify whether the fill complies with the requirements of AS2870.1 (as amended) - Residential Slabs and Footings - Construction, as “controlled fill"
8. Maximum batter slopes on the completed borrow pit area shall be 1 in 4 (maximum)
9. Current site contours and current works area is shown for information purposes only as specific levels is not required
10. Erosion and sedimentation controls and work practices are to be implemented as required to prevent loss from the construction site and contamination of receiving waters
11. The contractor shall provide necessary measures in accordance with the specifications, the drawings and as deemed appropriate to prevent soil erosion of exposed areas, during the course of construction, or as directed by the Superintendent
12. All erosion and sediment control measures shall be maintained throughout the period of the works, including repair and / or replacement of damaged sections. Inspections are to be made periodically and after storm events for damage
13. Sediment trapped by check dams / sediment trapping devices shall be cleared where >75% full. Collected sediment to be utilised for topsoil during revegetation of grassed areas where practical
14. The proposed location for the spoil material stockpile may be altered after consultation with the developer. The stockpile shall be no higher than 5.0m and have batters of 1 in 4 and shall not hinder the flow of surface water
15. Spread flow area at outlet of perimeter banks past final checkdam / sediment trapping device to ensure flows are not concentrated
16. Disturbed areas to be minimised. Stabilise and revegetate as soon as practical
17. Stockpiles to be located at least 5m from existing vegetation, concentrated water flows, roads and hazard areas
18. Construct earth bank on the upslope side of stockpile (to divert run off around the stockpile) and a sediment trapping device 1 to 2m downslope of stockpile
19. Although sediment fences have been shown on this set of drawings, they may be replaced by a series of contour banks / swales drains (300 to 500 deep or high) provided that they do not concentrate or pond surface water
20. This plan is copyright, & is not to be copied or reproduced in whole or part without the prior written approval of Bath Stewart Associates Pty Ltd
21. The proposed location for the spoil material stockpile may be altered after consultation with the developer. The stockpile shall be no higher than 5.0m and have batters of 1 in 4 and shall not hinder the flow of surface water

LEGEND (EXISTING – LIGHT PROPOSED – DARKER)

CENTRE LINE, KERB AND GUTTER, TOP OF BATTER, SURFACE DRAINAGE, EDGE OF BITUMEN SEAL, FENCELINE, SEWERMAIN, WATERMAIN (& SIZE), STORMWATER DRAINAGE, OVERHEAD POWER, UNDERGROUND ELECTRICAL

TREE, SHRUB, SIGN, SEWER MANHOLE, INSPECTION PIT, DOWNPIPE & ROOFWATER OUTLET, POWER POLE, STREETLIGHT, GUIDE POST, WATER (HYDRANT,VALVE,METER), TELSTRA PIT AND CABLES

Rev.	DESCRIPTION	APPROVED	DATE
ZQ	Erosion & Sediment Control	M.Beath	29.07.22
ZP	Clay Test Pit location	M.Beath	25.07.22
ZO	Piezo installation sketch & data	M.Beath	19.07.22
ZN	Amenities Building setout sketch	M.Beath	12.07.22

Cad: 21079 Rev ZQ
Civilcad: 21422V89
Survey: M.Beath
Drawn: M.Beath
Designed: N/A
Checked: J.Herdegen

Original A3 Drawing Scale Bar: A3 Scale 1:500 (H) 5,0 0,0 5,0 10,0

Datum Description:
PM 117735 RL 349.753 GDA 2020
Located on the eastern side of Rushes Creek Rd 130m south of Rushes Creek

BATH STEWART ASSOCIATES
DEVELOPMENT CONSULTANTS
SURVEYORS – ENGINEERS – PLANNERS – PROJECT MANAGERS
239 Marius Street TAMWORTH NSW 2340
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office@bathstewart.com.au

PROTEN
1582 RUSHES CREEK RD RUSHES CREEK
Lot 171 DP 752169 & Lot 62 DP 1276824
EROSION & SOIL MANAGEMENT INFORMATION

Ref. No: 21079
Sheet No : 01 of 01
Revision : ZQ

Appendix B
Borelogs

MONITORING WELL LOG

PROJECT : ProTen Rushes Creek Regolith Monitoring Bores
HOLE NO.: REG001

LOCATION : Rushes Creek Farm 2
FILE / JOB NO.: 630.30392.00000

POSITION : E: 269678.5, N: 6587815 (56 MGA94) SURFACE ELEVATION : 381.8m (AHD) ANGLE FROM HORIZONTAL : 90°

DATE STARTED : 14-07-22 DATE COMPLETED : 15-07-22 DATE LOGGED : 15-07-22 LOGGED BY : AM CHECKED BY : TM

CONTRACTOR : Campbell Drilling DRILLER : Joel Campbell RIG TYPE : Truck Mounted

WELL INFORMATION		MATERIAL					SAMPLES & RESULTS		
DEPTH (m)	INSTALLATION	MATERIAL SOIL/ROCK TYPE; colour, grain characteristics, structure, minor components	GRAPHIC LOG	GRAIN SIZE	PLASTICITY	CONSISTENCY	MOISTURE	PID (ppm)	SAMPLES	COMMENTS
0	0.00m 50mm Bentonite 0.30m 0.50m	REGOLITH CLAY, brown, moist, stiff.								
1.0	Gravel backfill (2 mm graded sand) Screen Length: 1.24m 50 mm Class uPVC	SILTSTONE, grey, medium strength, highly weathered.								
	1.74m 1.74m	EOH: 1.74m								
2.0										
3.0										
4.0										

See Symbology & Classification notes for details of abbreviations & basis of descriptions.

MONITORING WELL LOG

PROJECT : ProTen Rushes Creek Regolith Monitoring bores

HOLE NO.: REG002

LOCATION : RushesCreek Farm 2

FILE / JOB NO.: 630.30392.00000

POSITION : E: 269908.1, N: 6588706.3 (56 MGA94) SURFACE ELEVATION : 367.7m (AHD) ANGLE FROM HORIZONTAL : 90°

DATE STARTED : 14-07-22 DATE COMPLETED : 15-07-22 DATE LOGGED : 15-07-22 LOGGED BY : AM CHECKED BY : TM

CONTRACTOR : Campbell Drilling DRILLER : Joel Campbell RIG TYPE : Truck Mounted

WELL INFORMATION		MATERIAL						SAMPLES & RESULTS		
DEPTH (m)	INSTALLATION	MATERIAL SOIL/ROCK TYPE; colour, grain characteristics, structure, minor components	GRAPHIC LOG	GRAIN SIZE	PLASTICITY	CONSISTENCY	MOISTURE	PID (ppm)	SAMPLES	COMMENTS
0	Bentonite 50mm 0.50m 0.70m Sand backfill (2 mm graded) Screen Length: 2.02m 50 mm Class 18 uPVC 2.72m 2.72m	REGOLITH CLAY, brown, moist, stiff; dry, regolith. SILTSTONE, grey, medium strength, highly weathered, layered with fine grained, light grey SANDSTONE. EOH: 2.72m								
1.0										
2.0										
3.0										
4.0										

See Symbology & Classification notes for details of abbreviations & basis of descriptions.

MONITORING WELL LOG

PROJECT : ProTen Rushes Creek Regolith monitoring bores
HOLE NO.: REG003
LOCATION : Rushes Creek Farm 2
FILE / JOB NO.: 630.30392.00000

POSITION : E: 269624.5, N: 6588800 (56 MGA94) SURFACE ELEVATION : 364m (AHD) ANGLE FROM HORIZONTAL : 90°

DATE STARTED : 14-07-22 DATE COMPLETED : 15-07-22 DATE LOGGED : 15-01-22 LOGGED BY : AM CHECKED BY : TM

CONTRACTOR : Campbell Drilling DRILLER : Joel Campbell RIG TYPE : Truck Mounted

WELL INFORMATION		***MATERIAL***					***SAMPLES & RESULTS***		
DEPTH (m)	INSTALLATION	MATERIAL SOIL/ROCK TYPE; colour, grain characteristics, structure, minor components	GRAPHIC LOG	GRAIN SIZE	PLASTICITY	CONSISTENCY	MOISTURE	PID (ppm)	SAMPLES	COMMENTS
0	Bentonite 0.50m 0.70m Sand backfill (2 mm graded) Screen Length: 2.03m 50 mm Class 18 uPVC 2.73m 2.73m	REGOLITH CLAY, brown, moist, stiff. SILTSTONE, grey, dry, medium strength, highly weathered. EOH: 2.73m								
1.0										
2.0										
3.0										
4.0										

See Symbology & Classification notes for details of abbreviations & basis of descriptions.

ProTen

Appendix F:

Emergency Disposal & Biosecurity Strategy (EDBS)

EMERGENCY DISPOSAL & BIOSECURITY STRATEGY (EDBS)

Rushes Creek Poultry Production Farm
1582 Rushes Creek Road, Rushes Creek NSW 2346
Development Consent SSD 7704-Mod 3

Prepared for:

ProTen Tamworth Pty Ltd
PO Box 1746
North Sydney, NSW 2059
Australia

SLR Ref: 631.30722.00100-R01
Version No: -v1.0
August 2022

PREPARED BY

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
Suite 2B, 125 Bull Street
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E: newcastleau@slrconsulting.com www.slrconsulting.com

BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with ProTen Tamworth Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
631.30722.00100-R01-v1.0	23 August 2022	Melanie Dow (SLR)	Hugh Jones (SLR)	Bill Williams (ProTen)

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DOCUMENT REFERENCES

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FIGURES

PHOTOS

APPENDICES

1 Introduction

1.1 Background

ProTen obtained development consent from the Minster of Planning & Public Spaces on 15 June 2021 and other subsequent modifications thereafter. Consent was granted for the construction and operation of four poultry farms consisting of a total of 54 fully enclosed, tunnel ventilated poultry sheds with a maximum operational capacity of 3,051,000 birds at any one time.

The most recent approved modification is known a Modification 3 and is referred to as Consolidated Consent SSD 7704-Mod 3. Modification 3 was granted consent on 1 July 2022 and is to allow concurrent construction and operations of Stage 1 (Farm 2), while an alternate power supply solution is being approved and installed. Concurrent construction and operation are staged on Farm 2 as follows:

Table 1 Concurrent Construction & Operations

Stage	Sub-Stage	Construction Activities	Operational Activities	Estimated Operation Date
1	1A	Earthworks, northern site access road and internal roads	None	None
1	1B	Sheds 1 – 8 and ancillary infrastructure	None	None
1	1C	Sheds 9 – 12	Sheds 1 – 8	September 2022
1	1D	Sheds 13 – 16	Sheds 1 – 12	September 2022 – November 2022
1	1E	Sheds 17 – 18	Sheds 1 – 16	October 2022 – January 2023
1	1F	Nil	Sheds 1 – 18	December 2022 – March 2023

Stage 2 of the farm, being Farms 1, 3, and 4 shall be constructed after completion of concurrent construction of Stage 1, as described above. A future modification is being prepared that will allow the entire Rushes Creek Poultry Production Farm to operate off-grid by solar, batteries and back-up generators.

For the purposes of this document, the Development is described in detail within the consolidated consent, Environmental Impact Statement (EME Advisory [EME] 2022) (EIS) and the appendices contained within. **Figure 1** shows the approved layout of the overall Development Site, including the four (4) poultry sheds. **Figure 2** is zoomed-in over Farm 2, demonstrating the Poultry Production Unit Layout.

1.2 Document Purpose and Aims

This Emergency Disposal & Biosecurity Strategy (the Strategy) has been prepared to satisfy condition B31 of Consolidated Consent SSD 7704, which reads:

> ***Prior to the commencement of operation**, the Applicant must prepare an Emergency Disposal and Bio-security Protocol, detailing the procedures for a biosecurity emergency including a mass mortality event, to the satisfaction of the Planning Secretary. The protocol must form part of the OEMP required by condition C5 and must:*
>
> *(a) be prepared in consultation with Council, EPA, DPI and other relevant public authorities;*

(b) be consistent with the relevant AUSTVETPLAN manuals and supporting documents;

(c) describe the notification procedures;

(d) detail all transport routes to be used in a mass mortality event;

(e) detail any requirements to stage the mass disposal of dead livestock;

(f) detail the burial location(s) for the disposal of dead livestock, including plans and drawings;

(g) detail the measures to maintain quarantine control;

(h) detail measures to prevent ground water contamination; and

(i) detail the mass mortality disposal procedures and options.

The Strategy has been prepared as an appendix to the Operational Environmental Management Plan (SLR Consulting 2022) (OEMP) prepared for ProTen and is to be read in conjunction with the OEMP.

The Strategy aims to assist ProTen to:

- Implement current best practice biosecurity measures;
- Prevent the introduction of infectious disease agents to the poultry farm;
- Prevent the spread of any infectious disease agents from an infected area to an uninfected area;
- Implement a coordinated management response in the unlikely event that biosecurity is breached and there is an emergency animal disease (EAD) outbreak; and
- Understand the viable options to dispose of bird mortalities in the unlikely event of an EAD outbreak and mass disposal is necessary.

Figure 1 Approved Development Layout

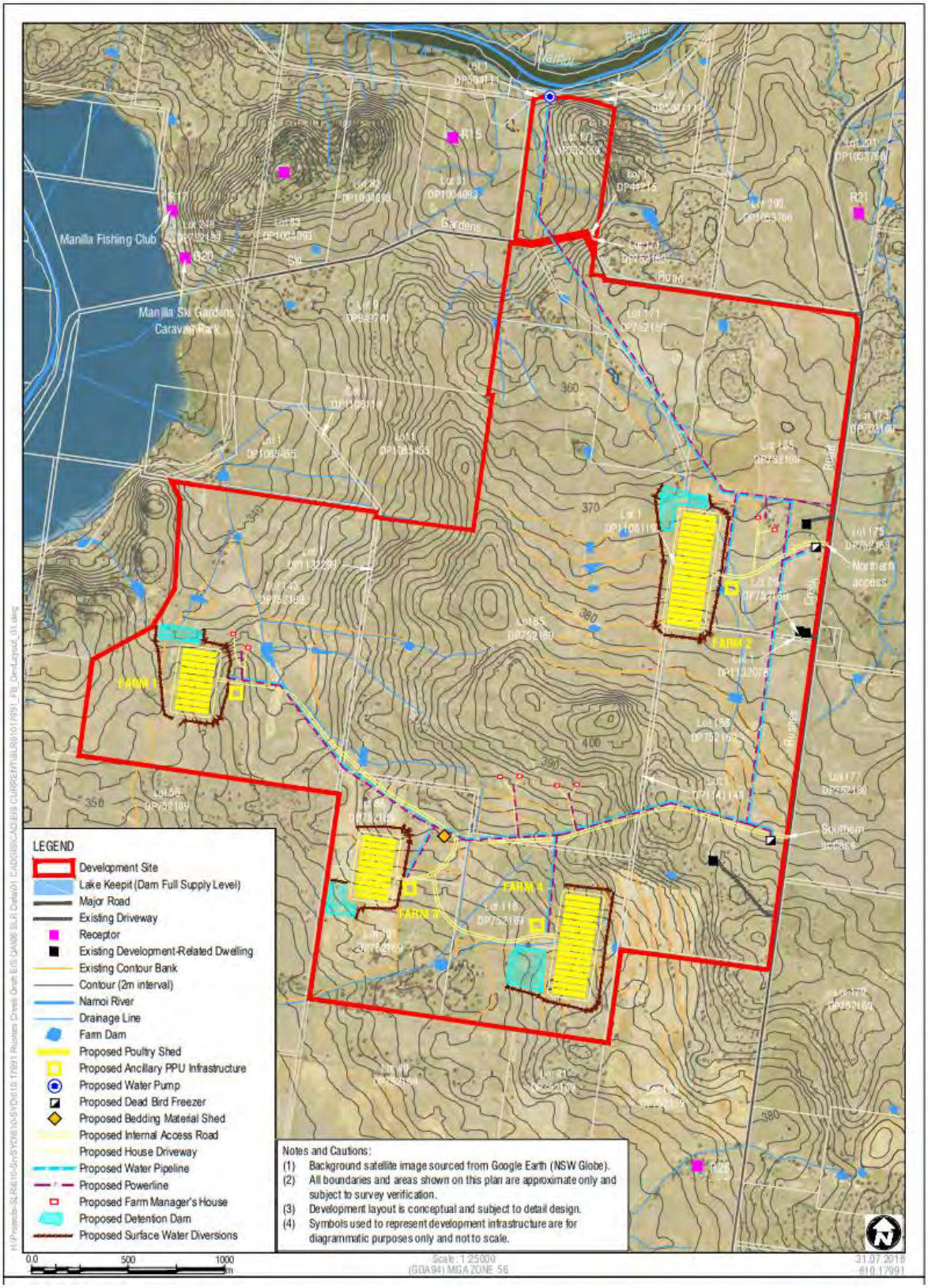


Figure 2 Farm 2 Poultry Production Unit Layout (Source: SSD 7704-Mod 3)

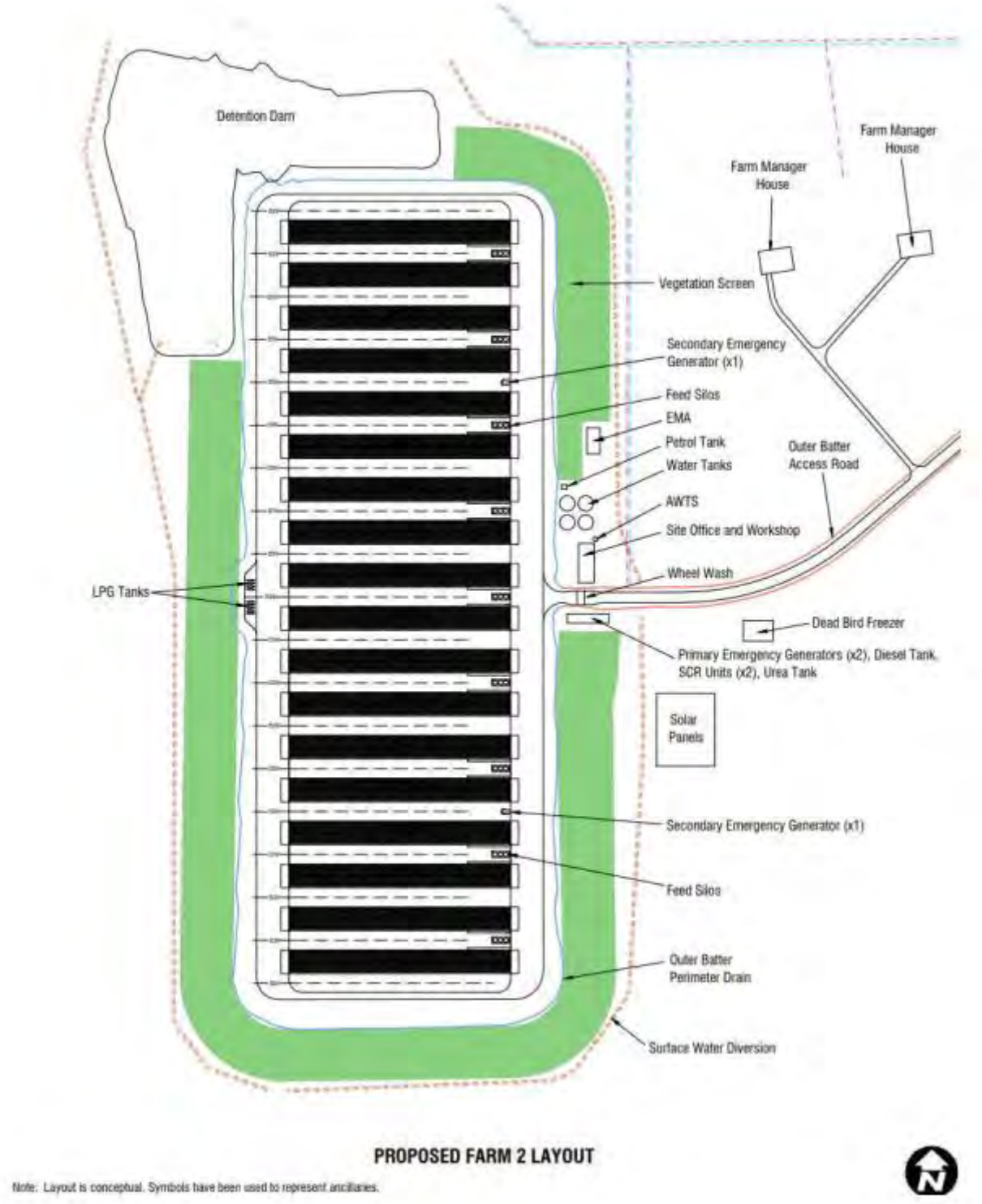


Figure 3: Modified Farm 2 Layout

1.3 Relevant Guidelines

The *Emergency Disposal & Biosecurity Strategy* has been prepared in consideration of the following guideline documents:

- *RSPCA Approved Farming Scheme Standard - Meat Chickens* (RSPCA Australia 2020) (RSPCA Standard);
- *Best Practice Management for Meat Chicken Production in NSW, Manual 2 – Meat Chicken Growing Management* (Department of Primary Industries [DPI] 2012) (Best Practice Guidelines);
- *National Animal Welfare Standards for the Chicken Meat Industry* (Australian Poultry Cooperate Research Centre 2008);
- *National Farm Biosecurity Manual for Chicken Growers* (Australian Chicken Meat Federation [ACMF] 2020);
- *National Water Biosecurity Manual - Poultry Production* (Department of Agriculture, Fisheries and Forestry [DAFF] 2009);
- *How to comply with the Biosecurity* (Salmonella Enteritidis) Control Order 2020 (DPI 2020);
- *Australian Veterinary Emergency Plan, AUSVETPLAN, Operational Manual, Destruction of Animals* (Animal Health Australia [AHA] 2015a);
- *Australian Veterinary Emergency Plan, AUSVETPLAN, Operational Manual, Disposal* (AHA 2015b);
- *Mass Disposal Preparedness for the Poultry Industries* (AgriFutures Australia 2020); and
- *Biosecurity of Mass Poultry Mortality Composting* (Rural Industries Research and Development Corporation [RIRDC]) 2014).

Additionally, reference has been made to the *ProTen Biosecurity Manual* (ProTen 2020), a copy of which is included in **Appendix A**.

1.4 Consultation

This EDBS has been prepared in align with previous strategies prepared for existing ProTen Poultry Production Farms. The format and details within these strategies have previously been endorsed by DPI Agriculture and accordingly, this strategy shall follow suite.

As required by condition B31 of Consolidated Consent SSD 7704 (see **Section 1.2**), this Strategy has been prepared in consultation with the Biosecurity and Food Safety Unit of the Department of Primary Industries (DPI), EPA, and Tamworth Regional Council. **Table 2** provides a summary of the consultation activities with DPI, including the key issues raised and the related responses.

Table 2 Consultation

Authority	Date	Method	Purposes / Issues Raised / Outcomes
DPI	9/8/2022	Email	Invitation to provide comment
DPI	18/8/2022	Email	DPI provided input and minor amendments to EDBS. All edits accepted and amendments adopted in EDBS.
EPA	11/8/2022	Email	Invitation to provide comment

Authority	Date	Method	Purposes / Issues Raised / Outcomes
EPA	23/8/2022	Email	EPA request that Narrabri Regional Office be removed from the strategy and update the EPA contact number. EPA have no other comments on the strategy. Minor contact amendments adopted.
Tamworth Council	11/8/2022	Email	Invitation to provide comment
Tamworth Regional Council	11/8/2022	Email	Tamworth Regional Council acknowledge receipt of document.
Tamworth Regional Council			

2 Environmental Management Framework

2.1 ProTen Operational Team

2.1.1 Contact Details

Table 3 lists the key ProTen contacts for the Rushes Creek poultry farm.

Table 3 ProTen Contacts

Role	Name	Contact Details
ProTen Management		
NSW Operations Manager	Graham Kirby	Ph: 02 6962 1770 / 0438 842 459 Email: graham@proten.com.au
Regional Operations Manager	Graeme Attwell	Ph: 02 6769 7706 / 0447 048 321 Email: graemea@proten.com.au
SHEQ Advisor	Kathryn Singh	Ph: 02 6962 1770 / 0434 550 789 Email: kates@proten.com.au
SHEQ Officer – Tamworth	Richard Bullock	Ph: 0407 659 997 Email: richardb@proten.com.au
Risk Manager	Jim Rimmer	Ph: 02 6962 1770 / 0438 750 974 Email: jrimmer@proten.com.au
Rushes Creek Site Management		
Farm Manager	Jae St Leon	Ph: 0476 507 171 Email: jaestl@proten.com.au
Farm Assistant Manager	TBA	TBA
ProTen Environmental Hotline		
Toll-free environmental hotline	-	Ph: 1800 776 994

SHEQ – Safety, Health, Environment and Quality

2.1.2 Roles and Responsibility

The key personnel responsible for biosecurity and EAD management at Rushes Creek are listed in **Table 4** along with their respective key responsibilities.

Table 4 ProTen Roles and Responsibilities

Role	Key Responsibilities
Site Management – farm managers	• Overall responsibility for biosecurity in accordance with this Strategy, National Farm Biosecurity Manual for Chicken Growers (ACMF 2020) and ProTen Biosecurity Manual (2020). • Ensure employees and contractors are appropriate inducted, trained and aware of their general obligations for biosecurity, environmental protection and the health and safety of fellow workers. • Notify the NSW Operations Manager and SHEQ Advisor in relation to any biosecurity breach and/or suspected EAD. • Ensure the appropriate management response is instigated and carried through in the event of an EAD outbreak. • Record, notify, investigate and respond to any environmental incidents, including biosecurity breaches and/or EAD outbreaks.
NSW Operations Manager	• Oversee the implementation of this Strategy and provide adequate resources to enable its effective implementation. • Notifications to regulatory authorities for any incident that causes or threatens to cause material harm to the environment, which may include a biosecurity breach and/or EAD. • Coordinate any reporting and/or liaisons with regulatory authorities.
SHEQ Advisor	• Support the NSW Operations Manager and Site Management in relation to biosecurity matters and any environmental incidents. • Support Site Management with site induction and training requirements for employees and contractors.
All employees and contractors	• Ensure familiarity, implementation and compliance with this Strategy and the ProTen Biosecurity Manual (2020). • Support ProTen's commitment to strict biosecurity. • Work in a manner that will not breach site biosecurity. • Report any biosecurity breaches and/or suspected diseases to Site Management without delay.

2.1.3 Inductions and Training

Site Management, with the assistance of the SHEQ Advisor/Officer, will ensure that all employees and contractors are suitably inducted and trained prior to commencing any work on site. Training will take place initially through the site induction and then on an on-going basis through "toolbox talks" (or similar).

Topics to be covered in relation to biosecurity include:

- General site biosecurity expectations and requirements;
- Familiarisation with this Strategy and the ProTen Biosecurity Manual (2020);
- How to recognise the signs of disease in poultry so that sick and/or higher than normal mortality numbers can be reported to Site Management and immediate action can be taken;
- Appropriate response and management of biosecurity breaches and any suspected EAD outbreak; and
- Proper use, care and maintenance of personal protective equipment (PPE).

2.2 Regulatory Authorities

Table 4 lists the regulatory authorities and organisations that may have an interest in relation to the biosecurity and any suspected EAD outbreak at the Rushes Creek poultry farm.

Table 5 Regulatory Authorities Contacts

Regulatory Agency	Contact Details
Department of Primary Industries (DPI)	
Biosecurity	Ph: 1800 675 888 Email: quarantine@dpi.nsw.gov.au
Emergency Animal Disease Hotline	Ph: 1800 675 888
North West Local Lands Services (LLS)	
Tamworth Office	Ph: 02 6764 5900 Email: admin.northwest@lls.nsw.gov.au
Tamworth Regional Council	
Customer service call centre	Ph: (02) 6767 5555 or 1300 733 625 Email: trc@tamworth.nsw.gov.au
Environment Protection Authority (EPA)	
Armidale Regional Office	Ph: 02 6773 7000
Environment Line	Ph: 131 555 for pollution and environmental incidents Ph: 02 9995 5555 for other enquiries Email: info@epa.nsw.gov.au
NSW Health	
Tamworth Local Health District – Public Health	Ph: 02 6764 8000 / 1300 066 055
Safework NSW	
Incident Notification Hotline	Ph: 131 050

3 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.

There is a major economic incentive for ProTen to ensure birds are kept disease free. As well as affecting bird health and welfare, disease can significantly reduce production efficiency. If a flock requires depopulating, the economic gain from the flock is immediately lost. In addition, there is considerable cost associated with euthanasia and removal of birds, carcass disposal, shed disinfection and remediation activities. On this basis, ProTen places an extremely high importance on maintaining flock health through vaccination, farm hygiene and biosecurity.

3.1 Primary Routes for Disease Transmission

It is important to know and understand the potential routes for disease and pathogen transmission at a poultry farm. According to the *National Farm Biosecurity Manual for Chicken Growers* (ACMF 2020) and *ProTen Biosecurity Manual* (ProTen 2020), the primary routes (main risks) are:

Poultry

- Movement of birds between sheds/farms
- Dead bird disposal

Other Animals

- Domestic and wild birds
- Domestic and feral animals, including other livestock and pets
- Insects
- Rodents (rats/mice)

People

- Farm personnel and family members
- Contractors, maintenance personnel, neighbours, servicepersons, visitors

Equipment

- Equipment and vehicles that have entered the biosecurity zone without proper decontamination

Water Supply

- Water supplies contaminated with faeces from other birds/animals that is not appropriately treated
- Poor site drainage and water collection areas

Feed

- Feed contaminated by the raw materials used or mould, or by exposure to rodents and birds

Poultry Litter

- Transport of bedding material on to the farm and poultry litter from the farm
- On-site storage of bedding material and/or poultry litter

3.2 Level 1 General Biosecurity

ProTen has demonstrated a strict biosecurity commitment and will implement a range of proven measures at Rushes Creek on a routine basis in accordance with current industry guidelines and standards, including the *National Farm Biosecurity Manual for Chicken Growers* (ACMF 2020), *National Water Biosecurity Manual – Poultry Production* (DAFF 2009) and *ProTen Biosecurity Manual* (ProTen 2020). The key operational biosecurity measures that will be implemented at Rushes Creek include, but will not be limited to, those outlined below.

3.2.1 Production Area Fencing

The production area of the poultry farm, including the poultry sheds and areas around the poultry sheds used for feed storage and handling, loading and unloading activities, and surface water management, will have a perimeter fence or otherwise well-defined boundary establishing a biosecurity zone and excluding any grazing livestock. This will ensure that the production area/biosecurity zone is clearly demarcated from the remainder of the premises.

3.2.2 Production Area Signage

Appropriate signage will be erected on all access/entry points to the production area to notify visitors of the biosecurity zone and direct them to contact ProTen prior to proceeding, along with any other requirements.

Photo 1 Standard farm biosecurity signage

Photo 2 SE Control Order signage

SE Control Order Requirements

Under the provisions of the *Biosecurity (Salmonella Enteritidis) Control Order 2020* (see **Section 3.3**) (SE Control Order), which is effective until 30 June 2024 (unless extended in the meantime), all access/entry points to the production area must have a clearly visible sign stating words to the effect of –

A Control Order made under the Biosecurity Act 2015 applies to anyone who enters this area. Unauthorised entry may be an offence. Contact the person in charge before entry to find out how the Order applies to you.

All signs must also state how persons entering the area are to contact the person in charge.

3.2.3 Production Area Access

Only essential visitors will be permitted access to the production area and must comply with biosecurity access requirements before entry, including a visitor declaration. There is a parking area outside of the production area for vehicles not required to enter the area.

Any person entering the poultry sheds must sanitise hands and use footbaths before entering. Any necessary PPE will be provided on-site. Staff members must ensure that boots worn in the poultry sheds and used on the farm are not worn or taken outside the biosecurity zone. Work boots must be left at the farm.

Staff members and visitors will not be permitted to travel from other poultry farms to Rushes Creek without certain biosecurity precautions. Refer to specific requirements for direct farm staff, internal visitors (any person that resides/works within the local growing region), and external visitors (any person that does not reside/work within the local growing region) in the *ProTen Biosecurity Manual* (ProTen 2020) in **Appendix A**.

SE Control Order Requirements

A copy of the SE Control Order (or information on where to view the Control Order) is to be provided to all persons entering the production area prior to entry. Information about the measures in place to implement the Control Order and how to follow those measures is also to be made available to all persons entering the production area prior to entry. When a person seeks permission to enter the production area, the person in charge is only to grant permission if the person agrees to comply with any measures put in place to implement the Control Order.

3.2.4 Wheel Wash

The potential for mechanical transmission of disease pathogens will be reduced through the installation and use of an automated vehicle wheel wash adjacent to the office-workshop building. All vehicles entering the poultry farm's biosecurity zone will be required to pass through the wheel wash to remove organic material from the wheels and chassis. An appropriate sanitiser will be added to the wash water.

3.2.5 Single Age Farm

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

3.2.6 Closed Flock

Birds housed at other farms 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.

3.2.7 Water Supply Treatment

Rushes Creek's operational water supply requirement will be met via surface water extraction from the Namoi River, under the provisions of the two existing water access licences (WALs) held by ProTen (refer to the Rushes Creek OEMP for further details). The water will be treated as per the recommendations in the National Water Biosecurity Manual – Poultry

Production (DAFF 2009) to ensure it is suitable for bird consumption. In summary:

- The water will be filtered through sand media;
- The pH will be monitored and if it is found to be high, citric acid will be added to maintain the pH at approximately 7.0;
- The water will then be chlorinated to deliver approximately 5 parts per million (ppm) in the water storage tanks; and
- Finally, chlorine dioxide will be dosed into the water delivery system supplying the poultry sheds at between 0.5 to 0.1 ppm.

3.2.8 Other Measures

Various additional biosecurity measures will be implemented on a routine basis in accordance with the *National Farm Biosecurity Manual for Chicken Growers* (ACMF 2020) and *ProTen Biosecurity Manual* (ProTen 2020) (see **Appendix A**). These include:

- Staff members working in direct contact with livestock will not be permitted to keep poultry, or any other bird species or pigs at their place of residence.
- The poultry sheds and equipment will be sanitised and disinfected at the end of each batch.

- Dead birds will be removed from the poultry sheds on a daily basis and stored in the on-site dead bird freezers prior to removal off site. Under no circumstances will dead birds be stockpiled or disposed of within the site.
- Poultry litter will be promptly removed from the poultry sheds and transported off site at the end of each batch. Under no circumstances will poultry litter be stockpiled or disposed of within the site.
- Appropriate waste management systems will be implemented to ensure no on-site stockpiling or disposal of waste materials (refer to details in the Rushes Creek OEMP).
- Pest control measures will be implemented to prevent and control outbreaks (refer to details in the Rushes Creek OEMP).
- The poultry sheds will be maintained to prevent the entry of wild birds and limit the access of vermin as far as is practical.
- The production area and a buffer zone around the production area out to a minimum of 3 metres will be kept free of vermin habitat such as overgrown grass, dense vegetation and debris as far as practicable. Grass will be regularly slashed/mown.
- Any equipment coming on-site from another poultry farm will be sanitised and disinfected prior to entering the biosecurity zone.
- The surface water management system will be well-maintained to ensure the area around the poultry sheds is adequately drained to prevent the accumulation and stagnation of water likely to attract waterfowl.

3.3 Salmonella Enteritidis Biosecurity

The *Biosecurity (Salmonella Enteritidis) Control Order 2020* (SE Control Order) commenced on 30 June 2020 (as amended 23 June 2022) and is effective until 30 June 2024 (unless extended in the meantime). The Control Order requires the poultry industry to ensure that strict biosecurity and hygiene measures are in place for all people entering and exiting poultry farms to minimise the risk of spread of Salmonella Enteritidis. Many of the measures specified in the Control Order reflect existing biosecurity requirements, however there are additional requirements, and the Control Order should be referred to. The Control Order also puts an onus on visitors to a poultry farm to comply with certain requirements.

More information, including a link to the Control Order and DPI's document *How to comply with the Biosecurity (Salmonella Enteritidis) Control Order 2020*, can be found here - http://www.dpi.nsw.gov.au/se

3.4 Level 2 Emergency Biosecurity

If an EAD alert is raised, the following additional biosecurity measures must be followed in accordance with the *ProTen Biosecurity Manual* (2020) in **Appendix A**:

Facilities

- Farm access gates must be kept locked at all times.
- Poultry shed doors must be locked at all times when no staff are on farm.
- Facilities for the sanitisation and disinfection of vehicles and equipment must be in place and in good working order at all times.

Personnel

- No visitors are to enter the biosecurity zone unless essential.
- All routine maintenance and repair works are to cease, with only emergency work to be carried out.
- Staff and essential visitors must head-to-toe shower before and after their visit. A complete change of clothes, footwear, hair covering and breathing protection is required. Used clothing and all used PPE must remain on site.
- Staff should not travel to work with staff from another poultry farm.

Operational

- Any vehicle that must enter the biosecurity zone must be decontaminated before and after going into the biosecurity zone.
- No birds or poultry litter are to be moved on or off the site until the disease status is confirmed.
- If an EAD outbreak is confirmed, further measures will be stipulated by ProTen in consultation with Baiada Poultry (Baiada) and DPI.

4 Mass Mortality Strategy

In the unlikely event that biosecurity is breached and there is an EAD outbreak at Rushes Creek, the coordinated management response outlined in the below sub-sections will be implemented.

4.1 Notification Requirements

4.1.1 Biosecurity Act 2015

Under the provisions of sections 30 and 38 of the Biosecurity Act 2015 and clause 7 of the Biosecurity Regulation 2019, there is a duty to notify any awareness or suspicion of prohibited matter and/or a biosecurity matter/event. This duty applies to the owner, occupier or person in charge, care, control or custody of a premises, or a carrier or thing (such as an animal, animal product, vehicle or equipment) to which the matter relates. This duty also applies to a person consulting in their professional capacity (such as a veterinarian).

Suspicion or awareness of prohibited matter and/or a biosecurity matter/event must be immediately reported verbally to:

- An authorised DPI officer; and/or
- Northwest LLS.

Section 2.2 provides the contact details for these authorities.

Suspicion or awareness of other listed notifiable pests and diseases of animals must be notified within one working day.

For less urgent cases (that are not potentially prohibited matter or a biosecurity event), it is possible to use the Notifiable Pests and Diseases of Animals Reporting Form to notify. However, if there is any doubt as to whether you are dealing with prohibited matter, a biosecurity matter/event or other listed notifiable pest or disease of animals, it is best to phone to ensure you fulfil your duty to notify.

4.1.2 Protection of the Environment Operations Act 1997

Under the provisions of the *Protection of the Environment Operations Act 1997* (POEO Act), there is a duty to notify any incident that has caused or threatens to cause material harm to the environment. This extends to biosecurity breaches and poultry disease outbreaks.

The POEO Act provides the following definition for "material harm to the environment":

> *(a) harm to the environment is material if:*
>
> *(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
>
> *(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and*
>
> *(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.*

All employees and contractors are responsible for immediately notifying Site Management of any biosecurity breach and/or suspected poultry disease outbreak at Rushes Creek.

A senior member of ProTen Management must immediately notify the "relevant authorities" of any suspected EAD outbreak. The relevant authorities for such a situation at Rushes Creek are:

- DPI;
- Northwest LLS;
- Council;
- EPA;
- NSW Health; and
- Safework NSW.

Section 2.2 provides the contact details for these authorities.

4.2 Health and Safety

All activities during a suspected EAD outbreak must comply with all relevant workplace health and safety requirements. ProTen has "duty of care" obligations under the *Work Health and Safety Act 2011* (and its associated Regulation).

Personal Protective Equipment

Appropriate PPE must be maintained on site at all times. This is particularly important for all employees, contractors and/or visitors entering a shed with a suspected EAD.

This PPE should aim to prevent skin contact with virus-containing materials or environments, and should include gloves, aprons, outer garments or coveralls, boots or boot covers, a disposable head cover or hair cover and unvented safety googles (eye protection is important to prevent eye contact with virus contaminated dusts, droplets and aerosols and to keep workers from touching their eyes with potentially contaminated fingers or gloves). While disposable PPE is preferred, reusable outer garments that can be effectively disinfected are suitable.

DPI recommends that an appropriate face mask or respirator be worn irrespective of the nature/type of the EAD (i.e. not only if potentially transmitted by contaminated dusts, droplets or aerosols).

4.3 ProTen Resources

There are typically nine ProTen staff members that will work on-site at Farm 2 during daytime operations, and a maximum 25 staff across the overall operation including farm managers / assistant farm managers that live on-site. In the unlikely event of an EAD, and in addition to the regular farm staff, ProTen would be able to mobilise additional assistance from its Tamworth Based resources. This would include on-call staff members and, if required, staff members from ProTen's numerous other poultry farms in the region.

Baiada, as the integrator company, would also direct resources at any suspected EAD. Baiada would have personnel, heavy machinery, veterinary resources and laboratory resources available (if required).

4.4 Quarantine Procedures

In the unlikely event of an EAD outbreak at Rushes Creek, Site Management will immediately implement strict quarantine procedures to isolate the potentially infected farm and notify DPI and other relevant authorities (see Section 4.1).

ProTen's quarantine procedures in the event of a suspected EAD include the following:

- All movement of birds and poultry litter will immediately cease, and all other movements on and off the site will only be permitted under permit or direction from an authorised DPI biosecurity officer.
- Site gates will be kept closed and locked.
- The doors of the poultry sheds will be kept closed and locked.
- No visitors will be permitted to enter the site unless absolutely essential. Company personnel will discontinue routine visits except on suspicion of problems and only emergency repairs and maintenance will be permitted (i.e. no routine work).
- Essential visitors will be required to have a head-to-toe shower before and after the visit. A complete change of clothes, footwear, hair covering and breathing protection will be required. Used clothing and all used PPE will remain on-site.
- Any vehicle that must enter the site (for example, feed delivery trucks) will be decontaminated before and after the visit in accordance with the DPI's guide titled Decontamination of vehicles and equipment (2018).
- Records will be maintained on the movement of vehicles, equipment, people, dead birds and litter on and off the site. This information will be required by DPI.

ProTen will work with DPI and follow all instructions provided during the quarantine period and until the EAD situation is fully dealt with. The response will depend on what the disease is. If it is a disease under the Emergency Animal Disease Response Agreement (EADRA) (for example, highly pathogenic avian influenza), an EAD Response Plan will need to be agreed to by the Consultative Committee on Emergency Animal Disease (CCEAD).

4.5 Euthanasia of Infected Stock

Upon confirmation that it is indeed an EAD outbreak and immediate slaughter of farm stock is necessary, euthanasia will be directed by DPI. The method of euthanasia (and disposal) will be determined by DPI (in consultation with the EPA and the industry) and will be based on a risk assessment considering numerous variables, including the movement of infected carcasses, type of disease involved, availability and suitability of options, costs, etc.

The preferred available method for the euthanasia of large numbers of birds in commercial poultry units in *AUSVETPLAN: Operational Manual – Destruction of Animals* (AHA 2015a) is gassing with carbon dioxide (CO_2) within the poultry sheds. This method reduces the exposure of personnel to infected material, eliminates the need to handle large numbers of live birds, reduces dispersal of dust, provides the opportunity to subsequently compost the dead birds within the shed, and should be more cost-effective than methods that require birds to be caught individually (AHA 2015a).

AUSVETPLAN: Operational Manual – Destruction of Animals (AHA 2015a) and *Destruction of birds using carbon dioxide gas (CO_2) in the shed* (DPI 2008) provide the following procedure (in summary):

Planning

Preparation of sheds must not begin until it has been confirmed that sufficient bulk gas can be made available to complete the task.

Where possible, the procedure should be carried out in cool still weather conditions (temperature <15 to 20 degrees Celsius, wind speed <5 to 10 kilometres per hour), which will help contain the gas in the shed.

Shed Preparation

- If necessary, a minimum number of suitably dressed/protected personnel should enter the shed and turn off any necessary services, such as electricity, water and feed. Most, if not all, services should be able to be turned off external to the shed.
- Drinking and feed systems should be raised to their maximum height.
- CO2 warning devices should be placed to show gas levels 1 metre above bird height.
- The ventilation system should be shut down when the CO2 is ready for injection into the shed.
- While wrapping the shed in plastic should not be required for “controlled-environment sheds” (i.e. fully-enclosed ventilated sheds), the shed should be inspected for any openings where the gas may leak out and these opening should be sealed.
- The gas delivery hoses should be positioned 1 metre above the floor.
- Warning signs should be posted on the shed and access ways.

Gas Supply and Injection

The gas should not be injected into the shed until:

- Adequate supplies of CO2 gas to complete the task have been confirmed and made available.
- The current and predicted weather for the duration of the task is within the limits mentioned above (where possible);
- The site supervisor/team leader is satisfied that the shed is free from large openings where the gas may leak out and/or is adequately wrapped/sealed;
- All personnel are outside the shed, present and accounted for; and
- Suitably qualified breathing apparatus personnel are in attendance.

When gas injection begins, the time should be recorded so that the minimum injection period is completed. Gas injection should fill the shed in 30 to 60 minutes. The following points need attention:

- The gas should be delivered quietly to prevent birds packing up.
- The gas should be delivered 1 metre above the birds so that it flows down and across the floor.
- At the start-up of gas flow, the delivery valves should be closed and the vaporiser open. The valve from the tank to the vaporiser should then be rapidly opened three-quarters of the way.
- The shed should be monitored for any gas leakage with a portable CO2 monitor. The terrain of the site and surrounding lands, which is very flat, should not influence the direction of any escaping gas.
- Once the injection time is completed, sensors should be checked to confirm that the gas has reached the desired level.
- The gas flow from the tank to the vaporiser should be closed while the delivery valve is open so that pressure is released.
- The shed should remain closed for at least 2 hours after the gas injection. The birds should then be inspected by personnel in breathing apparatus to confirm they are all dead. Where small numbers of birds (<100) are still alive, these can be killed by an alternative method such as neck dislocation.
- The shed should be ventilated (open exhaust vents) for at least 4 hours to allow the gas to escape from the feathers of the birds. Sensor readings must be checked for clearance of CO2 before personnel without breathing apparatus enter the shed. Personnel with breathing apparatus must stand by until it is established that the shed is clear of CO2.

4.6 Disposal Options

A number of options exist for the disposal of bird mortalities. Again, the method of disposal will be determined by DPI (in consultation with the EPA and the industry) and will be based on a risk assessment considering numerous variables, including the movement of infected carcasses, type of disease involved, availability and suitability of options, etc. It is estimated that the Development will generate approximately 1,300 tonnes of dead birds per year. The poultry sheds will be inspected on a daily basis and any dead birds collected and moved to one of the dead bird freezers for short-term storage prior to being disposed of.

The *AUSVETPLAN: Operational Manual – Disposal* (AHA 2015b) lists burial, burning, rendering, composting and anaerobic digestion as mass disposal options. The most appropriate option in the event of a mass mortality event will depend on a number of factors, including the scale of the outbreak, the ability of the rendering plant to accept the bird carcasses, the logistics and cost associated with transportation of carcasses off site, and a site's suitability for burial. While on-farm burial has previously been the predominant disposal option in the poultry industry, this practice is now subject to greater environmental assessment and controls will only be undertaken if suitable conditions exist and effective post disposal monitoring and management systems are implemented. Ultimately, the method of disposal will be based on a rigorous risk assessment by NSW DPI and response support agencies such as the NSW EPA.

In consideration of the above and depending on the scale of the EAD event and instructions provided by DPI, the following options (listed in order of preference) are available for the disposal of bird carcasses, infected waste materials (e.g. bedding and manure) etc., and fomites in the event of an EAD outbreak at Rushes Creek.

4.6.1 Option 1 – In Shed Composting and Land Application

DPI has previously advised that the preferred option for mass bird disposal is in-shed composting. Composting is a natural biological process that transforms organic materials, in a predominantly aerobic environment, into a useful and biologically stable end-product. The process, if effectively implemented, generates sufficient heat to destroy most pathogenic organisms (AHA 2015b).

The *Biosecurity of Mass Poultry Mortality Composting* (RIRDC 2014) investigated the feasibility of on-farm composting and the effectiveness of this disposal method in eliminating avian diseases in bird carcasses and litter. The investigation found that composting effectively restricts the spread of the disease, and the composting can be undertaken in the poultry sheds or on the farm using poultry litter as a bulking agent. Studies have been conducted on the survival of the V4 vaccine strain of Newcastle disease virus during composting, finding that the virus was killed within the first 5 days of composting. Conditions monitored during the composting process suggested there is a wide safety margin and that the Newcastle disease virus and other EADs, such as avian influenza, are unlikely to survive for long (RIRDC 2014). The poultry carcasses rapidly decompose, usually within 14 days, and after a further period of composting the compost can be safely applied to land (RIRDC 2014) (subject to the required licensing/exemption from the EPA).

Emergency management agencies in Australia have identified on-farm composting as a preferred method of carcass disposal. The successful implementation of composting as a disposal method during an EAD outbreak has been repeatedly demonstrated in the United States of America (USA) and Canada (RIRDC 2014).

Although composting can be undertaken both inside and outside the poultry shed, in-shed composting is the preferred method since it provides better security and protection from wind, rain and scavengers. In-shed composting also holds the advantage of not needing to transport diseased carcasses and, as such, reduces the potential for spread of the disease.

In-shed composting would occur under the supervision of DPI, along with the EPA and Council, and in accordance with the procedures outlined in latest versions of *AUSVETPLAN: Operational Manual – Disposal* (AHA 2015b) and *Biosecurity of Mass Poultry Mortality Composting* (RIRDC 2014). The standard operating procedures (SOPs) for mass poultry mortality composting provided by RIRDC (2014) can be modified to suit the needs of the individual regulatory authorities. There are three separate SOPs covering the main operations involved in in-shed windrow composting:

- SOP No. 1 - setting up composting windrows using both the mixing and layering methods;

- SOP No. 2 - process control and monitoring, including temperature monitoring, troubleshooting and key performance criteria for composting; and
- SOP No. 3 - turning windrows and compost sampling for physical, chemical and microbiological testing.

All carcasses, poultry litter and uneaten feed in the shed must be composted. When the quantity of poultry litter is insufficient to requirements for co-composting material, additional material may need to be imported from off-site. Green (i.e. not kiln dried) sawdust is the preferred co-compost material since it has good moisture content (it is not too dry and dusty), is highly absorbent (low risk of runoff from leachate) and it is easy to handle. When green sawdust is not available, other suitable compost substrates include pine shavings (can be dusty), sawdust/shavings mixes (often used as bedding material in the poultry industry), poultry litter (from unaffected farms), hammer-milled green waste (can be variable in particle size and moisture content), rice hulls and straw. Given the wide range of suitable materials, including clean poultry bedding material, sourcing should not be an issue.

When undertaken properly, in-shed composting should not result in notable environmental impact. While odour emissions are possible during compost turning, peak emissions usually settle down quickly and they will be largely confined within the enclosed poultry shed. There is no risk to groundwater given the poultry sheds have sealed concrete flooring and are surrounded by a dwarf concrete bund wall.

While the finished product would need to be tested for physical, chemical and microbiological properties before it is released for use, AHA (2015b) advises that it can be recycled, stored or added to land as a soil amendment. Subject to the end-product testing results being below guideline/agreed thresholds and meeting all other requirements, including complete eradication of the poultry disease, the finished compost product would represent a valuable soil amendment and its application to land would be bon-a-fide reuse. Provided the land application area is appropriately located and sized and managed to prevent any migration of leachate, there should not be any risks associated with applying it to the significant area of residual agricultural land at Rushes Creek.

The EPA advised (see Section 1.4) that while on-site land application of the compost would be preferred, off-site land application following an EAD event may be an option subject to site constraints analysis and licensing or a specific resource recovery exemption and order.

4.6.2 Option 2 – Off -Site Rendering

Whilst in-shed composting has significant advantages as a mass disposal option, a disadvantage is that the affected shed(s) can be out of operation for weeks as the composting process takes place. This is where rendering as a disposal option has an advantage, enabling the affected shed(s) to be cleaned, decontaminated and brought back into production in a much shorter period of time.

If in shed composting is not possible or not preferred on the basis of commercial considerations, the birds could be transported to Baiada's Oakburn Rendering Facility located 60 kilometres (km) (via road) from Rushes Creek via the Oxley Highway (travelling southeast).

Figure 3 shows the location of the rendering plant and the primary transport route. Note, other transport routes may be considered depending on the type of disease involved, proximity of breeder farms to the transport route etc. The transport of birds to the rending plant would only be allowed under a movement permit issued by DPI and following a risk assessment. The permit would specify the transport route and times that transport is allowed.

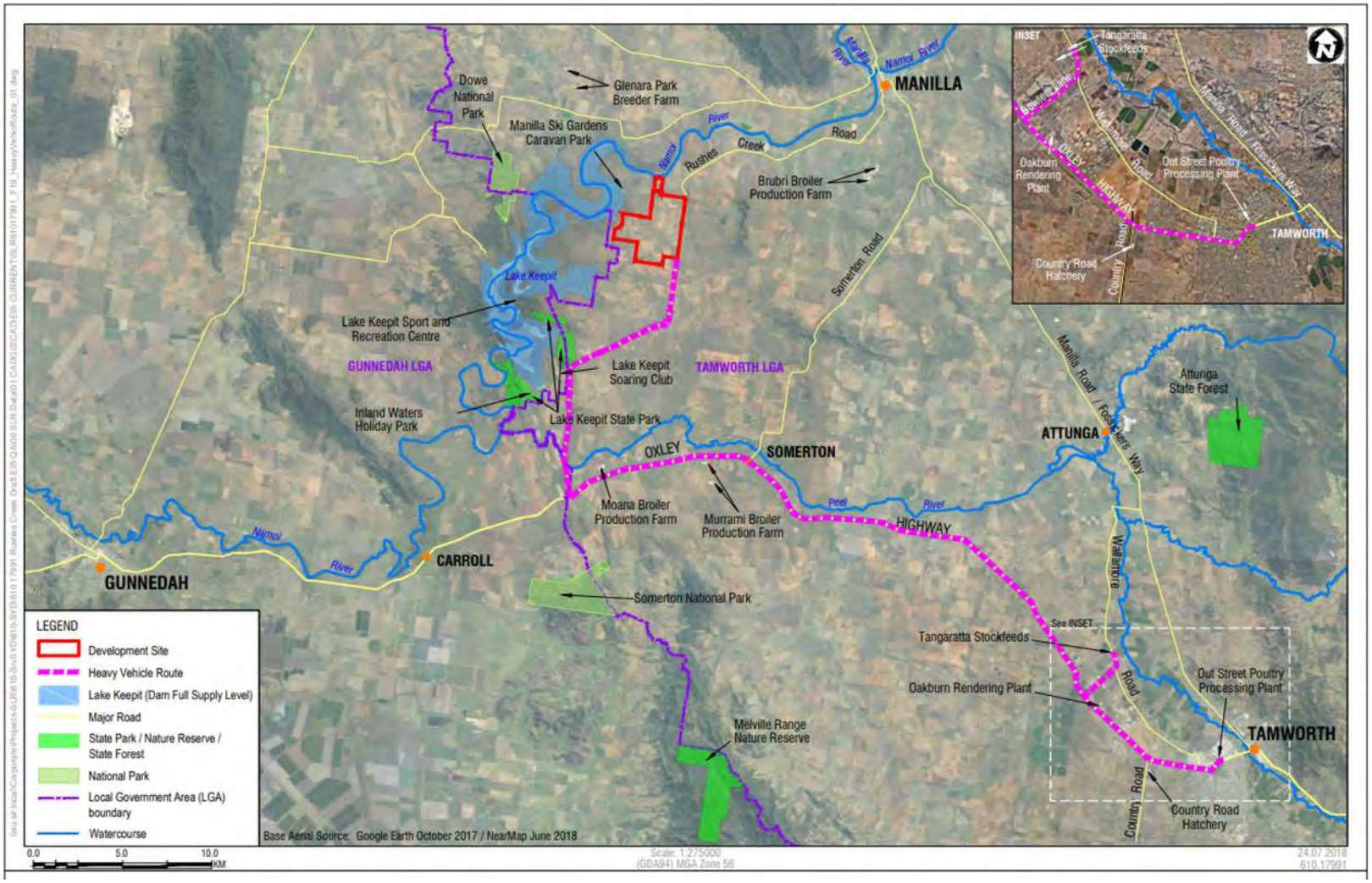
Rendering is the process by which materials are treated to remove moisture content and produce relatively dry edible and inedible by-products, such as meat meal and tallow. Rendering would only be an option if:

- The volume of the material would not exceed the rendering plant's daily processing capacity and would not significantly impact on the plant's ability to undertake normal operation and continue to service the local poultry industry (although shifts could be extended and/or prioritised to process diseased birds ahead of routine operations); and
- The off-site transport of the infected birds would not be a risk in terms of potentially spreading the disease to other poultry farms along the transport route; and
- Appropriate transport vehicles were available.

Rendering would occur under the supervision of DPI, along with the EPA and Council, and in consideration of the key points raised in the latest version of *AUSVETPLAN: Operational Manual – Disposal* (AHA 2015b).

Carcasses would be loaded into leak-proof containers within the poultry sheds and these containers would be transported in appropriate trucks decontaminated on exit from Rushes Creek in accordance with DPI's *Decontamination of vehicles and equipment* (2018). The truck and operator should be independent from normal ProTen and Baiada operations in order to minimise the risk of disease transfer to other poultry operations. All vehicles would require thoroughly decontamination after unloading.

Figure 3 Approved Heavy Vehicle Route (Source: EIS August, 2018)



4.6.3 Option 3 – Off-Site Landfill Disposal

If in-shed composting and/or off-site rendering and/or off-site composting are not possible, a third option is the transportation of mortalities to a landfill facility that is appropriately licensed by the EPA to accept such material. This option would be seen as a last resort and would only be an option if:

- The landfill operator can make landfill area that is appropriately sectioned and quarantined available;
- The designated area of the landfill has capacity to cater for the amount of material to be disposed of;
- Landfilling would not significantly impact on the landfill's ability to undertake normal operation and service the other requirements of the local government area;
- The off-site transport of the mortalities would not be a risk in terms of potentially spreading disease to other poultry farms along the transport route; and
- Appropriate transport vehicles and routes were available.

Carcasses and fomites would be loaded into leak-proof containers within the poultry sheds and these containers would be transported in appropriate trucks decontaminated on exit from Rushes Creek in accordance with DPI's *Decontamination of vehicles and equipment (2018).* The truck and operator should be independent from normal ProTen and Baiada operations in order to minimise the risk of disease transfer to other poultry operations. All vehicles would require thoroughly decontamination after unloading.

All landfills would be moved to Tamworth Waste Management Facility which is licensed to store general solid waste (putrescible). Under schedule 1 of the POEO Act, putrescible solid waste includes animal waste. The total quantity of waste disposed of at the premises must not exceed 20,000 tonnes per year. Rushes Creek is estimated to produce 1,300 tonnes of solid waste (putrescible) per year. This option is dependent on Council ensuring that this landfill area is appropriately sectioned and quarantined.

Landfilling would occur under the supervision of DPI, along with the EPA and respective Council, and in consideration of the key points raised in the latest version of AUSVETPLAN: Operational Manual – Disposal (AHA 2015b). To reduce the likelihood of leachates permeating the subsoil, appropriate synthetic liner(s) may need to be used to seal and enclose the landfill area depending on the EAD (not necessary for certain EADs). Expert advice on the management and treatment of leachate would need to be obtained.

4.6.4 Option 4 – Off-Site Mass Burial

If in-shed composting and/or off-site rendering and/or off-site disposal are not possible, a fourth option is the transportation of mortalities for mass burial at a suitable off-site location that is agreed to and approved/licensed by DPI, EPA and Council. Burial at the Development Site is not considered suitable due to the proximity of the Namoi River and Lake Keepit.

Mass burial would be seen as a last resort and would only be an option if:

- The selected burial site does not have any environmental constraints, for example shallow groundwater;
- The selected burial site has the capacity to cater for the amount of material to be disposed of;
- Burial would not significantly impact on the current land use and surrounding land uses;
- The off-site transport of the mortalities would not be a risk in terms of potentially spreading disease to other poultry farms along the transport route; and
- Appropriate transport vehicles and routes were available.

Burial would occur under the supervision of DPI, along with the EPA and Council, and in accordance with the latest version of AUSVETPLAN: Operational Manual – Disposal (AHA 2015b).

The amount of material to be buried and selection of an appropriate site for burial are both critical considerations in this option. Appropriately qualified personnel would need to be engaged to confirm the most-favourable site(s) in consideration of environmental constraints, including groundwater depth, soil permeability and separation distances, along with access provisions and construction requirements. Carcasses would be loaded into leak-proof containers within the poultry sheds and these containers would be transported in appropriate trucks decontaminated on exit from Rushes Creek in accordance with DPI's *Decontamination of vehicles and equipment (2018).* The truck and operator should be independent from normal ProTen and Baiada operations in order to minimise the risk of disease transfer to other poultry operations. All vehicles would require thoroughly decontamination after unloading.

The design and construction of the burial pit(s) would be largely dependent on the amount of material to be buried and the selected burial site. A series of long and relatively narrow burial pits is likely to be preferred to enable straightforward excavation and fill, with around 3 to 5 metres between each pit to enable the excavation equipment adequate manoeuvring area. Environmental conditions, including soil and groundwater characteristics, would need to be ascertained prior to burial site excavation. The burial pit construction procedures provided in the latest version of AUSVETPLAN: Operational Manual – Disposal (AHA 2015b) would be referred to.

To reduce the likelihood of leachates permeating the subsoil, appropriate synthetic liner(s) may need to be used to seal and enclose the burial pits depending on the EAD (not necessary for certain EADs). Application of lime may be required during burial activities to reduce the likelihood of the soil dispersing when wet. Expert advice on the management and treatment of soils and leachate would need to be obtained.

When closing the burial pits, surplus soil would be mounded over the pits as overfill. The weight of the soil would act to stop the material rising out due to gas entrapment, prevent scavengers digging up buried material, help filter odour, and assist in absorbing the fluids of decomposition. An appropriate diversion bank(s) may be required to divert upstream run-off around the burial pit area, and appropriate fencing and signage would likely be necessary to restrict access and avoid soil disturbance within the burial area.

Regular inspections of the closed burial site would need to be undertaken in order to ensure that any problems are promptly identified and remedied.

4.7 Staging

It may be necessary to stage the mass disposal of bird carcasses and fomites, however this will be dependent on the scale of the EAD outbreak and the mass disposal option selection (see Section 4.6). Any staging requirements will be identified and formalised in early consultation with DPI.

4.8 Decontamination

Following disposal, site decontamination will be undertaken in accordance with *Ausvetplan Decontamination Manual* and will be informed by site specific operational plans developed by DPI in accordance with national departmental policies and procedures.

5 Strategy Review and Update

This *Emergency Disposal & Biosecurity Strategy (EDBS)* will be reviewed and, if necessary, updated in the following circumstances:

- If alternative and/or additional biosecurity requirements are identified by ProTen, Baiada and/or DPI;
- If an alternative or additional option for mass disposal is identified as viable by ProTen, Baiada and/or DPI; and/or
- At the request of DPI, EPA or Council.
- All employees and contractors will be informed of any revisions to the Strategy during a toolbox talk.

6 References

AgriFutures Australia (2020) *Mass Disposal Preparedness for the Poultry Industries*

Animal Health Australia (2015a) *Australian Veterinary Emergency Plan, AUSVETPLAN, Operational Manual, Destruction of Animals*

Animal Health Australia (2015b) *Australian Veterinary Emergency Plan, AUSVETPLAN, Operational Manual, Disposal*

Australian Chicken Meat Federation (2020) *National Farm Biosecurity Manual for Chicken Growers*

Australian Poultry Cooperate Research Centre (2008) *National Animal Welfare Standards for the Chicken Meat Industry*

Department of Agriculture, Fisheries and Forestry (2009) *National Water Biosecurity Manual - Poultry Production*

Department of Primary Industries (2012) *Best Practice Management for Meat Chicken Production in NSW*

Department of Primary Industries (2018) *Decontamination of vehicles and equipment*

Department of Primary Industries (2020) *How to comply with the Biosecurity (Salmonella Enteritidis) Control Order 2020*

ProTen (2020) *ProTen Biosecurity Manual*

RSPCA Australia (2020) *RSPCA Approved Farming Scheme Standard – Meat Chickens*

Rural Industries Research and Development Corporation (2014) *Biosecurity of Mass Poultry Mortality Composting*

7 Abbreviations

ACMF	Australian Chicken Meat Federation
AHA	Australian Animal Health
Baiada	Baiada Poultry
Best Practice Guidelines	Best Practice Management for Meat Chicken Production in NSW
CCEAD	Consultative Committee on Emergency Animal Disease
Council	Tamworth Regional Council
CO_2	carbon dioxide
DAFF	(former) Department of Agriculture, Fisheries and Forestry
DPI	Department of Primary Industries
EAD	emergency animal disease
EADRA	Emergency Animal Disease Response Agreement
EIS	Environmental Impact Statement
EME	EME Advisory
EPA	Environment Protection Authority
EPL	environment protection licence
NSW	New South Wales
OEMP	Operational Environmental Management Plan
POEO Act	Protection of the Environment Operations Act 1997
ppm	parts per million
RIRDC	Rural Industries Research and Development Corporation
RSPCA Standard	RSPCA Approved Farming Scheme Standard – Meat Chickens
SHEQ	Safety, Health, Environment, Quality
SOP	Standard operating procedures
Strategy	Emergency Disposal & Biosecurity Strategy

8 Feedback

At SLR, we are committed to delivering professional quality service to our clients. We are constantly looking for ways to improve the quality of our deliverables and our service to our clients. Client feedback is a valuable tool in helping us prioritise services and resources according to our client needs.

To achieve this, your feedback on the team's performance, deliverables and service are valuable and SLR welcome all feedback via https://www.slrconsulting.com/en/feedback. We recognise the value of your time and we will make a $10 donation to our 2022 Charity Partner – Lifeline, for every completed form.

Appendix A:

ProTen Biosecurity Manual

ProTen

BIO SECURITY MANUAL

Bio Security Requirements

Procedures and Guidelines

1 Objectives

a) To prevent the introduction of infectious diseases to livestock.
b) To prevent the spread of disease from an infected farm to uninfected farm.
c) To prevent the transmission of transmissible diseases to humans.

Biosecurity/quarantine is an integral part of any successful poultry production system. It refers to those measures taken to prevent or control the introduction and spread of infectious agents to a flock. Such diseases, whether clinical or sub clinical, significantly reduce the productivity, profitability and long-term financial viability of our poultry operation.

1.1 Integrator Bio Security Procedures

The requirements outlined in this procedure are required to minimize the introduction and or spread of diseases within our farming operations. They must be followed at all times.
It is important that all staff are familiar with the local integrator's Bio security procedures. These must also be followed at all times.

"Where procedures may differ between the integrator and ProTen, the higher standard must be followed."

1.2 Zoonotic Diseases

The majority of poultry diseases only affect poultry and are not transmissible to humans. However, there are some diseases of poultry that may be transmissible to humans. Such diseases may include but are not limited to:

- Avian influenza
- Aspergillosis
- Psittacosis
- Gastroenteritis, principally caused by Campybacter and Salmonella infections

By implementing and following ProTen's biosecurity procedures the risk of the introduction and or spread of poultry diseases will be minimised.

2 Major Routes for Disease Transmission

2.1 People

- Staff
- Integrator staff - Service persons
- Contactors – maintenance, suppliers etc.
- Visitors

2.2 Livestock

- Dead bird disposal
- Live bird Pick up - Equipment and crates
- Cleanout practices and standards

2.3 Animals

- Rodents - rats/mice
- Domestic and wild birds
- Insects
- Feral and domestic animals and pets
- Livestock

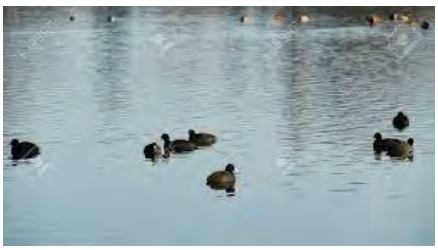
2.4 Equipment

- Equipment from other poultry or pig sites
- Equipment shared between other farms
- Unwashed equipment between batches
- Contractors equipment – ladders, tools etc.
- Equipment such as catching equipment, hatchery equipment

2.5 Vehicles

- Vehicles that have had contact with poultry and pig operations and abattoirs

2.6 Water Supply



- Open or unprotected water supply – dams, rivers
- Unsanitised water
- Bad drainage or water collection points

2.7 Air

- Other nearby Poultry Operations and Farms
- Passing vehicles with poultry on board

3 Bio Security Procedures for Entry onto ProTen Sites

The guidelines in this procedure for entry onto farming and production areas must be followed at all times.
Entry onto a farming site must be limited to essential visitors only.
Permission must be obtained from ROM's for non-essential visitors at all times.

Farm gates must be locked at all times once the sheds have been sanitised and at all times whilst birds are on farm.

All persons entering a farming site will be required to complete local and any implemented statutory authorisation documents prior to entry to a site. These are located in ileader.

All visitors must comply with and meet the farm access requirements before entry.

Note the following points;

- The guidelines required for each region or site may be determined by the integrator and it is critical that all staff with each region are familiar with and adhere to these requirements.
- The local guidelines may change pending current biosecurity requirements and disease status
- **Where procedures vary between the local integrator and ProTen, the higher standard of biosecurity access must be adhered to.**

3.1 External Visitors

External visitors are classified as any person (including ProTen employees) that do not reside and or work within a specific growing region.
Examples of these types of visitors may be – overseas visitors, contractors, equipment suppliers and ProTen or Integrator staff from other regions.

3.2 Internal Visitors

Internal visitors are classified as any person that resides and or works within the local growing region. This group generally pertains to ProTen staff, local integrator staff, local contractors and local visitors.

3.3 International Visitors

Visitors or staff arriving from overseas are not allowed to have contact with any farming site within **7 days** after returning/arriving in Australia.

Note – All persons that have recently returned from overseas that are displaying flu like symptoms must not be allowed to enter farming site without authorisation from a ROM.

Prior to entry

All visitors must be informed of the Bio Security requirements of the Farm and complete a Visitor Declaration and other documentation as required before entering any site. Clean clothing and footwear must be worn when visiting a ProTen site.
PPE to be provided on site - Disposable overalls, boot covers or farm footwear, hairnet as a minimum.
Shower on facilities – A head to toe shower may be required on some sites prior entry on the site.

3.4 Baiada Poultry Farming Facilities

Direct farm staff

- Staff working on a single farm may attend that farm at anytime as per their work roster. Normal biosecurity procedures must be followed at all times.
- Direct contact with poultry must be avoided whilst travelling to work
- Clean clothing is to be worn to work and no external footwear is to be worn in the production area.
- Staff visiting or rostered on other farms must comply with the guidelines for internal visitors when going to another farm and back to their normal farm of work.

3.4.1 Internal visitors

non ILT farms

- 4 Farms per day – following age order from youngest to oldest

ILT farms (including suspect)

- 48 hrs before visiting non-infected farms
- Multiple ILT farms per day within zones (following age order)

3.4.2 External and overseas visitors

Stand down time of **7 days** is required without having contact with poultry farms, pigs and abattoirs or any other avian species before visiting any other ProTen site**.**
Visitors arriving from overseas must be in Australia for **7 days** prior to visiting a farming site.

Were access is required under **7 days** or the visitor has contact with poultry as part of their normal place of work, permission must be approved by Baiada's Livestock Manager for the specific region.

Note – Visitors must not wear clothing or footwear that is worn on sites external to the site they are visiting.

Note – Minimum stand down may be increased during disease outbreaks in a region.

3.5 Other Poultry Processors

Direct farm staff

- Staff working on a single farm may attend that farm at any time as per their work roster. Normal biosecurity procedures must be followed at all times.
- Direct contact with poultry must be avoided whilst travelling to work
- Clean clothing is to be worn to work and no external footwear is to be worn in the production area.
- Staff visiting or rostered on other farms must comply with the guidelines for internal visitors when going to another farm and back to their normal farm of work.

3.5.1 Internal visitors

non ILT farms

- Different zones within a region – overnight between farms
- Farms within a zone in each region – Multiple farms per day (following age order – youngest to oldest)

ILT farms (including suspect)

- 48 hrs before non-infected farms
- Multiple ILT farms per day within zones (following age order)

3.5.2 External and overseas visitors

Stand down time of **7 days** are required without having contact with poultry farms, pigs and abattoirs or any other avian species before visiting any other ProTen site**.**

Where access is required under **7 days**, permission must be granted by the Operations Manager (OM) for the region.

Note – Visitors must not wear clothing or footwear that is worn on sites external to the site they are visiting.

Note – Minimum stand down may be increased during disease outbreaks in a region.

3.6 Emergency Situations

Emergency situations are where people, animals or infrastructure is at imminent threat of injury, loss or significant damage. Under these situations, farm management should use their discretion for the entry in order to prevent injury or loss. ROM's should be contacted within reasonable timeframes to assist with the management of these situations.

Guidelines:

Emergency services – unrestricted access as required.

Contractors – Brief assessment as to the quarantine status should be conducted.

Note – where time permits interim measures may be applied for a contractor to minimize threat of transmission of disease. Consult with ROM in these instances.

3.7 Vehicles & Equipment

All vehicles entering a production area must enter through and use the wheel wash facility on each site.

These facilities may be automated or require manual use.

Wheel wash facilities must be regularly checked and maintained to ensure they are working correctly and that they have sufficient chemical in place.

Note – Statutory requirements regarding vehicle entry and exiting must be followed at all times if implemented.

4 Living Arrangements

4.1 Working Family Members or Guests

Family members or guests residing in a house located on a ProTen farm, are not permitted to be employed at or come into regular contact with non-ProTen sites that produce or are used to produce poultry, pigs or other avian species.
Cohabitation restrictions may apply to household members who wish to work on other ProTen farms.

5 Bio Security Procedures for ProTen Farms

5.1 Documentation

Each production facility must keep a copy of the following Biosecurity Manuals and they must be accessible to staff at all times.

- National Farm Biosecurity Manual Poultry Production- National Water Biosecurity Manual Poultry Production.
- National Farm Biosecurity Manual for Chicken Growers.
- Model Code of Practice for the Welfare of Animals: Domestic Poultry.

State Specific
- Victoria Sites - Code of Accepted Farming Practice for the Welfare of Poultry.
- Western Australia Sites – Code of Practice for Poultry in Western Australia.
- Integrator Bio Security Manual.

5.2 Training

Staff must be provided with training in the relevant parts of the manual and such training is to be recorded on the Training Record Log.

5.3 Facility Standards

5.3.1 The production area must have a perimeter fence or otherwise well-defined boundary (e.g. creek, vegetation) establishing a clearly defined biosecurity zone.

5.3.2 If livestock graze the property then the production area must have a stock proof fence. Grazing near the production area is only permitted where the grazing area is separated by a stock proof barrier from the area used by poultry, effectively preventing transmission of contaminants from grazing livestock to poultry, and the grazing area is not used for access to other parts of the production area. Drainage from livestock pastures or holding areas must not enter poultry enclosures or areas that can be accessed by poultry.

5.3.3 A sketch or map of the layout of the property, showing the production area, sheds, ranges, access roads and gates must be kept up-to-date.

5.3.4 The main entrance to the production area must be capable of being closed to vehicle traffic (e.g. lockable gate) and must display appropriate signage including Bio secure Area No Entry unless

authorised or similar wording. In addition, signage must direct visitors to contact the manager before proceeding i.e. telephone number and/or enquire at house.

Example of Signs:

5.3.5 There must be a parking area for vehicles not entering the production area with sign indicating Visitor Parking. There must be a change area away from sheds with clean protective clothing and boots/over boots provided.

5.3.6 Entry to sheds must only be made through entrances with a footbath containing a suitable disinfectant used in accordance with manufacturer's instructions and changed on a regular basis. There must be provision for scraping the soles of boots before dipping to ensure the sanitiser makes contact with the soles of the boots. Facilities for hand sanitation must also be placed at the entry to each shed.

5.3.7 Bird Mortality disposal method must conform to the following requirements –

- Dead birds and culls should be promptly removed from sheds. Normally by 10am each day. These are to be taken to the mortality storage area and transferred into storage containers that do not come into the production area.
- Mortalities must be collected regularly from the property. Mortalities should be stored in a freezer if the frequency of collection is likely to cause environmental impacts or increased biosecurity risk.
- If used, the freezer must have sufficient capacity to adequately handle carcasses between collections and must be cleaned and sanitised between batches.
- Collection area must be as far as practical away from the production area so that the collection vehicle does not enter the site.
- All containers used for collecting mortalities must be washed and disinfected before returning them to the production area.
- Bins or containers that store dead birds should not be taken into the production area. ROM approval may be granted under special circumstances only.

- Bird Mortalities and containers must not be left in the public view and be stored/covered to prevent access by birds, foxes and cats.
- All poultry housing must be designed and maintained so as to prevent the entry of wild birds, foxes and cats and limit the access of vermin as far as is practical.
- Landscape - The area around sheds must be kept free from debris and vegetation and should be mown regularly. Vegetation buffers for environmental compliance should not be compromised. Trees may be used as shelter belts along fence lines.

5.3.8 Drainage - The production area should be adequately drained to prevent accumulation and stagnation of water likely to attract water fowl, especially in the areas around sheds and range areas.

5.3.9 An appropriate vermin control plan must be developed and implemented, including rodents, foxes, and wild dogs and cats.

A baiting program for rodents must be implemented. Baiting programs must include the following features:

- bait stations must be numbered and a map kept of their location.
- bait stations must be placed at 10m intervals around the sheds.
- sufficient bait stations must be positioned in all farm building and around key infrastructure.
- bait stations must be designed to minimise the opportunity for other mammals and birds to access the bait. Stations must be designated as rodent bait stations.
- bait rotation plans must be followed.
- bait stations must be checked a minimum of once per week. Bait stations may need extra checks and bait replenished during high infestation periods.
- Rodent control and activity including bait replacement is to be recorded on the required form.

5.3.10 Drinking water, cooling water and water used for the production of poultry, must meet appropriate water standards as per the Water Biosecurity Manual.

5.3.11 Only commercially produced avian species (supplied by integrator) are to be kept in the production area and no other avian species (including aviary birds and pet birds) or pigs are to be kept on the property.

5.3.12 Feeding systems must be enclosed (except pans and hoppers) to ensure that feed in silos and feed delivery systems are protected from access and contamination by wild birds and rodents. Feed spills should be cleaned up without delay to prevent the congregation of wild birds.

5.3.13 All equipment used for the purpose of poultry production must be based on the farm. Sharing of day to day equipment between farms is not permitted without authorisation from ROM.

5.3.14 All equipment, implements, vehicles and on farm clothing must be thoroughly washed and sanitised between batches.

5.3.15 Sheds, building and amenities are to be kept clean and tidy at all times and must be cleaned between batches. Sanitising should take place were possible.

5.3.16 Internal practices should limit the build-up of litter on site during a batch and all litter must be removed off the farm between batches.

Note – Multi batch litter may be carried out at the discretion of the integrator.

5.3.17 Facilities are to be available for the cleaning and disinfection of vehicles and equipment before entry.

- Wheel wash facility
- Hose with adjustable nozzle
- Sanitising capability

Front entry wheel wash facilities must be in good working order at all times and only approved chemicals are to be used.

5.3.18 Range areas must be maintained and kept according to free range standards for each grow out area.

6 Personnel Standards and Procedures

6.1 Production Personnel

- Production area personnel or any person residing on the property must avoid contact with any other poultry, avian species (birds) or pigs.
- Production area personnel must wear laundered clean clothes each day at the commencement of their work. Personnel must ensure that they do not become contaminated by contact with avian species or pigs on their way to work.

- It is critical that boots worn in sheds and used on the farm are not worn or taken outside the production area. Work boots must be left at the farm.
- For production areas that have change areas and clothes washing facilities, staff may be required to leave work uniforms at the farm. In these circumstances, clothes are to be laundered and remain on site at all times.
- Production facilities must provide showering facilities and they must be accessible at all times.

6.2 Repair and Maintenance

- Repair and Maintenance staff or contractors must meet farm access requirement as per **Section 3 - Bio Security Procedures for entry onto ProTen sites.**

- Emergency repair and maintenance by contractors who have had contact with poultry, other birds or keep birds at their home must not enter sheds and/or ranges populated or ready to be populated with birds unless it is an emergency and or approved by ROM.

If required the following practices should be implemented where practical:

a) the contractor should have showered from head-to-toe and changed clothes and boots and wear a hair covering.
b) avoid entry into areas populated by birds
c) vehicles left off site
d) use of farm ladders and tools etc

Routine maintenance should be conducted, where possible, between batches prior to final disinfection where a batch system is practiced.

Tools and equipment taken into the production area must be cleaned before entry into sheds and must be free of dust and organic matter.

6.3 Contractors, Suppliers, other Service Personnel and Visitors

Conditions of entry to poultry sheds and poultry ranges - all visitors and contractors must agree to comply with the entry conditions as stipulated by the site entry rules and such visits must be approved by the manager before visitors may enter sheds and ranges.

Visitors' log—a record must be kept of all visitors (non-production area staff) to the production areaincluding company personnel. This will be available through online induct or the onsite visitors register.

All required visitor declaration documentation and statutory documentation must be completed prior to entry to the production area (ref to forms or appendix).

All visitors are to park their vehicles outside the production area unless it is essential that the vehicle be taken on site in the area designated as 'Visitor Parking'.

Vehicles and equipment must be inspected by farm management to ensure it is clean and free of organic matter – eg particular attention should be made for equipment that may enter sheds - ladders and tools etc.

6.4 Requirements for Specified Movements

Feed truck drivers must comply with integrator's requirements – generally they are to wear protective clothing and over boots whilst on farm.

Feed and delivery drivers must not enter sheds at any time.

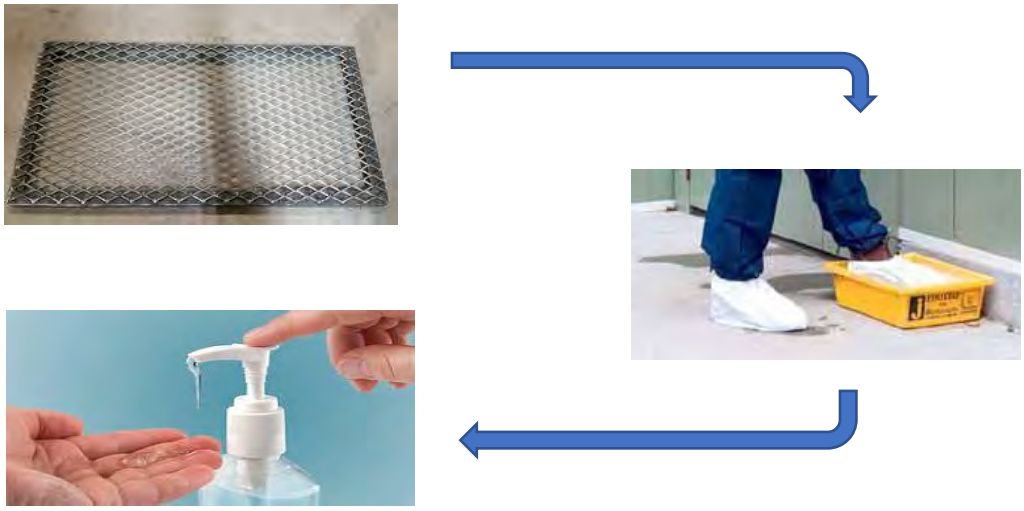
There must be a system for tracing movements of delivery personnel (e.g. through delivery dockets and feed company records).

6.5 Entry Procedures for Sheds and Ranges

Any person entering shed or range must sanitise hands and use footbaths before entering each area.

- Soles of boots must be scraped before disinfecting in the footbaths.
- A hand sanitiser must be available at all shed entrances and must be used before entering.

- All persons must use footbaths when exiting sheds and ranges when instructed.



6.6 Moving Equipment Between Farms in a Region

Where equipment is moved between farms it is critical that the equipment is clean and sanitised before doing so. The following points must be adhered to at all times:

- It is the responsibility of the farm transferring the equipment to ensure that the equipment is free of organic matter and is in a clean and acceptable condition prior to transferring.
- The equipment should be washed and sanitised where the equipment has been used inside poultry sheds.

It is the responsibility of the receiving farm to do the following regarding transferred equipment:

- Inspect the equipment to ensure the equipment is clean
- Sanitise before use if applicable
- Stand down equipment for a minimum of 2 days

Where equipment is being transferred from a farm < 14 days, an overnight stand down is required.
Where equipment is being transferred from a farm ≥ 14 days, the equipment is to be quarantined for a minimum of **2 days (3 nights)** before entering the production area.

6.7 Moving Equipment between Regions

Where equipment is to be transferred between regions, the risk of transferring new diseases is increased. Therefore, it is critical that no equipment is sent or received from another region without authority of a ROM.

The same procedures for internal movements are required for interregional equipment.

7 Level 2 Emergency Biosecurity

7.1 Action plan for Suspected Emergency Animal Disease

- Should a manager observe an unusual increase in mortality or a significant drop in production they are required to report this immediately to the ROM.
- The ROM is required to discuss the facts with the OM where it is deemed that the losses or impact to the business is significantly higher than normal or where there it is suspected that there is a reportable disease.
- The OM is the only company employee that is empowered to order the implementation of Level 2 Biosecurity procedures.
- This decision will be made in consultation with the CEO and Integrator.
- If an alert is raised, movement of birds must cease immediately, other movements on and off the property must be limited to the absolute minimum, and special precautions must be taken as outlined below.
- If an emergency animal disease alert is raised the following action plan must be followed.

7.2 Facilities

- Gates must be kept locked at all times.
- Shed doors must be locked at all times when no staff are on farm.
- Facilities for the cleaning and disinfection of equipment coming on and off the production area must be in place and in good working order at all times.

7.3 Personnel

- No visitors are to enter the production area unless absolutely essential. Company personnel will discontinue routine visits.
- Repairs and maintenance - no routine work, only emergency work to be carried out.

7.4 Operational

- Essential visits—head-to-toe shower before and after visit. A complete change of clothes, footwear, hair covering and breathing protection is required. Used clothing and all used personal protection equipment must remain on the property.
- Any vehicle which must enter the property must be washed and disinfected before and after going onto the property (e.g. feed trucks, gas). Vehicle driver cabins must also be sanitised inside.
- No birds or litter to be moved on or off properties until disease status is clarified.
- If a major outbreak should occur, further measures will be stipulated by ProTen, the integrator and/or the state's Chief Veterinary Officer.

7.5 Standard Operating Procedures (SOP's)

Standard operating procedures will be available for any specific outbreak of an emergency animal disease from Animal Health Australia in accordance with AUSVETPLAN (see www.animalhealthaustralia.com.au)

8 High Risk Bio Security Procedures

These are in addition to the routine procedures and should be implemented in the event of outbreaks of unknown and/ or serious diseases on a farm.

- No visitors.
- Essential entry to site only.
- Only essential maintenance to be carried out.
- Company personnel to shower both on and off farm.
- People required to enter a farm under high risk situations must not visit other farms without reviewing current movement timeframes.
- Staff should not travel to work with staff from another farm.
- If vehicles have to enter farm, these vehicles must be washed and sanitized before leaving.
- Mortalities must be taken and or stored at designated locations.

Note - If at any time issues occur with following increased biosecurity measures the ROM should be contacted.

9 General Procedures

On rare occasions issues may arise where normal rules and guidelines need to be modified to suit certain operational situations. When this occurs a risk assessment will be carried out and appropriate control measures put in place. At no stage will ProTen expose the birds to possible disease risks. Only OM may authorise changes to normal biosecurity protocol.

Note - Employees should **NOT** consider these situations as normal Bio-Security protocol.

Contact with high risk animals and or birds through recreational activities exposes the birds to the same risks as common exposure situations. Visiting pet shops, zoos, wildlife sanctuaries and hunting of birds and pigs in particular should be avoided where possible. Where a staff member is involved or finds themselves in one of these or similar situations, they should advise management prior to entry to farming areas and quarantine exclusion periods and procedures should be followed as per Section 3.
This will enable a risk evaluation to be carried out prior to placing the birds at possible risk.

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Appendix G:

Aboriginal Cultural Heritage Management Plan (ACHMP)

View northeast across Poultry Production Unit 1 location.

ABORIGINAL CULTURAL HERITAGE MANAGEMENT PLAN

RUSHES CREEK POULTRY FARM

RUSHES CREEK, NSW

AUGUST 2022

Report prepared by

OzArk Environment & Heritage

For ProTen Tamworth Pty Ltd

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Acknowledgement

OzArk acknowledge Traditional Owners of the area to which this plan applies and pay respect to their beliefs, cultural heritage and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

CONTENTS

FIGURES

TABLES

1 INTRODUCTION

This Aboriginal Cultural Heritage Management Plan (ACHMP) for the Rushes Creek Poultry Production Farm (herein referred to as the Development) has been prepared by OzArk Environment & Heritage (OzArk) on behalf of ProTen Tamworth Pty Ltd (ProTen; the Proponent).

The Development, approved as State Significant Development (SSD) 7704 on 16 April 2020, comprises a poultry farm which will be located on 1016 hectares (ha) of rural land in an area known as Rushes Creek (the Development Site), approximately 12 kilometres (km) southwest of Manilla, NSW (**Figure 1-1**).

1.1 SCOPE

This ACHMP has been prepared as a tool to give consideration to and to manage Aboriginal heritage related issues during the construction and operation of the Development. It will be used by all Development employees, contractors, sub-contractors and visitors as the first point of reference for Aboriginal cultural heritage related issues.

This ACHMP synthesises the recommendations made during the preparation of an Environmental Impact Statement (EIS) for the Development, and subsequent assessment and approval of SSD-7704 (**Section 2**).

Following finalisation of the ACHMP, ProTen is now establishing the Development in stages, with Stage 1 comprising Farm 2 and Stage 2 comprising Farms 1, 3 and 4. While construction of Stage 1 has commenced, construction of Stage 2 is anticipated to be delayed and, as such, salvage/fencing of the Aboriginal sites within Stage 2 is not currently required. The management measures regarding Aboriginal sites and Stage 2 of the Development are outlined in **Section 5**.

1.2 PURPOSE

The primary purpose of the ACHMP is to define management of Aboriginal heritage values in accordance with the Development Consent (refer to **Section 2** and **Table 2-1**). In order to achieve this, the ACHMP:

- details the management procedures for known Aboriginal heritage within the Development Site
- details reporting requirements
- outlines and describes ongoing Aboriginal consultation
- outlines the obligations of construction personnel to protect Aboriginal sites
- describes the roles and responsibilities of project staff in managing Aboriginal heritage sites before and after salvage works
- provides for continuous improvement through auditing and modification of the ACHMP.

1.3 DEVELOPMENT OVERVIEW

The Development, approved as SSD-7704, comprises four individual poultry production units (PPUs), which are identified as Farms 1 to 4, where broiler birds will be grown for the purpose of producing poultry meat (for human consumption). Each farm will contain between 10 and 18 tunnel-ventilated fully-enclosed climate-controlled poultry sheds, which will each have the capacity to house 56,500 birds, along with associated support and servicing infrastructure. The Development will comprise a total of 54 poultry sheds, housing a combined site population of 3,051,000 birds.

Table 1-1 provides a summary of the various components of the Development and **Figure 1-2** shows the impact footprint of Development.

Table 1-1: Development description summary.

Aspect	Details
Purpose	Birds grown for the purpose of producing poultry meat
Number of PPUs	Four - Farms 1, 2, 3 and 4
Total disturbance footprint	Approximately 87.78 ha
Number of poultry sheds	Farm 1 – 10 sheds Farm 2 – 18 sheds Farm 3 – 10 sheds Farm 4 – 16 sheds
Type of poultry sheds	Tunnel-ventilated, fully-enclosed, climate-controlled
Poultry shed dimensions	160 metres (m) long by 18 m wide by 4.7 m high (to roof ridge)
Poultry shed areas	Each shed – 2,880 square metres (m^2) Total – 155,520 m^2
Bird numbers	Each shed - 56,500 birds Farm 1 – 565,000 birds Farm 2 – 1,017,000 birds Farm 3 – 565,000 birds Farm 4 – 904,000 birds Total – 3,051,000 birds
Maximum bird density within sheds	34 kilograms per square metre (kg/m^2)
Hours of operation	24 hours a day, 7 days a week
Production cycle length	Approximately 65 days, comprising a maximum bird occupation of 55 days and a cleaning phase of 10 days
Production cycles per year	Approximately 5.6 on average
Support/servicing infrastructure	* Eight houses to accommodate farm managers • Two access driveways from Rushes Creek Road and internal access roads • Water supply infrastructure to extract, transfer, treat and store water from the Namoi River • Reticulated electrical supply infrastructure • Bedding material storage shed • Two dead bird freezers • At each PPU: staff amenities and workshop (office, change rooms, toilets, workshop, chemical store and pump room); feed silos; water storage tanks; solar panels; fuel and gas storage facilities; generators; vehicle wheel wash; ring roads; surface water management system, including upstream diversions; and aerated wastewater treatment system (AWTS)
Vehicle access	Two access driveways from Rushes Creek Road constructed to accommodate a basic left turn (BAL) treatment.

Aspect	Details
	Internal access roads and ring roads around each PPU constructed as all-weather rural-type roads

Figure 1-1: Location map of the Development Site in relation to Manilla.

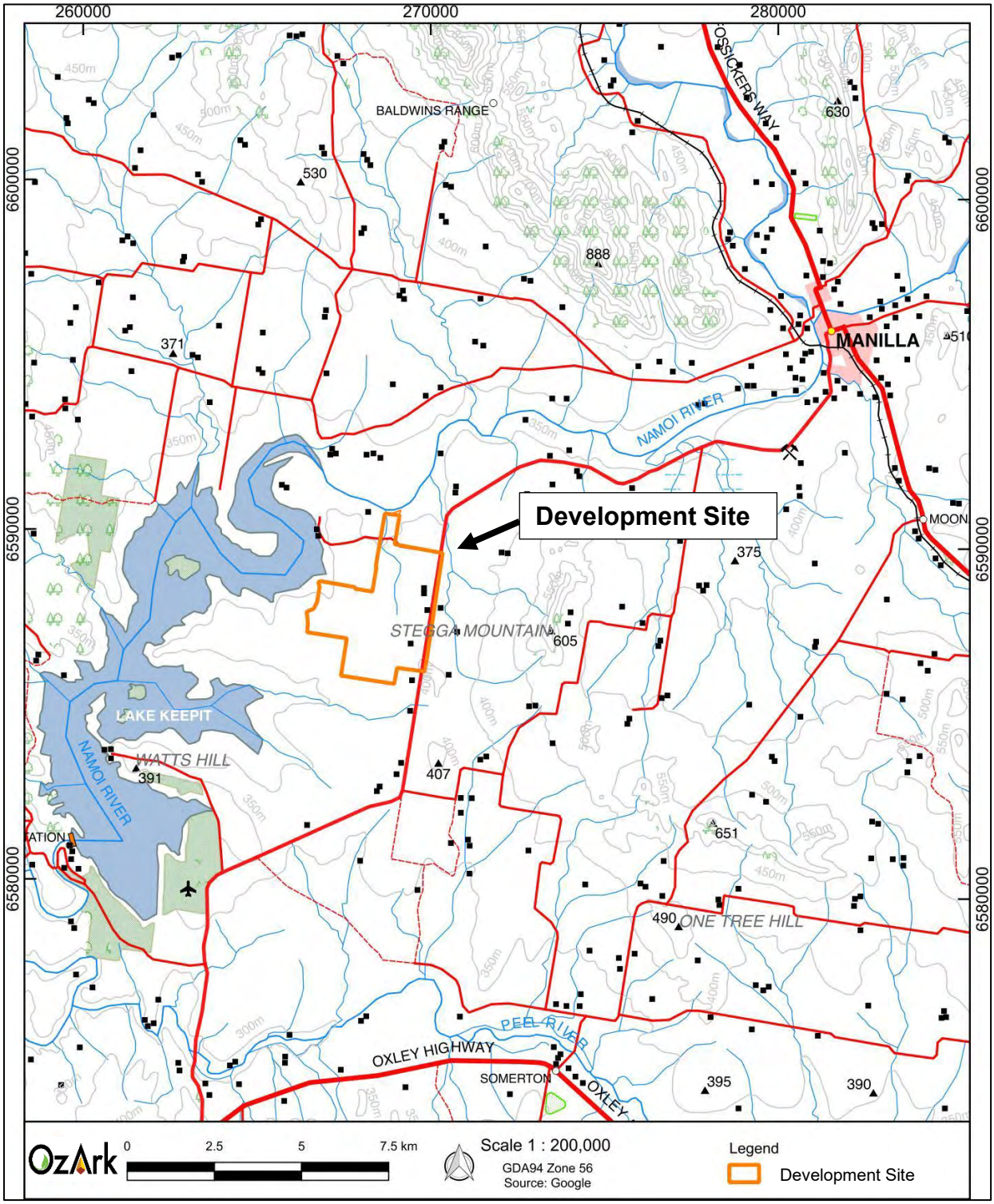
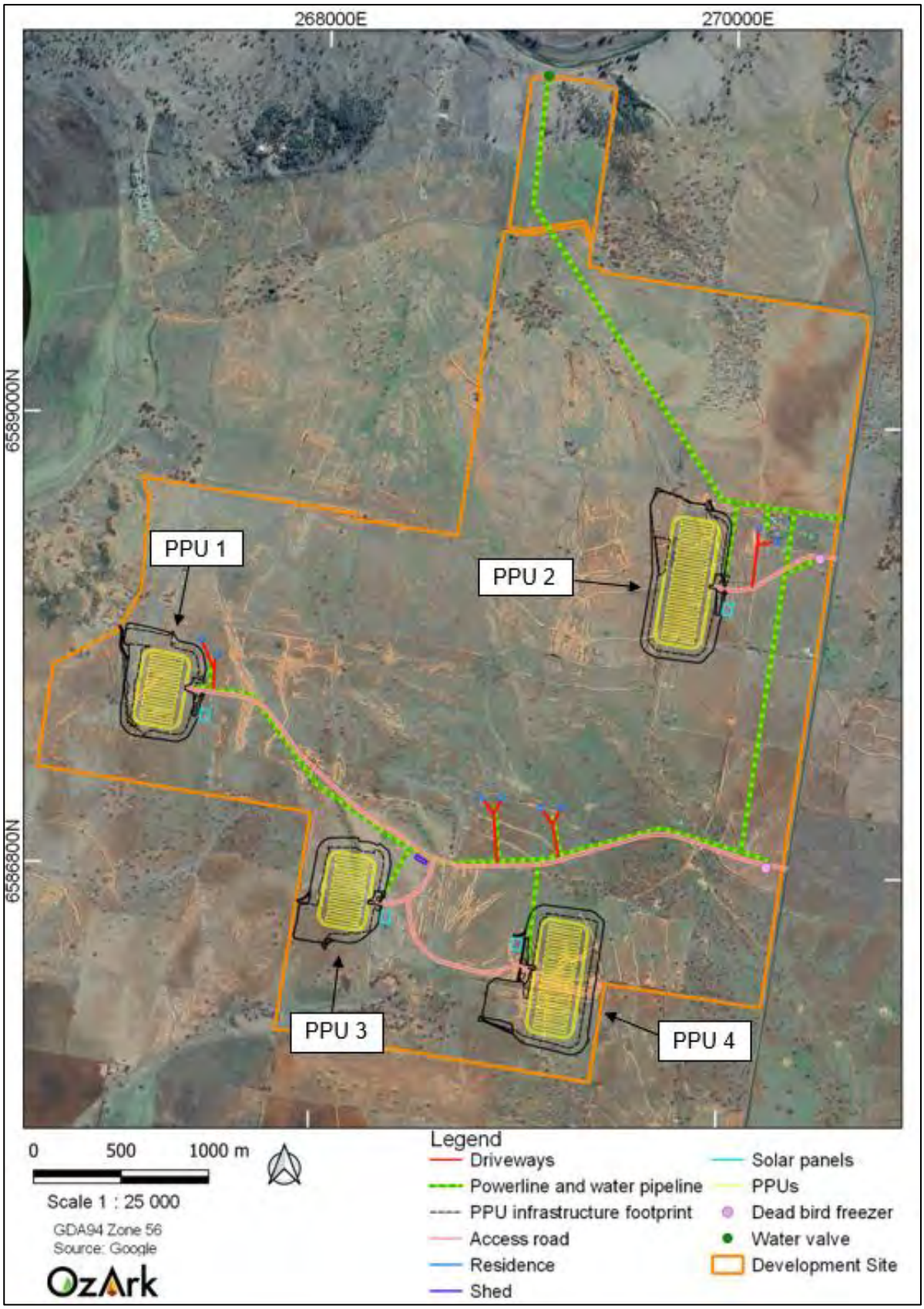


Figure 1-2: The Development Site and infrastructure layout.



2 LEGAL AND OTHER REGULATORY REQUIREMENTS

2.1 DEVELOPMENT CONSENT CONDITIONS

The Development is an SSD and an EIS was completed (SLR Consulting Australia Pty Ltd 2018) in accordance with clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* to assess the environmental impacts (including Aboriginal cultural heritage) of the Development Site.

Development Consent SSD-7704 was granted from the Minister for Planning and Public Spaces on 16 April 2020, with *Condition B33* requiring the preparation of an ACHMP. **Table 2-1** identifies all the conditional requirements relating to Aboriginal heritage and identifies where in the ACHMP individual requirements have been addressed.

Appendix 1 includes a copy of the 'relevant conditions' for which this ACHMP provides measures to ensure compliance, namely *Condition B33* to *B36*.

Table 2-1: Conditional requirements of SSD-7704 for an ACHMP.

Condition	Section in this ACHMP
B33. Before the commencement of any clearing or construction works, the Applicant must prepare an ACHMP for the development. The plan must form part of the CEMP required by condition C2 and must: a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties and the Environment, Energy and Science Group b) be submitted to the satisfaction of the Planning Secretary prior to construction of any part of the development c) describe the management actions of all Aboriginal sites within the development site d) describe the measures to salvage the artefacts at Happy Hills-IF3, Bondah-IF1, Bondah-IF2, Bondah-IF7, Bondah-IF8, Happy Hills-OS3 and Bondah-OS11, including mapping, analysis and collection, and protect them in perpetuity e) include a program of excavation and reporting of the feature known as Bondah-H1, in consultation with the Registered Aboriginal Parties (RAPs).	a) **Section 3** b) **Section 3.1** c) **Section 6** d) **Section 6.1.2**[1] e) **Section 2.2**
B34. The Applicant must: a) not commence construction until the Aboriginal Cultural Heritage Management Plan is approved by the Planning Secretary b) implement the most recent version of the Aboriginal Cultural Heritage Management Plan approved by the Planning Secretary for the duration of the development.	This ACHMP accords with the condition.
B35. If any item or object of Aboriginal heritage significance is identified on site: a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately b) a 10 metre wide buffer area around the suspected item or object must be cordoned off c) the Heritage Division of the Department of Premier and Cabinet must be contacted immediately.	**Section 7**
B36. Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.	**Section 7.1** and **7.2.2**

[1] An attempt to salvage Bondah-IF1 and Bondah-IF2 was completed by OzArk on 24 August 2021. These sites are now registered as 'destroyed' on AHIMS.

2.2 CONDITION B33 (E): EXCAVATION OF BONDAH-H1

Bondah-H1 is a hearth located in the north of the Development Site (**Figure 4-1**). The hearth is located approximately 455 metres (m) from the nearest Development impact: the water pipeline and powerline. As such, no management measures were recommended for the site within the ACHAR prepared by OzArk (2018).

Despite this, excavation of the hearth has been included as a condition by Heritage NSW in the Development Consent. Condition B33 (e) states the ACHMP must:

> *include a program of excavation and reporting of the feature known as Bondah-H1, in consultation with the Registered Aboriginal Parties (RAPs).*

Consultation was undertaken with the RAPs to determine whether they supported the partial excavation of the hearth for dating purposes. As part of the draft ACHMP which was distributed to RAPs for their review, a proposed methodology was included for the excavation and reconstruction of the hearth following retrieval of a suitable sample for dating.

The majority of RAPs who provided feedback regarding the excavation of Bondah-H1 have stated that they do not support the excavation of the site (**Section 3.2.2.1** and **Table 3-1**). As such, OzArk prepared a letter which was sent to Heritage NSW requesting Condition B33 (e) be retracted from the Development Consent as per the request of the RAPs. A letter from Heritage NSW dated 4 May 2021 stating that “Heritage NSW supports the decision not to excavate site ‘Bondah-H1’ (**Appendix 2**).

3 CONSULTATION

3.1 GOVERNMENT CONSULTATION

As outlined in *Condition B33(a)* of the Development Consent, the ACHMP must be prepared in conjunction with the Environment, Energy and Science Group (henceforth Heritage NSW) and be submitted to the Department of Planning, Industry and Environment (DPIE) prior to any construction to satisfy *Condition B33(b)* (**Table 1-1**).

Accordingly, a copy of this ACHMP was provided to Heritage NSW on 8 March 2021 for their review and comments. Endorsement of the ACHMP was received from Heritage NSW on 4 May 2021 and is presented in **Appendix 2**.

Endorsement of the ACHMP was received from DPIE on 14 May 2021 (**Appendix 2**).

3.2 ABORIGINAL COMMUNITY CONSULTATION

3.2.1 Aboriginal parties consulted

Details of Aboriginal community consultation undertaken for *the Aboriginal Cultural Heritage Assessment Report* is detailed in OzArk 2018. The assessment followed the guidelines contained in the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010b). In summary, the following RAPs were identified and consulted with respect to proposed management of Aboriginal sites.

- Tamworth Local Aboriginal Land Council (LALC)
- T&G Culture Consultants
- Richard Slater
- DFTV Enterprises
- Gomery Cultural Consultant
- Brian Draper
- White Cockatoo Aboriginal Corporation
- Gomeroi People NC2011/006
- Natasha Rodgers
- AT Gomilaroi Cultural Consultancy
- Veronica Talbott.

3.2.2 Consultation in developing this ACHMP

During the drafting of this ACHMP, the RAPs listed in **Section 3.2.1** were consulted.

A log regarding the consultation is provided in **Appendix 3 Figure 1**.

3.2.2.1 Hearth excavation and long-term management of artefacts

A letter was initially sent to all RAPs to provide some background on the approval of the Development on 13 November 2020 (**Appendix 3 Figure 2**). The letter also requested feedback on the following:

- Whether RAPs supported the partial excavation Bondah-H1 for dating purposes (as requested by Heritage NSW)
- The preferred option for the long-term management of salvaged artefacts.

Feedback received from RAPs on the excavation of Bondah-H1 and the long-term management of salvaged artefacts is tabulated in **Table 3-1**. RAPs not listed in **Table 3-1** were unable to be contacted for their response.

Table 3-1: Reponses from RAPs regarding the excavation of Bondah-H1 and the long-term management of salvaged artefacts.

RAP Group	Hearth to be excavated (yes or no)	Artefact management (Care Agreement or reburial / relocation)	Date of feedback	Feedback method
Tamworth LALC	No	Care Agreement	26 November 2020	Email
Gomery Cultural Consultation	Yes	Care Agreement	7 December 2020	Phone
Veronica Talbott	No	Reburial / relocation	7 December 2020	Phone
White Cockatoo Aboriginal Corporation	No	Reburial / relocation	8 December 2020	Phone
Gomeroi People NC2011/006 (Steve Talbott)	No	Reburial / relocation	12 December 2020	Phone

3.2.2.2 AFGM

Responses were received from two RAP groups (Gomeroi People NC2011/006 and White Cockatoo Aboriginal Corporation) requesting a meeting to discuss the ACHMP and proposed salvage. As such, an invitation to attend an Aboriginal Focus Group Meeting (AFGM) was sent to all RAPs on 22 January 2021 (**Appendix 3 Figure 4**).

The AFGM was held on Thursday 4 February 2021 at the Gunnedah Services and Bowling Club. The AFGM was attended by the following people (**Appendix 3 Figure 6**):

- Stephanie Rusden (OzArk)
- Julian Johnson (ProTen)
- Chris Fermon (Tamworth LALC)
- Kerry Morgan (White Cockatoo Aboriginal Corporation)

The meeting minutes are provided in **Appendix 3 Figure 7**.

3.2.2.3 ACHMP review

A draft copy of the ACHMP was sent to all RAPs on 22 January 2021 for their review (**Appendix 3 Figure 5**). Comments on the draft ACHMP were requested by Friday 19 February 2021.

Comments of the ACHMP were received from White Cockatoo Aboriginal Corporation and AT Gomilaroi Cultural Consultancy (**Appendix 3 Figure 8**).

OzArk's response to White Cockatoo Aboriginal Corporation is provided in **Appendix 3 Figure 9**.

3.2.2.1 Stage 1 salvage report

A copy of the salvage report for Stage 1 was sent to all RAPs on 18 November 2021.

3.2.3 Ongoing consultation protocols

RAPs will be kept informed with respect to activities and operations which may impact on Aboriginal heritage management.

Notification within a reasonably prompt timeframe will be issued to all Aboriginal parties where:

- significant changes to the Development may have implications for Aboriginal heritage management
- there is a discovery in the course of construction or operation of the Development, e.g. unexpected finds of Aboriginal ancestral remains or object(s)
- significant land management actions are required in Aboriginal site protection areas not envisaged by this ACHMP.

Issues raised by RAPs in conversations whether by telephone or in person in the course of ongoing consultation will be documented in writing by the Proponent or the Archaeologist involved in the correspondence. Only documented issues will be followed up.

RAPs will be consulted as part of any formal review of the ACHMP.

4 THE ABORIGINAL HERITAGE RESOURCE

4.1 IDENTIFIED ABORIGINAL CULTURAL HERITAGE

As a result of the archaeological assessment (OzArk 2018), 35 sites were identified within the Development Site. No previously recorded Aboriginal sites were present within the Development Site.

Table 4-1 lists the Aboriginal site types known to exist within the Development Site and **Table 4-2** provides details of the 35 sites within the Development Site. **Figure 4-1** and **Figure 4-2** show the location of the recorded Aboriginal sites within the Development Site.

Detailed descriptions and images of each site are provided in Section 5.4 of OzArk 2018.

Table 4-1: Aboriginal site types within the Development Site.

Site type	Number	Percentage of total (% rounded)
Isolated finds	17	49
Artefact scatters	13	37
Scarred trees	3	8
Artefact scatter with potential archaeological deposit (PAD)	1	3
Hearth	1	3

Table 4-2: Recorded Aboriginal sites within the Development Site.

AHIMS ID	Site Name	Site coordinates (GDA Zone 56)	Site Type	Site Description
20-5-0133	Happy Hills-IF1	269741E, 6586383N	Isolated find	Volcanic flake located on a contour bank, approximately 144 m) north of the Happy Hills southern property boundary.
20-5-0102	Happy Hills-IF2	268635E, 6586196N	Isolated find	Fine-grained siliceous flake located 60 m south of Plain Gully and 120 m west of a dam.
20-5-0101	Happy Hills-IF3	268267E, 6586496N	Isolated find	Volcanic flake located to the south of a contour bank, approximately 420 m east of the Happy Hills property boundary.
20-5-0100	Happy Hills-IF4	268641E, 6586796N	Isolated find	Fine-grained siliceous flake located on a farm track, approximately 1.4 km west of the more recent Happy Hills house.
20-5-0126	Bondah-IF1	269923E, 6588309N	Isolated find	Volcanic flake located on a contour bank, 180 m north of a dam and 12 m west of a drainage feature.
20-5-0127	Bondah-IF2	269837E, 6588361N	Isolated find	Fine-grained siliceous flake in a previously ploughed paddock, located 442 m southwest of the Bondah infrastructure complex.
20-5-0128	Bondah-IF3	269641E, 6587816N	Isolated find	Mudstone flake located on a contour bank, 330 m southeast of a dam and 25m west of a drainage feature.
20-5-0129	Bondah-IF4	268212E, 6587644N	Isolated find	Chert flake located within an eroding exposure along the edge of a drainage feature.
20-5-0122	Bondah-IF5	267996E, 6587325N	Isolated find	Mudstone flake located within an eroding exposure along the edge of a drainage feature.
20-5-0123	Bondah-IF6	267931E, 6587218N	Isolated find	Chert flake located within an eroding exposure along the edge of a drainage feature.

AHIMS ID	Site Name	Site coordinates (GDA Zone 56)	Site Type	Site Description
20-5-0124	Bondah-IF7	267260E, 6587726N	Isolated find	Chert flake located on a contour bank, 216 m northwest of a dam.
20-5-0125	Bondah-IF8	267098E, 6587759N	Isolated find	Basalt flake located within a previously ploughed paddock, 94 m northeast of a dam.
20-5-0121	Bondah-IF9	267425E, 6588036N	Isolated find	Basalt flake on a livestock track located 350 m south of a dam and 930 m southeast of the Namoi River.
20-5-0120	Bondah-IF10	267652E, 6587944N	Isolated find	Fine-grained siliceous flake with usewear on a contour bank located 2.6 km southwest of the Bondah infrastructure complex, 102 m north of a dam.
20-5-0119	Bondah-IF11	267549E, 6587933N	Isolated find	Chert flake located within an erosion scald along a drainage feature, 65 m north of a dam.
20-5-0118	Bondah-IF12	269195E, 6590574N	Isolated find	Chert flake on an ant nest located 640 m north of Ski Gardens Road and 115 m south of the Namoi River.
20-5-0116	Bondah-IF13	269157E, 6588907N	Isolated find	Mudstone flake located within an erosion scald along a drainage feature, 931 m south of Ski Gardens Road.
20-5-0105	Happy Hills-OS1	268294E, 6586054N	Artefact scatter	Nine stone artefacts manufactured from volcanic materials, chert and fine-grained siliceous materials. The site extent measures 126 m x 87 m and is located 124 m, north of the Happy Hills southern property boundary.
20-5-0104	Happy Hills-OS2	268144E, 6586277N	Artefact scatter	Five stone artefacts manufactured from fine-grained siliceous materials and chalcedony. The site extent measures 18 m x 59 m and is located 370 m west southwest of a dam and 295 m north of the Happy Hills southern property boundary.
20-5-0103	Happy Hills-OS3	268303E, 6586677N	Artefact scatter	Four stone artefacts manufactured from volcanic and fine-grained siliceous materials. The site extent measures 127 m x 42 m and is located 1.6 km west southwest of the more recent Happy Hills homestead, 560 m southeast of a dam.
20-5-0117	Bondah-OS1	269358E, 6590634N	Artefact scatter	Six stone artefacts manufactured from a fine-grained siliceous material located 670 m north of Ski Gardens Road and 130 m south of the Namoi River. The site extent measures 109 m x 38 m.
20-5-0115	Bondah-OS2	269042E, 6590711N	Artefact scatter	Four stone artefacts manufactured from chert, quartz and fine-grained siliceous material situated on a gentle to moderately sloped bank of the Namoi River. The site extent measures 12 m x 21 m.
20-5-0107	Bondah-OS3	269140E, 6589451N	Artefact scatter with PAD	Artefact scatter consisting of 12 separate artefact location areas with artefacts manufactured from a variety of materials including fine-grained siliceous materials, silcrete, jasper, basalt and quartz. The site is located at the confluence of two second order tributaries of the Namoi River. The site extent measure 978 m x 326 m.
20-5-0110	Bondah-OS4	268883E, 6589353N	Artefact scatter	Artefact scatter consisting of more than 10 stone artefacts manufactured largely from fine-grained siliceous materials and a possible manuport. Artefacts are present along the banks of a drainage line to the south of Bondah-OS3. The site extent measures 398 m x 84 m.
20-5-0111	Bondah-OS5	269259E, 6589134N	Artefact scatter	Artefact scatter consisting of 17 stone artefacts manufactured from basalt, chert, fine-grained siliceous materials and jasper. Artefacts are present along the banks of a

AHIMS ID	Site Name	Site coordinates (GDA Zone 56)	Site Type	Site Description
				drainage line to the south of Bondah-OS3. The site extent measures 80 m x 122 m.
20-5-0112	Bondah-OS6	267419E, 6588351N	Artefact scatter	Artefact scatter consisting of nine stone artefacts manufactured from basalt, fine-grained siliceous material and chalcedony located on a gentle to moderately sloped creek bank. The site extent measures 33 m x 17 m.
20-5-0113	Bondah-OS7	267707E, 6587821N	Artefact scatter	Artefact scatter consisting of two flakes manufactured from volcanic materials located on the bank of a drainage line. The site extent measures 36 m x 50 m.
20-5-0114	Bondah-OS8	267956E, 6587767N	Artefact scatter	Artefact scatter consisting of three flakes manufactured from a volcanic material, a fine-grained siliceous material and quartzite. The site comprises two areas of exposure either side of the drainage line. The site extent measures 140 m x 38 m.
20-5-0109	Bondah-OS9	267638E, 658532N	Artefact scatter	Artefact scatter consisting of two flakes manufactured from chert and mudstone located on the edges of a heavily eroded drainage line. The site extent measures 183 m x 91 m.
20-5-0108	Bondah-OS10	267505E, 6587166N	Artefact scatter	Artefact scatter consisting of two flakes manufactured from mudstone recorded within an area of exposure at the base of an area of basalt outcropping. The site extent measures 13 m x 11 m.
20-5-0106	Bondah-OS11	267123E, 6587441N	Artefact scatter	Artefact scatter consisting of two stone artefacts manufactured from a fine-grained siliceous material located 218m south east of a dam. The site extent measures 22 m x 4 m.
20-5-0134	Bondah-H1	269169E, 6589145N	Hearth	A hearth comprised of heat fractured rocks, however, no evidence of burning or charcoal was evident on the surface. The site is located 1.7 km south of the Namoi River and 650 m south of Ski Gardens Road and west of Bondah-OS5.
20-5-0131	Happy Hills-ST1	268684E, 6586958N	Scarred tree	Scarred tree located adjacent to an ephemeral first order tributary of Plain Gully on a mid to lower slope landform within a vegetated corridor between an existing ploughed paddock and access road. The scar is 105 centimetres (cm) long and is 33 cm wide. The scar is orientated to the southwest.
20-5-0132	Happy Hills-ST2	268363E, 6587137N	Scarred tree	Scarred tree located adjacent to an ephemeral first order tributary of Plain Gully on a mid to lower slope landform within a vegetated corridor between an existing ploughed paddock and access road. The scar is 140 cm long and is 38 cm wide. The scar is orientated to the northwest.
20-5-0130	Happy Hills-ST3	268207E, 6585970N	Scarred tree	Scarred tree located within a grassed paddock surrounded by a number of mature isolated trees on a lower slope landform. The scar is 132 cm long and is 28 cm wide. The scar is orientated to the south.

Figure 4-1: Location of recorded isolated finds, scarred trees, and the hearth within the Development Site.

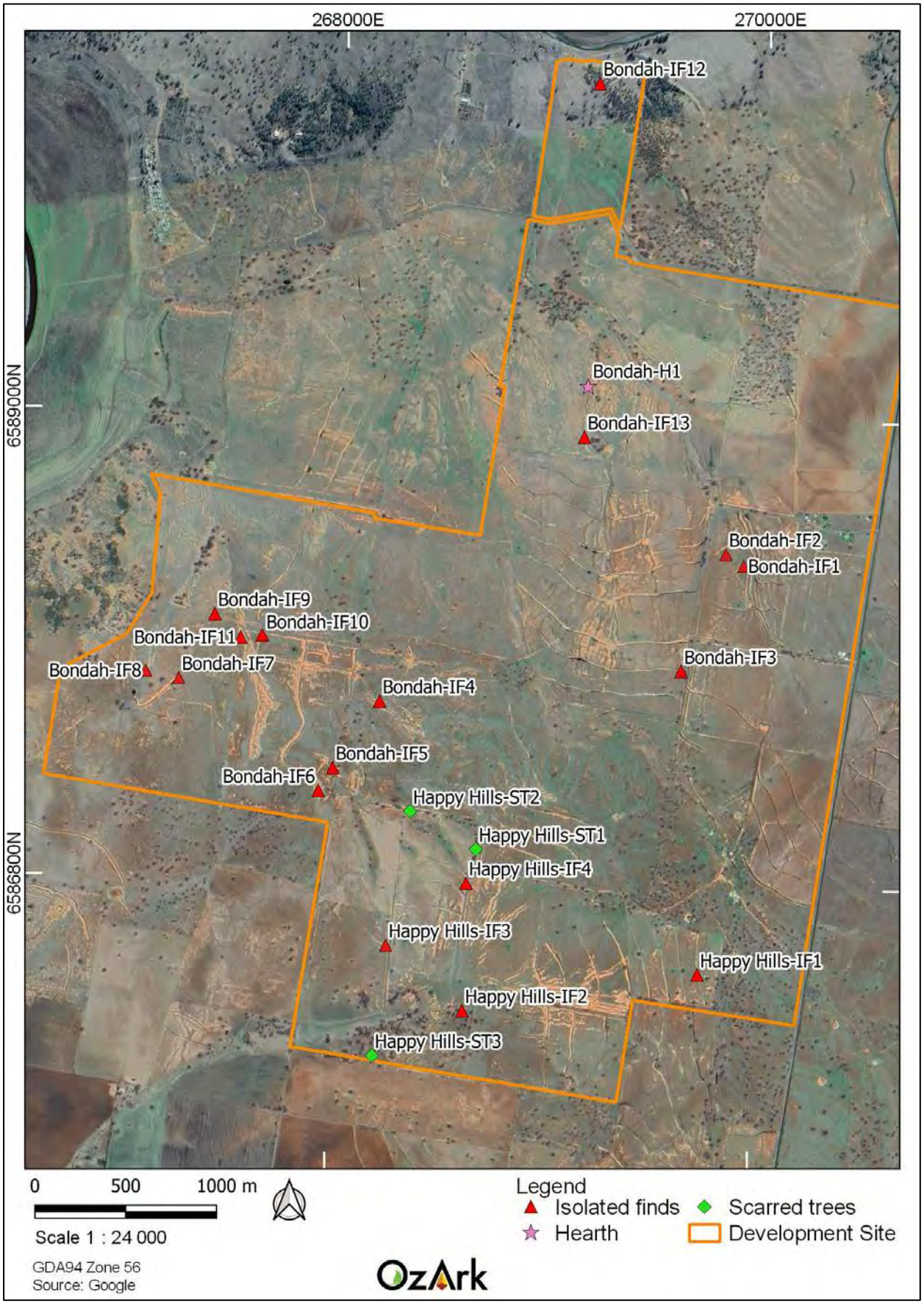
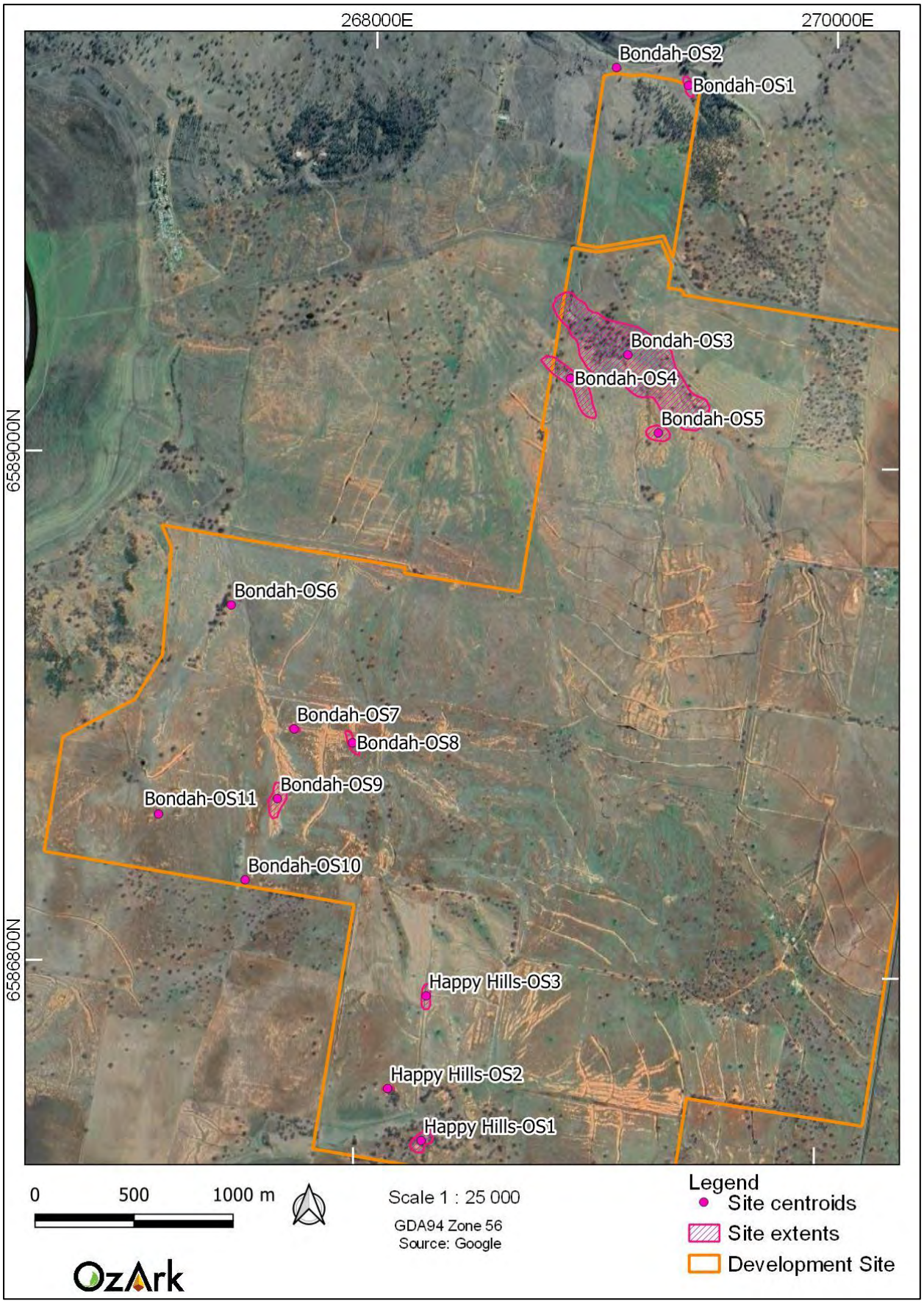


Figure 4-2: Location of recorded artefact scatters within the Development Site.



4.2 CULTURAL VALUES

Social or cultural value refers to the spiritual, traditional, historical or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them.

Places of social or cultural value have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social or cultural value be damaged or destroyed.

There is not always consensus about a place's social or cultural value. Because people experience places and events differently, expressions of social or cultural value do vary and, in some instances, will be in direct conflict. When identifying values, it is not necessary to agree with or acknowledge the validity of each other's values, but it is necessary to document the range of values identified.

Social or cultural value can only be identified through consultation with Aboriginal people. This could involve a range of methodologies, such as cultural mapping, oral histories, archival documentation and specific information provided by Aboriginal people specifically for the investigation.

A copy of the ACHAR was sent to the RAPs on 29 August 2017. No feedback was received relating to the social or cultural value of the newly recorded sites. As such, for the purposes of assessing the potential impact to Aboriginal cultural heritage, all recorded sites were accorded high social and cultural values. This is because Aboriginal sites are seen by the community as a marker of ancient occupation across the region, as well as being a tangible link to their ancestors.

5 MANAGEMENT STRATEGY

5.1 IDENTIFYING ABORIGINAL HERITAGE IMPACTS

Development impacts will occur to Aboriginal objects both at Aboriginal sites where objects are visible, as well as potentially below the ground surface where they are not readily apparent. The impacts to Aboriginal sites through the Development were identified and assessed as part EIS.

The findings of the archaeological survey confirm that Aboriginal stone artefacts are broadly distributed within the soil across the Development Site and that vegetation cover and soil exposure conditions can change to reveal previously obscured artefacts. Such exposed artefacts are referred to as “sites” which means the site where Aboriginal objects may be observed in the present. Similarly changing environmental conditions can obscure previously visible Aboriginal objects. The phenomenon of previously recorded “sites” not being discoverable at a later time is also common.

The management strategy addresses the recorded sites of Aboriginal objects, as well as the inferred broad distributions of Aboriginal stone artefacts reflecting past Aboriginal activity in all parts of the landscape. Because Aboriginal objects occur within the topsoil in parts of the Development Site, impacts to undiscovered Aboriginal objects may occur. The management strategy is provided as mitigation of all Aboriginal heritage impacts, including impacts to those Aboriginal objects that have been recorded and Aboriginal objects which may occur unrecorded within the topsoil.

5.2 OBLIGATION TO PROTECT ABORIGINAL CULTURAL HERITAGE

5.2.1 Obligation to avoid harm

All employees, contractors, sub-contractors and visitors to the Development Site have an obligation to avoid harming Aboriginal heritage unless engaged in approved development activity in an area where Aboriginal salvage obligations have been met as described in this ACHMP.

The definition of harm used in this ACHMP stems from the definition in Section 5 of the *National Parks and Wildlife Act 1974* (NPW Act). The examples used below are for illustrative purposes and are not exhaustive.

Harm to an Aboriginal object or Aboriginal site means:

- Moving or collecting stone artefacts (although picking up artefacts and inspecting them is acceptable as long as they are immediately returned to their original location.
- Disturbing the earth where stone artefacts are located, e.g. by earthworks for drains, roads, etc.
- Breaking stone artefacts, e.g. by running over them in a vehicle.

- Cutting down, disturbing or otherwise marking scarred trees.

Trivial or negligible impacts to Aboriginal objects are not regarded as harm.

5.2.2 Obligation to protect harm

All employees, contractors and sub-contractors of the Development Site having responsibility for land management, construction or operation have an obligation to protect Aboriginal heritage within their area of work responsibility.

Protection means active recognition of known Aboriginal heritage and active measures to avoid Aboriginal heritage.

5.2.3 Obligation to implement impact management measures

All employees, contractors and sub-contractors of the Development Site have a responsibility to ensure that the appropriate Aboriginal heritage salvage has been conducted prior to or in association with their activities which impact Aboriginal objects.

5.3 ABORIGINAL HERITAGE INDUCTIONS

All employees, contractors, sub-contractors, and visitors to the Development Site should be made aware of the obligation to avoid harm to Aboriginal heritage through an Aboriginal heritage component of a general site induction.

The induction will include the following points expressed in plain language.

- Aboriginal sites occur across the Development Site
- Aboriginal sites are of great significance to the Aboriginal community, are important to the wider community and must be treated with respect
- Aboriginal sites are protected by law. The Development Consent for the Development includes conditions allowing impact to certain specified Aboriginal sites described in the EIS and this ACHMP
- Aboriginal sites include stone tool artefacts, hearths, and scarred trees
- Many Aboriginal artefacts are hidden within the topsoil and are not readily visible. The apparent absence of a site does not mean it is no longer in existence.

5.4 GENERAL STRATEGIES

Aboriginal sites within the Development Site, but outside of impact areas, will not be harmed. The following management strategy will apply to these sites:

- Previously recorded Aboriginal sites not impacted by Development will be protected by fencing on an as needed basis. For example, if it is considered that a site may be inadvertently harmed, such as being located near an access road, it should be fenced.

Sites located away (i.e. more than 55 m) from any activity area may not require fencing (refer to **Section 6.1.3**).

Any sites within impact areas are likely to be harmed. All known sites within impact areas will be salvaged under the terms of this ACHMP (refer to **Section 6.1**). However, before an area is impacted by approved activities, a previously unknown Aboriginal object(s) may be noted. The following management strategy relates to new discoveries within impact areas:

- Information, such as location and photographs, should first be sent to an archaeologist to gain a preliminary determination of whether the discovery is an Aboriginal object
- If it is determined to be an Aboriginal object, the object(s) should be recorded and assessed by an archaeologist to determine the management group of the site comprising the objects
- Any Aboriginal objects identified within impact areas will be salvaged following the methodology set out in **Section 6.1.2.1**
- All findings will be described in a technical report.

The procedures for the discovery of additional Aboriginal objects and/or human skeletal material at the Development Site are detailed in **Section 7**.

6 SALVAGE AND MANAGEMENT OF ABORIGINAL SITES

6.1 MANAGEMENT GROUPS

Table 6-1 identifies the extant sites within the Development site which have not yet been subject to salvage or fencing and nominates the management group to which each is assigned. The locations of sites in relation to the impact footprint of the Development are shown on **Figure 6-1** and **Figure 6-2**.

Management of these sites falls under three management groups, namely:

- Group 1: Avoidance. These sites are at no direct risk of harm from the Development.
- Group 2: Sites Requiring Salvage. This group includes sites directly within or adjacent to impact areas. Sites within this group will be subject to surface collection.
- Group 3: Sites Requiring Management. This group includes sites within 55 m of a ground disturbing impact associated with the Development.

The following sub-sections describe the specific salvage and management measures to be applied to the sites within each group.

Table 6-1: Site impact and management assessment.

AHIMS ID	Site Name	Assessed Scientific Significance	Degree of Harm (Total/Partial/None)	Management Strategy
20-5-0133	Happy Hills-IF1	Low	None	**Group 1**: No management required. The site is located 425 m east of a PPU.
20-5-0102	Happy Hills-IF2	Low	None	**Group 1**: No management required. The site is located 260 m west of a PPU.
20-5-0101	Happy Hills-IF3	Low	Total	**Group 2**: Mapping, recording and collection of surface artefacts.
20-5-0100	Happy Hills-IF4	Low	None	**Group 3**: The site is located within 50 m of the access road to the north. It should be permanently fenced with a 10 m buffer during both the construction and operational phases of the Development. The fencing should be clearly visible and signed with 'Do Not Enter".
20-5-0128	Bondah-IF3	Low	None	**Group 1**: No management required. The site is located 100 m south of a PPU.
20-5-0129	Bondah-IF4	Low	None	**Group 1**: No management required. The site is located 470 m northeast of the proposed water pipeline and powerline, and proposed access road.
20-5-0122	Bondah-IF5	Low	None	**Group 3**: The site is located within 30 m northeast of the proposed access road. It should be permanently fenced with a 10 m buffer during both the construction and operational phases of the Development. The fencing should be clearly visible and signed with 'Do Not Enter".
20-5-0123	Bondah-IF6	Low	None	**Group 1**: No management required. The site is located 60 m southwest of a proposed water pipeline and powerline.
20-5-0124	Bondah-IF7	Low	Total	**Group 2**: Mapping, recording and collection of surface artefacts.

AHIMS ID	Site Name	Assessed Scientific Significance	Degree of Harm (Total/Partial/None)	Management Strategy
20-5-0125	Bondah-IF8	Low	Total	**Group 2**: Mapping, recording and collection of surface artefacts.
20-5-0121	Bondah-IF9	Low	None	**Group 1**: No management required. The site is located 150 m north of a proposed residence.
20-5-0120	Bondah-IF10	Low	None	**Group 1**: No management required. The site is located 200 m northeast of a proposed residence.
20-5-0119	Bondah-IF11	Low	None	**Group 1**: No management required. The site is located 115 m northeast of a proposed residence.
20-5-0118	Bondah-IF12	Low	None	**Group 1**: No management required. The site is located 155 m east of the proposed water pipeline and powerline.
20-5-0116	Bondah-IF13	Low	None	**Group 1**: No management required. The site is located 600 m southwest of the proposed water pipeline and powerline
20-5-0105	Happy Hills-OS1	Low	None	**Group 1**: No management required. The site is located 540 m south of a PPU.
20-5-0104	Happy Hills-OS2	Low	None	**Group 1**: No management required. The site is located 220 m southeast of a PPU.
20-5-0103	Happy Hills-OS3	Low	Total	**Group 2**: Mapping, recording and collection of surface artefacts.
20-5-0117	Bondah-OS1	Low	None	**Group 1**: No management required. The site is located 330 m east of the proposed water pipeline and powerline.
20-5-0110	Bondah-OS4	Low	None	**Group 1**: No management required. The site is located 670 m west of the proposed water pipeline and powerline.
20-5-0111	Bondah-OS5	Low	None	**Group 1**: No management required. The site is located 425 m west of the proposed water pipeline and powerline.
20-5-0112	Bondah-OS6	Low	None	**Group 1**: No management required. The site is located 530 m north of a PPU.
20-5-0113	Bondah-OS7	Low	None	**Group 1**: No management required. The site is located 225 m east of a proposed residence and 215 m north of the proposed water pipeline and powerline.
20-5-0114	Bondah-OS8	Low	None	**Group 1**: No management required. The site is located 330 m northeast of a proposed access road.
20-5-0109	Bondah-OS9	Low	None	**Group 3**: The site is located within 20 m of a proposed access road to the north. It should be permanently fenced with a 10 m buffer around the northern extent during both the construction and operational phases of the Development. The fencing should be clearly visible and signed “Do Not Enter”.
20-5-0108	Bondah-OS10	Low	None	**Group 1**: No management required. The site is located 375 m southeast of a proposed PPU.
20-5-0106	Bondah-OS11	Low	Total	**Group 2**: Mapping, recording and collection of surface artefacts.
20-5-0134	Bondah-H1	Moderate to high	Total	**Group 1**: No management required. The site is located 455 m southwest of the proposed water pipeline and powerline.

*Sites are colour categorised to their corresponding management strategy as follows:

- Red – salvage surface collection
- Orange – requires fencing.

Figure 6-1: Location of Aboriginal sites in relation to the Development impacts in the north of the Development Site.

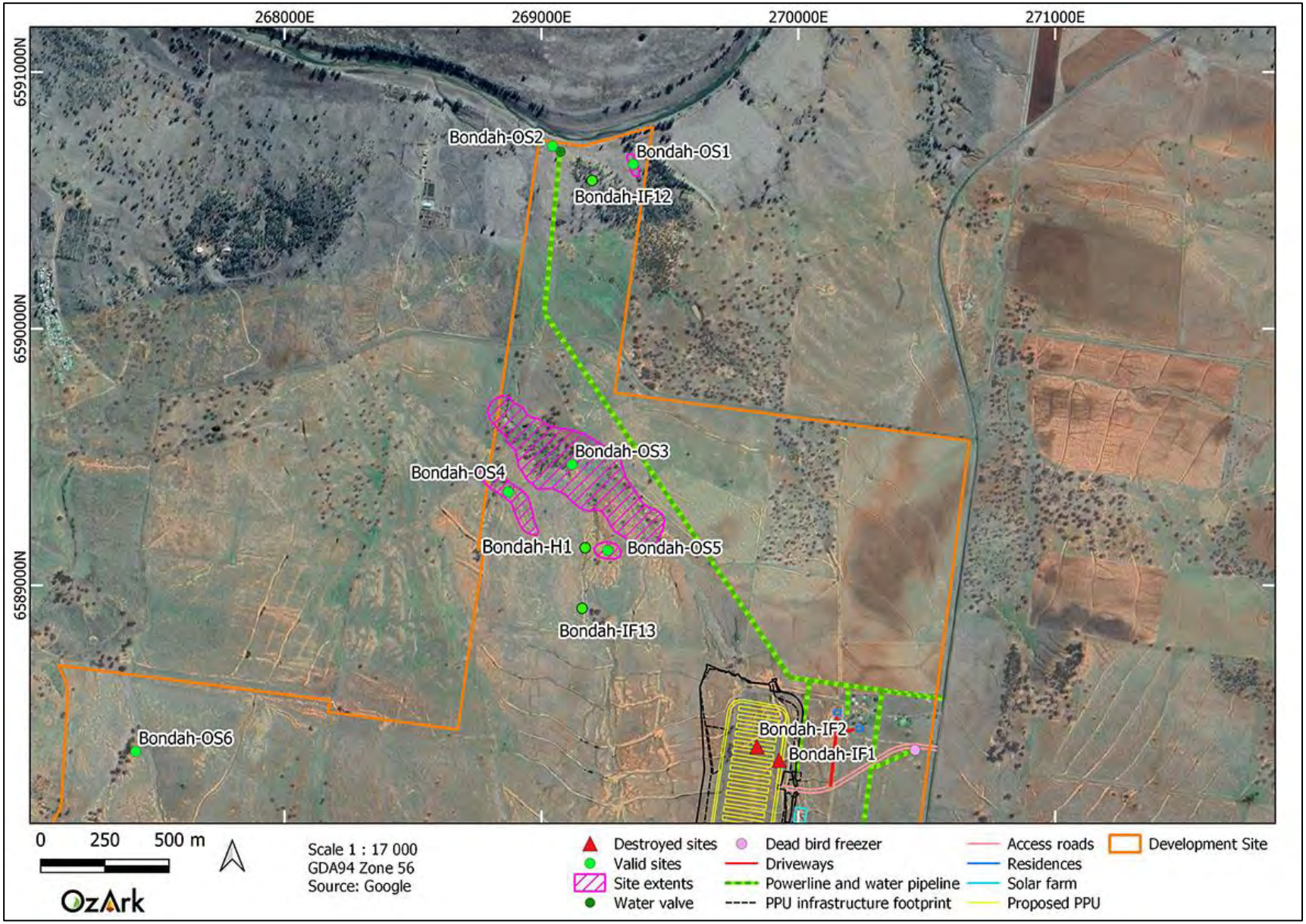
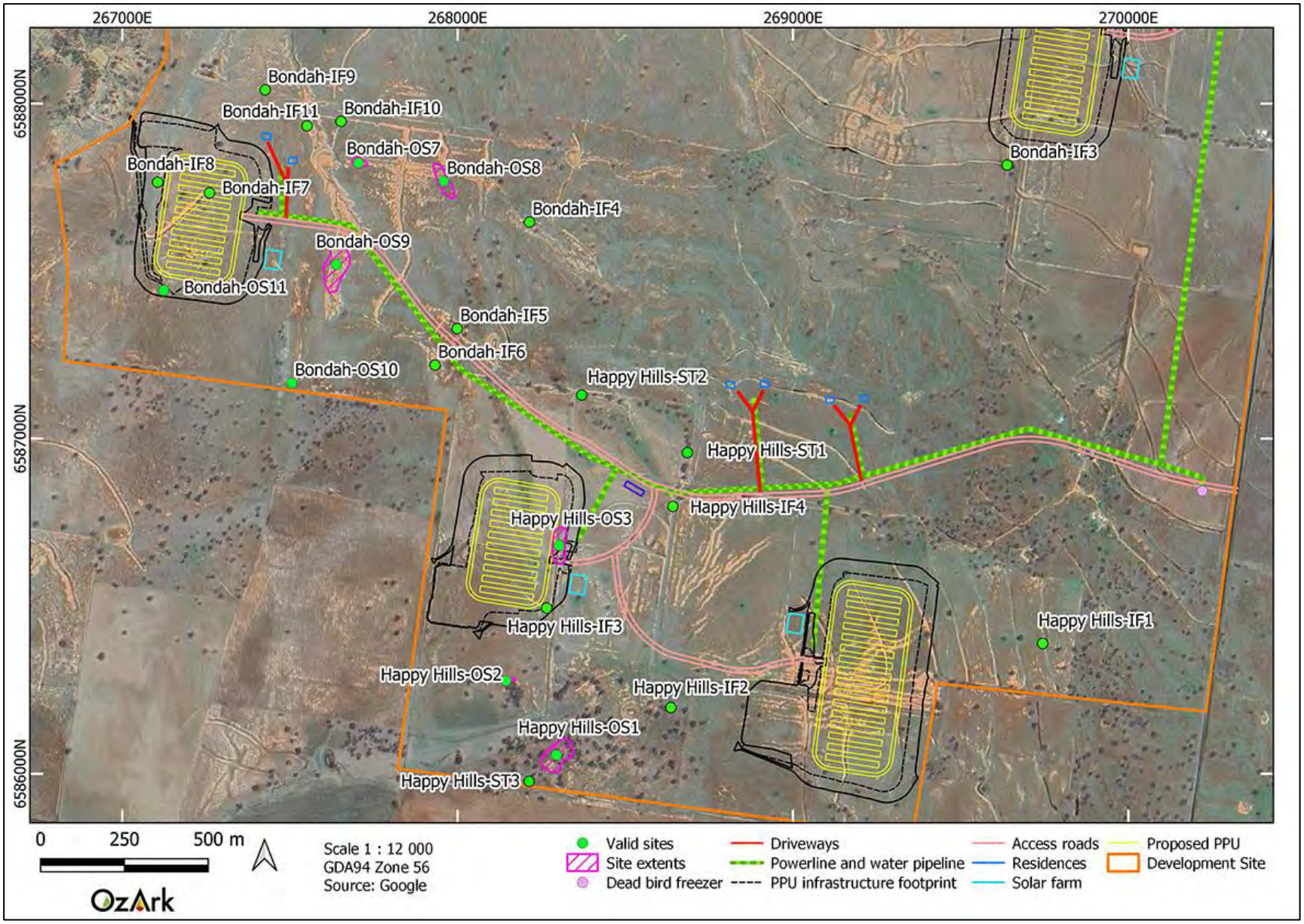


Figure 6-2: Location of Aboriginal sites in relation to the Development impacts in the south of the Development Site.



6.1.1 Group 1: Avoidance

This group currently includes 22 sites which occur outside the impact area and are at no direct risk of harm from the Development. These sites are listed below:

- Happy Hills-IF1
- Happy Hills-IF2
- Bondah-IF3
- Bondah-IF4
- Bondah-IF6
- Bondah-IF9
- Bondah-IF10
- Bondah-IF11
- Bondah-IF12
- Bondah-IF13
- Happy Hills-OS1
- Happy Hills-OS2
- Bondah-OS1
- Bondah-OS4
- Bondah-OS5
- Bondah-OS6
- Bondah-OS7
- Bondah-OS8
- Bondah-OS10
- Happy Hills-ST1
- Happy Hills-ST2
- Happy Hills-ST3

6.1.2 Group 2: Stage 2 sites requiring salvage

Five sites currently fall into this group:

- Happy Hills-IF3
- Bondah-IF7
- Bondah-IF8
- Happy Hills-OS3
- Bondah-OS11

Detailed recording and collection of surface artefacts will be the primary management approach for sites in this category.

6.1.2.1 Archaeological salvage: surface collection of artefacts

The following methodology will apply to all Group 2 sites:

- All visible artefacts at a site should be flagged in the field
- The site should be photographed after flagging and before recording
- All artefacts should have the following artefact information entered directly into a GPS unit:
    - Location
    - Artefact type
    - Size
    - Reduction level
    - Integrity

  - Raw material
  - Notes.

- A selection of indicative and / or unusual artefacts from each site will be photographed
- Once all recording is complete, the artefacts will be collected according to site zones (if the site is large) with artefacts from each zone being kept separate
- Should the collection team encounter a human burial, all work should cease in the area and advice from authorities and RAPs (should the remains be Aboriginal) sought (refer to **Section 7.1**)
- The recording of the artefacts recovered will be completed in the field and this data would be incorporated into a report
- The supervising archaeologist would be responsible for submitting an Aboriginal Site Impact Recording Form (ASIRF) to the Aboriginal Heritage Information Management System (AHIMS) to update the register with the results of the salvage works.

6.1.3 Group 3: Stage 2 sites requiring management

Happy Hills-IF4, Bondah-IF5 and Bondah-OS9 require permanent fencing given their proximity to the access road which will be utilised during the operation of the Development. These sites should be permanently fenced with a 10 m buffer and signed prior to works beginning to provide adequate protection. Permanent fencing, at a minimum, can consist of star pickets with clearly visible and durable bunting. A sign should be attached to the fence noting that the area is an 'environmental zone' (it is preferred not to call it a 'heritage site' as this could encourage vandalism/theft) and providing a contact number should assistance be required.

6.2 MANAGEMENT OF SALVAGE ARTEFACTS

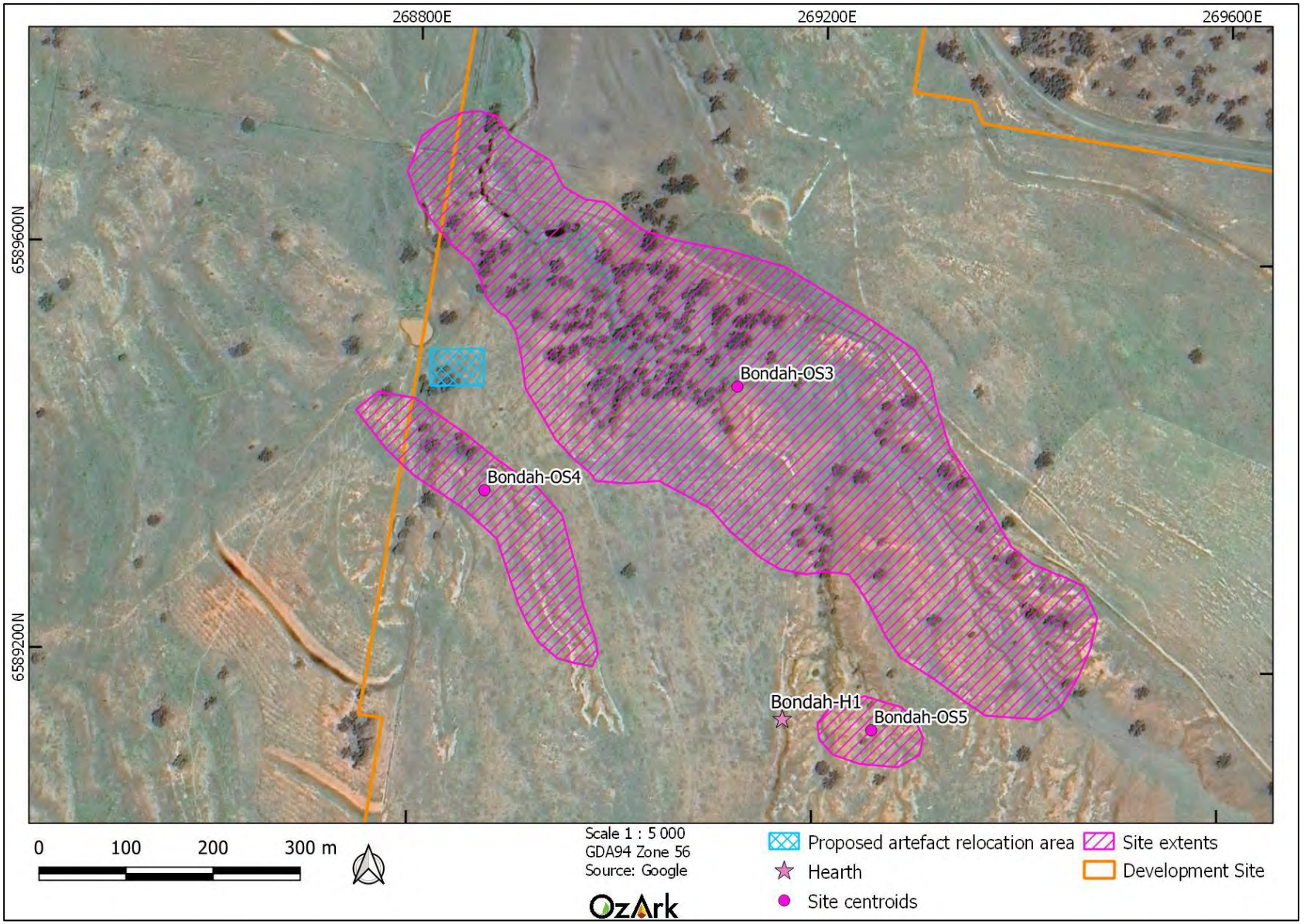
6.2.1 Long-term care and control of artefacts

Following consultation with RAPs, the preferred option for the long-term management of the salvaged artefacts is to relocate them near to sites Bondah-OS3 and Bondah-OS4 (**Section 3.2**).

As such, it is proposed that the artefacts will be placed on the ground surface as opposed to reburied at the location shown in **Figure 6-3**. The artefacts will be placed outside the defined extents of Bondah-OS3 and Bondah-OS4. No future development related to the Development is planned at this location.

A site card will be submitted to the AHIMS registrar for the relocation area.

Figure 6-3: Proposed artefact relocation area.



7 DETAILED PROCEDURES

7.1 DISCOVERY OF ABORIGINAL ANCESTRAL REMAINS

The procedure related to the discovery of suspected human skeletal material are based on Requirement 25 of the Code of Practice.

In the event known or suspected Aboriginal skeletal remains are encountered during the course of Development the following procedure will be followed:

- All work close to the find will cease immediately and a minimum buffer of 10 m in all directions from the visible remains will be cordoned off with temporary construction fencing
- The find will be immediately reported to the site supervisor who will immediately advise the Proponent.
- The Proponent will promptly contact the nearest police station (as required for all human remains discoveries)
- The Proponent will contact Heritage NSW (131 555) for advice on identification of the skeletal material as Aboriginal and management of the material
- If the remains are Aboriginal ancestral remains, the RAPs will be contacted and consultative arrangements will be made to discuss ongoing care of the remains, including advice on recommended forensic anthropologists.
- Recommencement of work in the area surrounding the Aboriginal ancestral remains can only occur once the updated ACHMP for the Development has been endorsed by the Secretary (or their delegate), or the Secretary is satisfied that the measures to be implemented in managing the remains have been undertaken and makes a written direction in that regard.

7.2 DISCOVERY OF NEW ABORIGINAL SITES

7.2.1 Initial procedure

In the event of discovery of unrecorded Aboriginal sites which are more than 50 m from previously recorded boundaries of Aboriginal sites, all work close to the discovery will cease and an area of 10 m around the object(s) fenced with temporary construction fencing. An archaeologist will be contacted to determine the veracity of the Aboriginal object(s) present.

If determined to be a new site, the location will be visited by an archaeologist and a RAP representative to record the site and to determine its significance. New sites will be registered in the AHIMS registrar (**Section 8.3.1**) with management undertaken in accordance with depending on proximity of the site to the impact area.

7.2.2 New sites within impact areas

If a newly discovered site is in an impact area, the site will be temporarily fenced, and the Aboriginal object(s) will be salvaged in accordance with the procedures set out in (**Section 6.1.2**). On the completion of salvage at such sites, an ASIRF will be completed and submitted to the AHIMS registrar within one month after completion of salvage fieldwork (**Section 8.3.2**). Copies of the ASIRF will be archived by the Proponent. Recommencement of work should only take place at the site location once the ASIRF has been approved by AHIMS.

A technical report will be completed within four months of the salvage excavation and a copy sent to the AHIMS register. The Proponent will also archive a copy of the report for future reference.

7.2.3 New sites within non-impact areas

If the site is not within 55 m of an impact area there is no requirement to fence the site. If the site is within 55 m of the impact area, fencing of the site following the procedure set out in **Section 6.1.3**) and should be undertaken. Recommend of work may only take place once the required management measures are implemented.

Proposed impact by the Development or related activities to any site within non-impact areas, other than the rescue salvage described above, will require an Aboriginal Heritage Impact Permit to be obtained from the Heritage NSW, unless it is part of a future modification to SSD-7704.

8 RECORD KEEPING AND REPORTING REQUIREMENTS

8.1 SALVAGE RECORDS

Copies of all records relevant to salvaged or relocated Aboriginal objects will be provided to the Proponents for their records.

Records relating to Aboriginal heritage include:

- This ACHMP
- Spatial data and maps showing site locations
- Site cards and ASIRFs
- Reports.

8.2 SALVAGE REPORTS

A technical report will be prepared following any salvage activities documenting the results of the Aboriginal site salvage. Salvage reports will be prepared within four months of the conclusion of all salvage activities. A copy of the salvage report will be sent to the AHIMS register so that the information gained is available for the general public. A copy should also be sent to Heritage NSW and the RAPs for their records.

Copies of salvage reports will be archived by the Proponent for future reference.

8.3 REPORTING REQUIREMENTS

8.3.1 Discovery of Aboriginal objects

Under s89A of the NPW Act, it is a requirement that Heritage NSW is notified of the existence of Aboriginal object(s) as soon as practicable after they are first identified. This is usually done through the completion of an Aboriginal Site Card which is submitted to the AHIMS registrar for inclusion on the Aboriginal sites database. Information regarding AHIMS and site recording forms can be downloaded from the AHIMS registrar.

8.3.2 Reporting impact to Aboriginal sites

Although not strictly required by the NPW Act, Heritage NSW expects that information on authorised impacts to Aboriginal sites be reported to them on the ASIRF which can be downloaded from the AHIMS registrar.

9 DOCUMENT IMPLEMENTATION

9.1 REVIEW AND IMPROVEMENT

The ACHMP will be reviewed every five years at a minimum or following any salvage activities, a change in legislation or modification to Development Consent containing conditions relevant to Aboriginal cultural heritage. This will include a review of performance and consideration of ongoing consultation. This will ensure the adequacy of the ACHMP and allow for opportunities of adaptive management and continual improvement.

Changes may be made to the ACHMP in the following circumstances:

- Where new Aboriginal sites are discovered which require specific management approaches proportionate to their cultural significance and which are not otherwise covered in this ACHMP
- Where approved modifications to the Development introduce new impacts on Aboriginal heritage which are not generally covered by this ACHMP
- Where approved changes to the Development change or remove previously planned impacts on Aboriginal heritage where mitigation was proposed in the ACHMP but is no longer required.

Where changes are made to the ACHMP, a draft will be subject to Aboriginal consultation in accordance with the ACHMP. Matters raised in consultation which are specific to the changes in the ACHMP may be acknowledged and addressed in the revised ACHMP.

9.2 ACCOUNTABILITIES

Who	Responsibilities
The Proponent	Responsible for coordinating the implementation of this ACHMP and for ensuring that the review of this ACHMP is undertaken. Responsible for ensuring that all personnel involved in the construction and operation of the development are suitably informed of the need to protect Aboriginal cultural heritage. Responsible for advising the Aboriginal community of operational changes relevant to the management of Aboriginal cultural heritage.
Aboriginal community	Responsible for providing expertise and appropriate and timely feedback in relation to the management of Aboriginal cultural heritage.
Archaeologist	Responsible for providing expertise in relation to the management of Aboriginal archaeology.

9.3 CHANGE INFORMATION

Full details of the document history are recorded in the document control register, by version.

A summary of the current change is provided below.

Version	Date	Review team	
1.0	2020	OzArk, the Proponent	ACHMP developed based on study conducted by OzArk 2018.
2.0	2022	OzArk, the Proponent	ACHMP revised following Stage 1 salvage and fencing.

REFERENCES

DECCW 2010 — Department of Environment, Climate Change and Water, Sydney (now Heritage NSW). *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

OzArk 2018 — OzArk Environment & Heritage. 2018. *Aboriginal Cultural Heritage Assessment Report: Rushes Creek Poultry Production Farm, Rushes Creek NSW, Tamworth Regional Local Government Area.* Report to ProTen Tamworth Pty Limited.

SLR 2018 — SLR Consulting Australia Pty Ltd. 2018. *Rushes Creek Poultry Production Farm Environmental Impact Statement.* Report to ProTen Tamworth Pty Limited.

APPENDIX 1: DEVELOPMENT CONSENT CONDITIONS RELEVANT TO ABORIGINAL HERITAGE

ABORIGINAL HERITAGE

Aboriginal Cultural Heritage Management Plan (ACHMP)

B33. Before the commencement of any clearing or construction works, the Applicant must prepare an ACHMP for the development. The plan must form part of the CEMP required by condition C2 and must:

- (a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties and EES;
- (b) be submitted to the satisfaction of the Planning Secretary prior to construction of any part of the development;
- (c) describe the management actions for all Aboriginal sites within the development site;
- (d) describe the measures to salvage the artefacts in Happy Hills-IF3, Bondah-IF1, Bondah-IF2, Bondah-IF7, Bondah-IF8, Happy Hills-OS3 and Bondah-OS11, including mapping, analysis and collection, and protect them in perpetuity; and
- (e) include a program of excavation and reporting of the feature known as Bondah H1, in consultation with the Registered Aboriginal Parties and ESS.

B34. The Applicant must:

- (a) not commence construction until the Aboriginal Cultural Heritage Management Plan is approved by the Planning Secretary; and
- (b) implement the most recent version of the Aboriginal Cultural Heritage Management Plan approved by the Planning Secretary for the duration of the development.

Unexpected Finds Protocol

B35. If any item or object of Aboriginal heritage significance is identified on site:

- (a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately;
- (b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and
- (c) the Heritage Division of DPC must be contacted immediately.

B36. Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.

APPENDIX 2: GOVERNMENT CORRESPONDENCE

NSW GOVERNMENT

Our ref: DOC21/169400
Senders ref: email 08/03/2021

Industry Assessments
Department of Planning, Industry and Environment
4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Attention: Ms Sally Munk

Dear Ms Munk

RE: Rushes Creek Poultry Farm SSD-7704 – Draft Aboriginal Cultural Heritage Management Plan (ACHMP)

I am writing to provide advice with regard to the proposed Rushes Creek Poultry Farm draft ACHMP.

Heritage NSW has reviewed the draft ACHMP and concurs with the findings and recommendations contained therein.

We note the changed management proposal for Aboriginal hearth site "Bondah-H1". We note that the site lies outside of the proposed impact footprint for the project and that the majority of Aboriginal stakeholders preferred that no excavation of the site occur. Based on these reasons Heritage NSW supports the decision not to excavate site "Bondah-H1"

If you have any questions about this advice, please do not hesitate to contact Mr Roger Mehr, Archaeologist, roger.mehr@environment.nsw.gov.au or 0459075354.

Yours sincerely

Dr Samantha Higgs
Senior Team Leader - Aboriginal Cultural Heritage Regulation - North
Heritage NSW

Date: 4 May 2021

Locked Bag 5020 Parramatta 2124

E: heritagemailbox@environment.nsw.gov.au

Planning, Industry & Environment

Mr Bill Williams
Chief Executive Officer
ProTen Pty Ltd
PO Box 1746
NORTH SYDNEY NSW 2060

14/05/2021

Dear Mr Williams

Rushers Creek Poultry Production Farm (SSD-7704)
Aboriginal Cultural Heritage Management Plan – Condition B33

I refer to the Aboriginal Cultural Heritage Management Plan (ACHMP) which was submitted in accordance with Condition B33 of Schedule 2 of the consent for the Rushers Creek Poultry Production Farm (SSD-7704).

The Department has carefully reviewed the document and is satisfied that it addresses the requirements of Conditions B33.

Accordingly, the Planning Secretary has approved the ACHMP (Revision 3.0, dated 4 May 2021). Please ensure that the approved plan is placed on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact David Koppers on 9373 2869 or at david.koppers@planning.nsw.gov.au.

Yours sincerely

Joanna Bakopanos
A/Director
Industry Assessments

As nominee of the Planning Secretary

APPENDIX 3: ABORIGINAL COMMUNITY CONSULTATION

Appendix 3 Figure 1: Aboriginal Community Consultation Log

Aboriginal Consultation Log - Rushes Creek			
Date	**Organisation**	**Comment**	**Method**
13/11/2020	T&G Culture Consultants	Brendan Fisher (BF) sent post-project approval letter	Postal
13/11/2020	Richard Slater	BF sent post-project approval letter	Postal
13/11/2020	DFTV Enterprises	BF sent post-project approval letter	Email
13/11/2020	Gomery Cultural Consultants	BF sent post-project approval letter	Email
13/11/2020	Brian Draper	BF sent post-project approval letter	Email
13/11/2020	Michael Long White Cockatoo Aboriginal Corporation	BF sent post-project approval letter	Email
13/11/2020	Tamworth LALC	BF sent post-project approval letter	Email
13/11/2020	Gomeroi People NC2011/006 C/- NTSCORP	BF sent post-project approval letter	Email
13/11/2020	Natasha Rodgers	BF sent post-project approval letter	Email
13/11/2020	AT Gomilaroi Cultural Consultancy	BF sent post-project approval letter	Email
13/11/2020	Veronica Talbott	BF sent post-project approval letter	Email
16.11.20	Gomeroi People NC2011/006 C/- NTSCORP	Rebecca Hardman (RH) received response: *I refer to the attached letter. I will seek to get instructions on this matter from the Gomeroi Applicant. However, I expect that the Applicant would want to discuss the proposal in person given the potential impact on their cultural heritage. I will seek to get a response to you in the coming weeks, however it may not be prior to 24 November.*	Email
17.11.20	Michael Long White Cockatoo Aboriginal Corporation	RH received response: *I received your letter dated 13 November 2020 regarding rushes creek and I find it very hard for me as RAP that there has been known feedback or RAP meeting appointed to address the archaeology survey that was conducted as well cultural values of this location.* *And I would like to visit the site before any impacts go forward.*	Email
20.11.20	Gomeroi People NC2011/006 C/- NTSCORP	Stephanie Rusden (SR) responded: *Thank you for your email and apologies for the delay in getting back to you.* *If you are able to provide a date that we are likely to receive some feedback from the Gomeroi Applicant that would be greatly appreciated. We also note that they are likely to want to discuss in person and we have flagged this with our client.*	Email
20.11.20	Michael Long White Cockatoo Aboriginal Corporation	SR responded: *Thank you for your email. Currently there are no site visits planned as part of the preparation of the Aboriginal Cultural Heritage Management Plan, however we have flagged your request with the client and will be in touch once we hear from them.*	Email
26.11.20	Tamworth LALC	RH received feedback	Email
26.11.20	Tamworth LALC	RH thanked Fiona	Email
1.12.20	Veronica Talbott	BF sent follow up email to get feedback on the letter sent 13 November 2020.	Email
1.12.20	Natasha Rodgers	BF sent follow up email to get feedback on the letter sent 13 November 2020.	Email
1.12.20	Aaron Talbott	BF sent follow up email to get feedback on the letter sent 13 November 2020.	Email

Aboriginal Consultation Log - Rushes Creek			
1.12.20	Brian Draper	BF sent follow up email to get feedback on the letter sent 13 November 2020.	Email
1.12.20	DFTV Enterprises	BF sent follow up email to get feedback on the letter sent 13 November 2020.	Email
1.12.20	Gomery Cultural Consultants	BF sent follow up email to get feedback on the letter sent 13 November 2020.	Email
1.12.20	Gomeroi People NC2011/006 C/- NTSCORP	SR sent follow up email to get feedback on the letter sent 13 November 2020.	Email
1.12.20	Michael Long White Cockatoo Aboriginal Corporation	SR sent the 2018 ACHAR noting it provides the site information and may assist in providing feedback requested.	Email
7.12.20	T&G Culture Consultants	Taylor Foster (TF) called Tony Griffiths for feedback regarding hearth excavation and long term management plan. No answer. Called again within the hour and the phone was disconnected	Phone
7.12.20	Gomeroi People NC2011/006 C/- NTSCORP	TF called Mishka Holt for feedback regarding hearth excavation and long term management plan. No answer.	Phone
7.12.20	Natasha Rodgers	TF called Natasha for feedback regarding hearth excavation and long term management plan. No answer.	Phone
7.12.20	AT Gomilaroi Cultural Consultancy	TF called Aaron for feedback regarding hearth excavation and long term management plan. No answer.	Phone
7.12.20	Veronica Talbott	TF called Veronica Talbott for feedback regarding hearth excavation and long term management plan. Does not want hearth excavated and wants artefacts reburied. Mentioned her concern over burials in the area.	Phone
7.12.20	Gomery Cultural Consultants	TF called for feedback regarding hearth excavation and long term management plan. David said he would like the hearth to be excavated and would prefer a care agreement. Also updated his home address.	Phone
7.12.20	DFTV Enterprises	BF sent follow up email regarding hearth excavation and long term management plan as no phone number was listed	Email
8.12.20	White Cockatoo Aboriginal Consulting	Micheal Long called and spoke to TF in regards to Rushes Creek. Against the excavation of the hearth. Also wanted to register complaint about the consultation process and other RAP parties involved. Said that he did not like the other RAP parties who've been involved. Stated the hearth excavation should not have been suggested. Said that he had not been involved in the work leading up to this point and that he would like a site inspection. Wants to know what cultural values have been listed	Phone
8.12.20	Gomeroi People NC2011/006 C/- NTSCORP	Steve Talbott called and spoke to TF regarding the Rushes Creek Project. He expressed he was against the excavation of the hearth and for the reburial of artefacts. He requested Steph call him as he was unhappy with the hearth excavation being an option.	Phone
8.12.20	T&G Culture Consultants	TF called again in regards to Rushes Creek feedback. Phone was disconnected. No other phone numbers or emails are listed.	Phone
8.12.20	Richard Slater	TF could not call to follow up feedback for Rushes Creek as no phone numbers or emails are listed.	
8.12.20	Gomeroi People NC2011/006 C/- NTSCORP Mishka Holt	TF called again in regards to Rushes Creek feedback. No answer. TF asked BF to resend emails he previously sent to clients.	Phone

Aboriginal Consultation Log - Rushes Creek			
8.12.20	Natasha Rodgers	TF called again in regards to Rushes Creek feedback. No answer. TF asked BF to resend emails he previously sent to clients.	Phone
8.12.21	Gomeroi People NC2011/006 C/- NTSCORP	BF resent email to Mishka as requested containing post approval letter and ACHAR.	Email
8.12.20	Michael Long White Cockatoo Aboriginal Corporation	BF resent email to Michael as requested containing post approval letter and ACHAR.	Email
8.12.20	Gomeroi People NC2011/006 C/- NTSCORP	Mishka Holt read BF's email (resend of the post-project approval letter).	Email
9.12.20	Gomeroi People NC2011/006 C/- NTSCORP	BF received a call from James Mcleod in regard to community concerns with how the consultation is being handled. He forwarded the Gomeroi People's concern that letters were not sufficient enough to provide any feedback. The Gomeroi people would like a "visual idea" on the future of the project, which should be done through a physical meeting with all RAPS and archaeologists involved to be present.	Email
9.12.20	Gomeroi People NC2011/006 C/- NTSCORP	Jodie Benton (JB) contacted James McLeod to inform him of the background context. She also discussed that the Gomeroi people are not alone in their concerns with consultation of the project, as other RAP groups have expressed in a similar way. It was discussed that a possible meeting may occur in Tamworth for all RAPs and archaeologists to get together and discuss the project, so that adequate feedback can be provided.	Phone
12.1.21	Gomeroi People NC2011/006 C/- NTSCORP	SR spoke to Steve Talbott regarding the excavation of the hearth. Steve is opposed to the excavation as it is outside the impact footprint. SR advised there will likely be a meeting to discuss the potential excavation and would let Native Title know when this is	Phone
19.1.20	AT Gomilaroi Cultural Consultancy	BF received email from Aaron Talbott requesting update of contact details, as well as a project update and post involvement in care plan.	Email
20.1.20	AT Gomilaroi Cultural Consultancy	BF updated contact details and emailed Aaron a brief project update.	Email
22.1.20	T&G Culture Consultants	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Postal
22.1.20	Richard Slater	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Postal
22.1.20	DFTV Enterprises	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email
22.1.20	Gomery Cultural Consultants	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email
22.1.20	Brian Draper	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email
22.1.20	Michael Long White Cockatoo Aboriginal Corporation	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email
22.1.20	Tamworth LALC	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email
22.1.20	Gomeroi People NC2011/006 C/- NTSCORP	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email
22.1.20	Natasha Rodgers	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email
22.1.20	AT Gomilaroi Cultural Consultancy	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email

Aboriginal Consultation Log - Rushes Creek			
22.1.20	Veronica Talbott	TF sent AFGM Invitation, ACHMP review letter and draft ACHMP	Email
22.1.20	Michael Long White Cockatoo Aboriginal Corporation	Michael Long email response to ACHMP draft with recommendations to the management plan.	Email
1.2.21	T&G Culture Consultants	TF called to ascertain attendance to AFGM meeting. The phone number supplied is disconnected	Phone
1.2.22	Gomery Cultural Consultants	TF called to ascertain attendance to AFGM meeting. Cannot attend the meeting. I said if there were any topics or concerns, he wished to discuss, he could send through an email and this would be taken on board.	Phone
1.2.22	Brian Draper	TF called to ascertain attendance to AFGM meeting. Brian said that he will do his best to attend.	Phone
1.2.22	Michael Long White Cockatoo Aboriginal Corporation	TF called to ascertain attendance to AFGM meeting. No answer, a message was left.	Phone
1.2.22	Gomeroi People NC2011/006 C/- NTSCORP	TF called to ascertain attendance to AFGM meeting. James was unavailable but a message was passed on for James to call back with response.	Phone
1.2.22	Natasha Rodgers	TF called to ascertain attendance to AFGM meeting. No response left a message.	Phone
1.2.22	AT Gomilaroi Cultural Consultancy	TF called to ascertain attendance to AFGM meeting. Aaron is coming.	Phone
1.2.22	Veronica Talbott	TF called to ascertain attendance to AFGM meeting. No answer, left a message.	Phone
1.2.22	DFTV Enterprises	TF sent follow up email to ascertain attendance to AFGM meeting. Awaiting response	Email
1.2.22	Michael Long White Cockatoo Aboriginal Corporation	TF sent follow up email to ascertain attendance to AFGM meeting. Awaiting response	Email
1.2.22	Gomeroi People NC2011/006 C/- NTSCORP	TF sent follow up email to ascertain attendance to AFGM meeting. Awaiting response	Email
1.2.22	Natasha Rodgers	TF sent follow up email to ascertain attendance to AFGM meeting. Awaiting response	Email
1.2.22	Veronica Talbott	TF sent follow up email to ascertain attendance to AFGM meeting. Awaiting response	Email
1.2.21	Michael Long White Cockatoo Aboriginal Corporation	Called back. Confirmed he would send a representative to the meeting. Would like to touch base about the letter he sent in response to the ACHMP.	Phone
1.2.22	Gomeroi People NC2011/006 C/- NTSCORP	James McLeod emailed TF and RH stating he would RSVP soon.	Email
2.2.21	Natasha Rodgers	Phoned Harrison Rochford (HR). Still unsure of attendance, would like to be listed as a possible attendee.	Phone
1.2.22	Gomeroi People NC2011/006 C/- NTSCORP	TF called to ascertain attendance to AFGM meeting. James was unavailable but a message was passed on for James to call back with response by 4pm today.	Phone
1.2.22	Gomeroi People NC2011/006 C/- NTSCORP	TF also sent final follow up email to ascertain attendance to AFGM.	Phone
2.2.21	Natasha Rodgers	TF phoned to ascertain attendance to AFGM, could not get through and left a message.	Phone
2.2.21	Natasha Rodgers	TF also sent final follow up email to ascertain attendance to AFGM.	Email
2.2.21	Veronica Talbott	TF phoned to ascertain attendance to AFGM, could not get through and left a message.	Phone

Aboriginal Consultation Log - Rushes Creek			
2.2.21	Veronica Talbott	TF also sent final follow up email to ascertain attendance to AFGM.	Email
2.2.22	DFTV Enterprises	TF sent follow up email to ascertain attendance to AFGM meeting. Awaiting response	Email
2.2.21	Veronica Talbott	RH received call confirming will send someone on her behalf as she is not in the area.	Phone
3.2.21	Michael Long White Cockatoo Aboriginal Corporation	SR called to discuss feedback. No answer	Phone
3.2.21	Michael Long White Cockatoo Aboriginal Corporation	SR sent response to feedback	Email
3.2.21	Gomeroi People NC2011/006 C/- NTSCORP	TF and RH received response to AFGM email saying that representatives would be unable to attend and provided additional email for contact.	Email
4.2.21	Gomeroi People NC2011/006 C/- NTSCORP	RH thanked Maeve for additional contact information and noted additional time request	Email
15.2.21	AT Gomilaroi Cultural Consultancy	TF received email response to AFGM and draft ACHMP. "YAAMA Taylor. Apologies for meeting. I Agree with the majority in regard to methodology and salvage program. AT Gomilaroi Cultural Consultancy requesting a field position for the salvage works. Look forward to your response. Yalu (regards) Aaron Talbott"	Email
15.2.21	AT Gomilaroi Cultural Consultancy	TF responded "Hi Aaron, Thanks for taking the time to review the Aboriginal Cultural Heritage Management Plan and provide feedback. We have noted that AT Gomilaroi Cultural Consultancy would like to be involved in the salvage program"	Email
15.2.21	DFTV Enterprises	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
15.2.21	Gomery Cultural Consultants	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
15.2.21	Brian Draper	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
15.2.21	Michael Long White Cockatoo Aboriginal Corporation	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
15.2.21	Tamworth LALC	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
15.2.21	Gomeroi People NC2011/006 C/- NTSCORP	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
15.2.21	Natasha Rodgers	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
15.2.21	AT Gomilaroi Cultural Consultancy	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
15.2.21	Veronica Talbott	TF sent AFGM minutes and reminder to respond to ACHMP review by deadline	Email
19.5.21	T&G Culture Consultants	RH sent copy of final report for their records	Postal
19.5.21	Richard Slater	RH sent copy of final report for their records	Email
19.5.21	DFTV Enterprises	RH sent copy of final report for their records	Email
19.5.21	Gomery Cultural Consultants	RH sent copy of final report for their records	Email
19.5.21	Brian Draper	RH sent copy of final report for their records	Email
19.5.21	Michael Long White Cockatoo Aboriginal Corporation	RH sent copy of final report for their records	Email

Aboriginal Consultation Log - Rushes Creek			
19.5.21	Tamworth LALC	RH sent copy of final report for their records	Email
19.5.21	Gomeroi People NC2011/006 C/- NTSCORP	RH sent copy of final report for their records	Email
19.5.21	Natasha Rodgers	RH sent copy of final report for their records	Email
19.5.21	AT Gomilaroi Cultural Consultancy	RH sent copy of final report for their records	Email
19.5.21	Veronica Talbott	RH sent copy of final report for their records	Email
1.7.21	T&G Culture Consultants	RH sent copy of final ACHMP report for their records	Postal
1.7.21	Richard Slater	RH sent copy of final ACHMP report for their records	Email
1.7.21	DFTV Enterprises	RH sent copy of final ACHMP report for their records	Email
1.7.21	Gomery Cultural Consultants	RH sent copy of final ACHMP report for their records	Email
1.7.21	Brian Draper	RH sent copy of final ACHMP report for their records	Email
1.7.21	Michael Long White Cockatoo Aboriginal Corporation	RH sent copy of final ACHMP report for their records	Email
1.7.21	Tamworth LALC	RH sent copy of final ACHMP report for their records	Email
1.7.21	Gomeroi People NC2011/006 C/- NTSCORP	RH sent copy of final ACHMP report for their records	Email
1.7.21	Natasha Rodgers	RH sent copy of final ACHMP report for their records	Email
1.7.21	AT Gomilaroi Cultural Consultancy	RH sent copy of final ACHMP report for their records	Email
1.7.21	Veronica Talbott	RH sent copy of final ACHMP report for their records	Email
18.11.21	T&G Culture Consultants	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Postal
18.11.21	Richard Slater	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	DFTV Enterprises	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	Gomery Cultural Consultants	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	Brian Draper	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	Michael Long White Cockatoo Aboriginal Corporation	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	Tamworth LALC	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	Gomeroi People NC2011/006 C/- NTSCORP	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	Natasha Rodgers	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	AT Gomilaroi Cultural Consultancy	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email
18.11.21	Veronica Talbott	CB sent salvage report for Stage 1 of the Rushes Creek poultry production farm	Email

Appendix 3 Figure 2: Project background summary and request for feedback regarding hearth and long-term management of salvaged artefacts

13 November 2020

Tamworth Local Aboriginal Land Council
PO Box 57
Tamworth NSW 2340
admin@tamworthlalc.com.au

RUSHES CREEK POULTRY FARM, NEAR TAMWORTH
EXCAVATION AND DATING OF BONDAH-H1

Dear Members,

Thank-you for your previous participation as a Registered Aboriginal Party (RAP) regarding the proposed Rushes Creek Poultry Production Farm (the Project), Rushes Creek Road, Rushes Creek, Tamworth Local Government Area (LGA).

The purpose of the letter is to provide some background on the approval of the Project and invite you to comment on the possibility of excavation of a hearth (Bondah-H1) identified within the Project area and the long-term management of salvaged artefacts..

Background

ProTen Tamworth Pty Ltd (ProTen), have received Development Consent (Application SSD 7704) from the Minister for Planning and Public Spaces, for the construction and operation of the Rushes Creek Poultry Production Farm.

The approval is dependent on the fulfilling of the Development Consent, which includes the development of an Aboriginal Cultural Heritage Management Plan (ACHMP) addressing Conditions B33, B34, B35 and B36.

OzArk Environment & Heritage (OzArk) is currently preparing the ACHMP to address Conditions B33, B34, B35 and B36. Once the ACHMP has been drafted, this will be circulated to all RAPs for review.

Possible excavation of Bondah-H1

Prior to the draft ACHMP being circulated, OzArk would like to provide you with the opportunity to comment on the possibility of excavating Bondah-H1. Bondah-H1 is located outside the impact footprint of the Project, however excavation and subsequent dating of the hearth has been included as a condition by Heritage NSW as they see it as a good opportunity to gain further insight into Aboriginal occupation on the local area.

Condition B33 [e] states the ACHMP must:

> *Include a program of excavation and reporting of the feature known as Bondah-H1, in consultation with the Registered Aboriginal Parties and ESS [now Heritage NSW].*

OzArk Environment & Heritage

If there is support from the RAPs to excavate the hearth, OzArk will prepare a detailed methodology which will be included in the ACHMP. In brief, the excavation would include excavating only a portion of the hearth at a time, in order to minimise harm to the hearth as much as possible, until a suitable sample for dating can be retrieved and then reconstructing the hearth following excavation.

Long-term management of salvaged artefacts

Two options are presented below for consideration regarding the long-term management of the recovered Aboriginal objects which will be subject to surface collection following approval of the ACHMP. These include:

- Reburial in accordance with Requirement 26 "Stone artefact deposition and storage" in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*. This includes reburying the artefacts at an agreed upon location where no future development related to the Project is planned
- A RAP nominating themselves to apply for a Care Agreement to be entered into between the RAP and Heritage NSW.

Feedback

OzArk would like to provide you with 10 days to provide your preference and any comments on the possible excavation of Bondah-H1 and long-term management of salvaged artefacts. However, should you require further time, please let us know.

Please complete the brief form below and email through to rebecca@ozarkehm.com.au by **5pm Tuesday 24 November 2020**.

Your name: _____

Your organisation (if applicable): _____

Date _____

Do you agree for the excavation of Bondah-H1 and subsequent C14 (radiocarbon) dating techniques to determine the age of the hearth? This will result in a portion of the hearth being destroyed however it will be reconstructed following excavation.

I agree to the excavation of Bondah-H1 for the purposes of C14 dating:

Yes ☐ No ☐

Comments: _____

_____

Page 2

OzArk Environment & Heritage

Regarding the long-term management of artefacts which will be salvaged following approval of the ACHMP, I would prefer:

I agree to the excavation of Bondah-H1 for the purposes of C14 dating:

Reburial at a nearby location ☐ Apply for Care Agreement ☐

Comments: _____

_____

Should you have any comments or would like further information please feel free to contact our office by phone on (02) 6882 0118; or email at rebecca@ozarkehm.com.au.

Kind regards,

Stephanie Rusden
OzArk Senior Archaeologist

Appendix 3 Figure 3: RAP responses regarding hearth and long-term management of salvaged artefacts

OzArk Environment & Heritage ABN 59 104 582 354

Dubbo T: 02 6882 0118 145 Wingewarra St
Queanbeyan enquiry@ozarkehm.com.au PO Box 2069
Newcastle www.ozarkehm.com.au DUBBO NSW 2830

13 November 2020

Tamworth Local Aboriginal Land Council
PO Box 57
Tamworth NSW 2340
admin@tamworthlalc.com.au

RUSHES CREEK POULTRY FARM, NEAR TAMWORTH
EXCAVATION AND DATING OF BONDAH-H1

Dear Members,

Thank-you for your previous participation as a Registered Aboriginal Party (RAP) regarding the proposed Rushes Creek Poultry Production Farm (the Project), Rushes Creek Road, Rushes Creek, Tamworth Local Government Area (LGA).

The purpose of the letter is to provide some background on the approval of the Project and invite you to comment on the possibility of excavation of a hearth (Bondah-H1) identified within the Project area and the long-term management of salvaged artefacts..

Background

ProTen Tamworth Pty Ltd (ProTen), have received Development Consent (Application SSD 7704) from the Minister for Planning and Public Spaces, for the construction and operation of the Rushes Creek Poultry Production Farm.

The approval is dependent on the fulfilling of the Development Consent, which includes the development of an Aboriginal Cultural Heritage Management Plan (ACHMP) addressing Conditions B33, B34, B35 and B36.

OzArk Environment & Heritage (OzArk) is currently preparing the ACHMP to address Conditions B33, B34, B35 and B36. Once the ACHMP has been drafted, this will be circulated to all RAPs for review.

Possible excavation of Bondah-H1

Prior to the draft ACHMP being circulated, OzArk would like to provide you with the opportunity to comment on the possibility of excavating Bondah-H1. Bondah-H1 is located outside the impact footprint of the Project, however excavation and subsequent dating of the hearth has been included as a condition by Heritage NSW as they see it as a good opportunity to gain further insight into Aboriginal occupation on the local area.

Condition B33 [e] states the ACHMP must:

> *Include a program of excavation and reporting of the feature known as Bondah-H1, in consultation with the Registered Aboriginal Parties and ESS [now Heritage NSW].*

OzArk Environment & Heritage

If there is support from the RAPs to excavate the hearth, OzArk will prepare a detailed methodology which will be included in the ACHMP. In brief, the excavation would include excavating only a portion of the hearth at a time, in order to minimise harm to the hearth as much as possible, until a suitable sample for dating can be retrieved and then reconstructing the hearth following excavation.

OzArk Environment & Heritage

Long-term management of salvaged artefacts

Two options are presented below for consideration regarding the long-term management of the recovered Aboriginal objects which will be subject to surface collection following approval of the ACHMP. These include:

- Reburial in accordance with Requirement 26 "Stone artefact deposition and storage" in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*. This includes reburying the artefacts at an agreed upon location where no future development related to the Project is planned
- A RAP nominating themselves to apply for a Care Agreement to be entered into between the RAP and Heritage NSW.

Feedback

OzArk would like to provide you with 10 days to provide your preference and any comments on the possible excavation of Bondah-H1 and long-term management of salvaged artefacts. However, should you require further time, please let us know.

Please complete the brief form below and email through to rebecca@ozarkehm.com.au by **5pm Tuesday 24 November 2020**.

Your name: Fiona Snape - CEO

Your organisation (if applicable): Tamworth Local Aboriginal Land Council

Date 26 November 2020

Do you agree for the excavation of Bondah-H1 and subsequent C14 (radiocarbon) dating techniques to determine the age of the hearth? This will result in a portion of the hearth being destroyed however it will be reconstructed following excavation.

I agree to the excavation of Bondah-H1 for the purposes of C14 dating:

Yes ☐ No ☑

Comments: _____

Regarding the long-term management of artefacts which will be salvaged following approval of the ACHMP, I would prefer:

I agree to the excavation of Bondah-H1 for the purposes of C14 dating:

Reburial at a nearby location ☐ Apply for Care Agreement ☑

Page 3

OzArk Environment & Heritage

Comments: _____

_____

Should you have any comments or would like further information please feel free to contact our office by phone on (02) 6882 0118; or email at rebecca@ozarkehm.com.au.

Kind regards,

Stephanie Rusden
OzArk Senior Archaeologist

Appendix 3 Figure 4: Invitation to Aboriginal Focus Group Meeting

22 January 2021

Tamworth Local Aboriginal Land Council
PO Box 57
Tamworth NSW 2340
admin@tamworthlalc.com.au

INVITATION TO MEETING FOR RUSHES CREEK POULTRY FARM, NEAR TAMWORTH.

Dear Members,

Thank-you for your past participation as a Registered Aboriginal Party (RAP) and involvement in the development of the Rushes Creek Poultry Farm (SSD-7704).

On behalf of ProTen Tamworth Pty Ltd (ProTen), OzArk would like to invite you to a meeting which aims to outline the draft *Aboriginal Cultural Heritage Management Plan* (ACHMP) and the potential excavation of Bondah-H1 (a hearth) as recommended by Heritage NSW for research purposes.

A copy of the draft ACHMP is attached to this email so that you are able to familiarise yourselves with its contents.

This meeting offers the opportunity to further develop open communication between all parties. We recognise and acknowledge the cultural knowledge held by the Registered Aboriginal Parties, however, please note that there is no remuneration associated with attendance at this meeting, although a $50 travel and incidentals reimbursement is available. It is an opportunity to provide feedback, but it is not compulsory to attend. Should you not be able to attend, you are still welcome to provide feedback via phone, email or letter.

This meeting is scheduled to be held:

Date: Thursday 4th February 2021

Time: 11 am (It is anticipated the meeting will run for approximately 2 hr)

Place: Gunnedah Services and Bowling Club
313 Conadilly St
Gunnedah NSW 2380 (**Figure 1**)

Should you wish to nominate any additional items for the agenda, please do not hesitate to contact our office prior to the meeting.

If you would like to attend the meeting, we ask that you RSVP by contacting our office through telephone (02) 6882 0118 or email rebecca@ozarkehm.com.au, by no later than **Monday 1st February 2021.** Please

OzArk Environment & Heritage

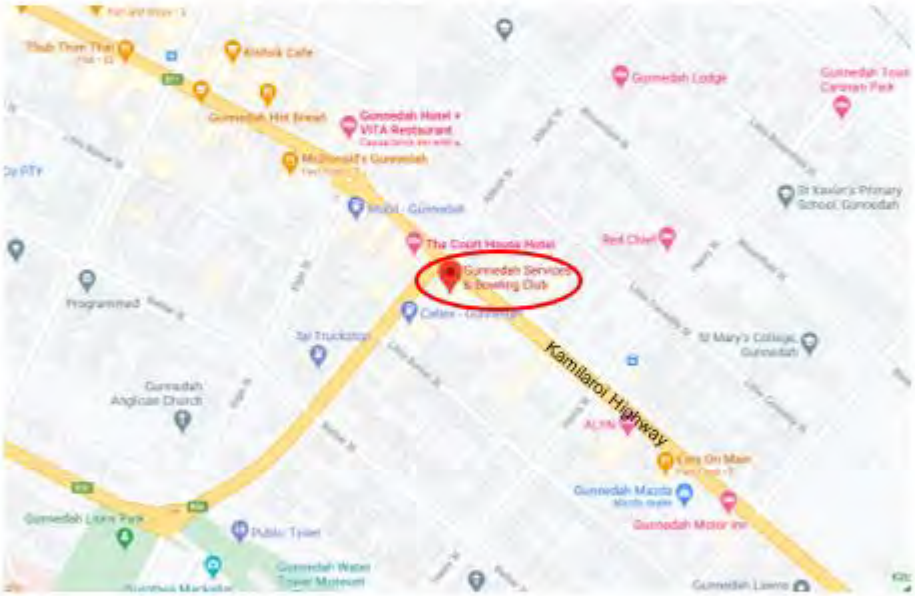
note RSVPs for this meeting are essential, follow up emails and phone calls will not be conducted and if no RSVPs are received the meeting will not be held.

If you have any queries, please feel free to contact our office.

Kind regards,

Rebecca Hardman
Consultation Officer

Figure 1: Meeting Location.



Appendix 3 Figure 5: Review of Aboriginal Cultural Heritage Management Plan

OzArk Environment & Heritage

22 January 2021

Members
Tamworth Local Aboriginal Land Council
PO Box 57
Tamworth NSW 2340
admin@tamworthlalc.com.au

RUSHES CREEK POULTRY FARM
REVIEW OF ABORIGINAL CULTURAL HERITAGE MANAGEMENT PLAN

Dear Members,

Thank-you for your past participation as a Registered Aboriginal Party (RAP) and involvement in the development of the Rushes Creek Poultry Farm (SSD-7704).

On behalf of ProTen Tamworth Pty Ltd (ProTen), OzArk would like to invite you with the opportunity to review and provide feedback on the attached draft *Aboriginal Cultural Heritage Management Plan* (ACHMP).

We request that any feedback on the ACHMP is supplied by **COB Friday 19 February 2021**. Feedback can be provided by phone, email, via post or at the Aboriginal Focus Group Meeting being held on Thursday 4 February 2021.

Should you need any help supplying feedback or have any queries, please do not hesitate to contact our office on (02) 6882 0118 or at Rebecca@ozarkehm.com.au.

Kind regards,

Rebecca Hardman
Consultation Officer

Appendix 3 Figure 6: Invitation to Aboriginal Focus Group Meeting attendance sheet

OzArk
ENVIRONMENT & HERITAGE

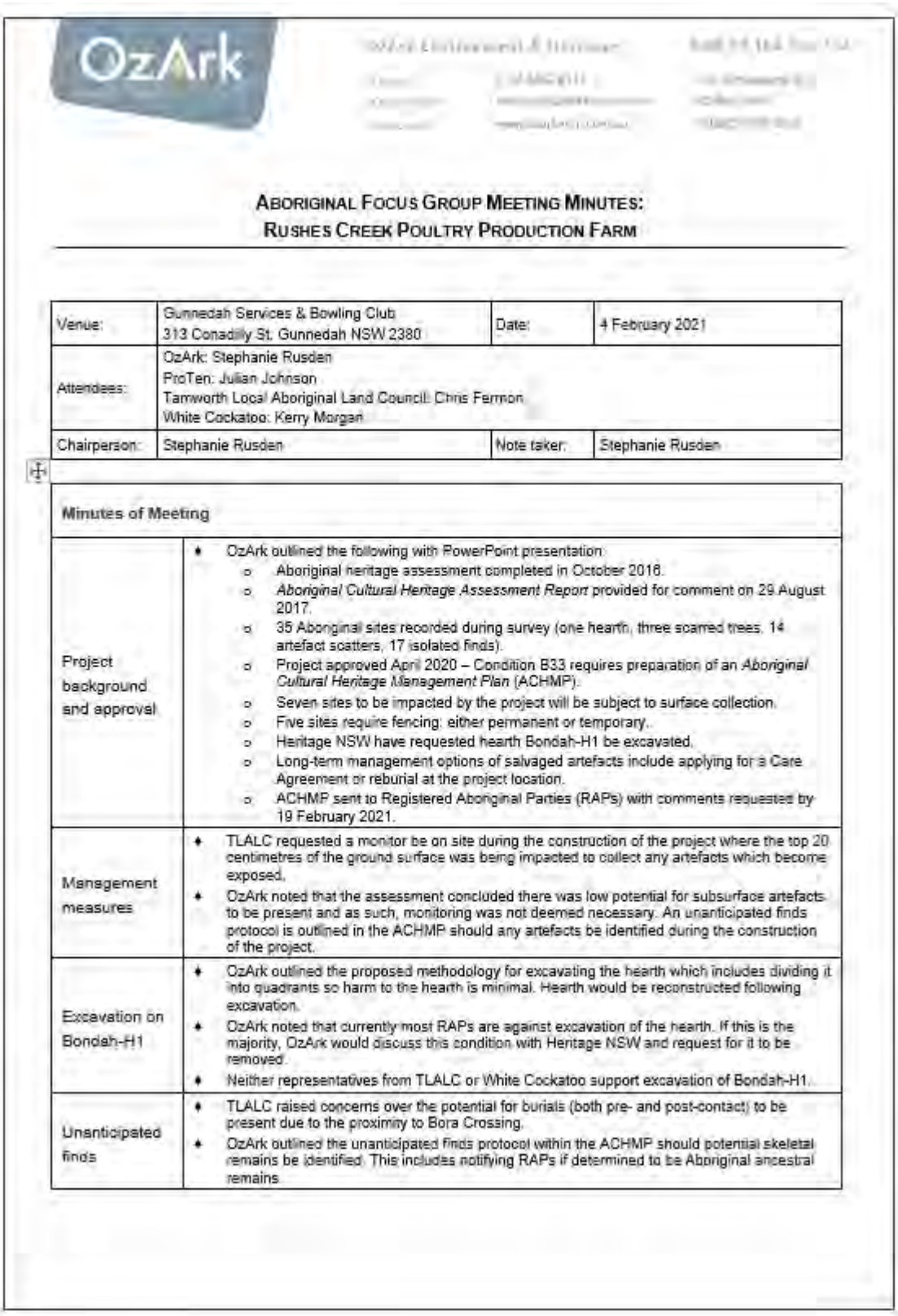
OzArk Environmental & Heritage Management P/L
145 Wingewarra St / PO Box 2069 DUBBO NSW 2830
WEB: www.ozarkehm.com.au
ABN: 59 104 582 354

Attendance list
Rushes Creek Poultry Farm
4 February 2021 11am
Gunnedah Services and Bowling Club
313 Conadilly Street, Gunnedah, NSW

NAME	ORGANISATION	CONTACT NUMBER	EMAIL ADDRESS	SIGNATURE
(DONNY) CH Fermor	~~TALA~~ TALC	0401255473	—	[illegible]
Julian Johnson	PROTEN	0406484474	julianj@proten.com.au	[illegible]
M Johnson	guest	0438155585		[illegible]
K. Morgan	Whitecockatoo	0475297980		Kerry Morgan
Steph Rusden	OzArk	0438700041		[illegible]

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / sheridan@ozarkehm.com.au / rebecca@ozarkehm.com.au

Appendix 3 Figure 7: Aboriginal Focus Group Meeting minutes



ABORIGINAL FOCUS GROUP MEETING MINUTES:
RUSHES CREEK POULTRY PRODUCTION FARM

Venue:	Gunnedah Services & Bowling Club 313 Conadilly St, Gunnedah NSW 2380	Date:	4 February 2021
Attendees:	OzArk: Stephanie Rusden ProTen: Julian Johnson Tamworth Local Aboriginal Land Council: Chris Fernon White Cockatoo: Kerry Morgan		
Chairperson:	Stephanie Rusden	Note taker:	Stephanie Rusden

Minutes of Meeting	
Project background and approval	♦ OzArk outlined the following with PowerPoint presentation: o Aboriginal heritage assessment completed in October 2016. o *Aboriginal Cultural Heritage Assessment Report* provided for comment on 29 August 2017. o 35 Aboriginal sites recorded during survey (one hearth, three scarred trees, 14 artefact scatters, 17 isolated finds). o Project approved April 2020 – Condition B33 requires preparation of an *Aboriginal Cultural Heritage Management Plan* (ACHMP). o Seven sites to be impacted by the project will be subject to surface collection. o Five sites require fencing; either permanent or temporary. o Heritage NSW have requested hearth Bondah-H1 be excavated. o Long-term management options of salvaged artefacts include applying for a Care Agreement or reburial at the project location. o ACHMP sent to Registered Aboriginal Parties (RAPs) with comments requested by 19 February 2021.
Management measures	♦ TLALC requested a monitor be on site during the construction of the project where the top 20 centimetres of the ground surface was being impacted to collect any artefacts which become exposed. ♦ OzArk noted that the assessment concluded there was low potential for subsurface artefacts to be present and as such, monitoring was not deemed necessary. An unanticipated finds protocol is outlined in the ACHMP should any artefacts be identified during the construction of the project.
Excavation on Bondah-H1	♦ OzArk outlined the proposed methodology for excavating the hearth which includes dividing it into quadrants so harm to the hearth is minimal. Hearth would be reconstructed following excavation. ♦ OzArk noted that currently most RAPs are against excavation of the hearth. If this is the majority, OzArk would discuss this condition with Heritage NSW and request for it to be removed. ♦ Neither representatives from TLALC or White Cockatoo support excavation of Bondah-H1.
Unanticipated finds	♦ TLALC raised concerns over the potential for burials (both pre- and post-contact) to be present due to the proximity to Bora Crossing. ♦ OzArk outlined the unanticipated finds protocol within the ACHMP should potential skeletal remains be identified. This includes notifying RAPs if determined to be Aboriginal ancestral remains.

OzArk Environment & Heritage

Long-term management options	♦ OzArk outlined the options for the long-term management of salvaged artefacts and noted that Tamworth LALC have requested to apply for a Care Agreement, however most RAPs have requested artefacts be reburied. ♦ OzArk outlined the requirements for reburying artefacts. ♦ Representatives from TLALC or White Cockatoo said they would prefer for artefacts to be placed on the surface as opposed to reburied within a container. Would like artefacts to be placed somewhere near Bondah-OS3 and Bondah-OS4.
Installation of a plaque	♦ TLALC requested a plaque be erected at Bondah-H1 as it is a rare site type for the area. ♦ OzArk said they would discuss with ProTen but as there is no public access to the site this is unlikely.
Access to site	♦ TLALC requested access be granted to the sites along a drainage line of the Namoi River (Bondah-OS3, Bondah-OS4 and Bondah-H1) for educational purposes (i.e. school groups). ♦ OzArk noted this would need to be discussed with ProTen and may be subject to availability of an escort and biosecurity requirements.
Continued land use	♦ TLALC questioned whether livestock would still be on the property once the poultry farm is operational as there are concerns the scarred trees would be impacted by cattle. If livestock will be on the property, they would like the scarred trees to be fenced. ♦ OzArk noted they were unsure whether livestock would be present and would need to clarify with ProTen.
Fencing of sites	♦ ProTen questioned what type of fencing would be required for sites needing fencing. ♦ OzArk noted that stakes with high visibility flagging would be suitable. ♦ Potential for OzArk to fence sites requiring fencing when completing the salvage to ensure they are suitably fenced. ♦ Contractors would also be provided with plans showing the location of sites to ensure none are impacted during construction or operation.

Appendix 3 Figure 8: RAP feedback on the Aboriginal Cultural Heritage Management Plan

OZ ARK ENIRONMENT & HERITAGE 2/01/2021

Taylor Foster WHITECOCKATOO

Michael J Long

17 Albion St Gunnedah NSW 2380

Hi Taylor foster

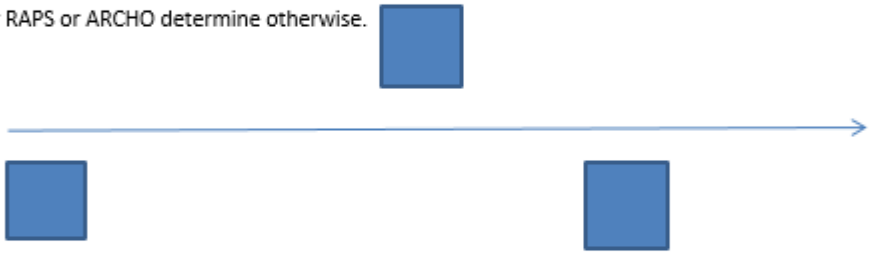
I would like to add some recommendations in regarding the methodology on the management plan for Rush creek poultry farms aboriginal objects.

Methodology Recommendations as listed below for before Archaeological investigation and works or after sites that have been or will be found.

Isolated artefacts find to be salvaged in the impact zone

All surfaces scatter artefacts to be salvaged in the impact zone

Where scatted artefacts are located and to impacted on, they need to be 50cm by 50cm test spits done in transaction formation with no less 20m apart with any less than 15 test pits per transaction, or RAPS or ARCHO determine otherwise.



After the above process is done a RAP meeting should be held to determine which artefacts scatters sites are going require more archaeological investigation, where spit of each transaction scatter site with the highest percentage of artefacts should be chased and till percentage of artefacts declined and this should be determine by the RAPs and archaeologist.

Scared trees that are found in the impact area are to be fenced off and RAP meeting to determine how it to be salvaged with a 50 metre buffer zone from tree dripping zone.

Any Gridding groves found in the ground a meeting is to take places with RAPS to determine if an exploration process is required or monitoring over the farms life span also have a 50m buffer zone.

Burials or Aboriginal graves or camp ovens found in the project area a RAP meeting is to be held so RAP can determine the best solution for the community for eg knowledge holders of Gomeroi laws and customs to visited sites so the full cultural values is to be documented.

Where the artefacts in project area that is to be impacted is to be salvaged and the sign off of the area should been done by RAPS and archaeologist. And then all archaeological salvage sign off to be presented at the annual meeting.

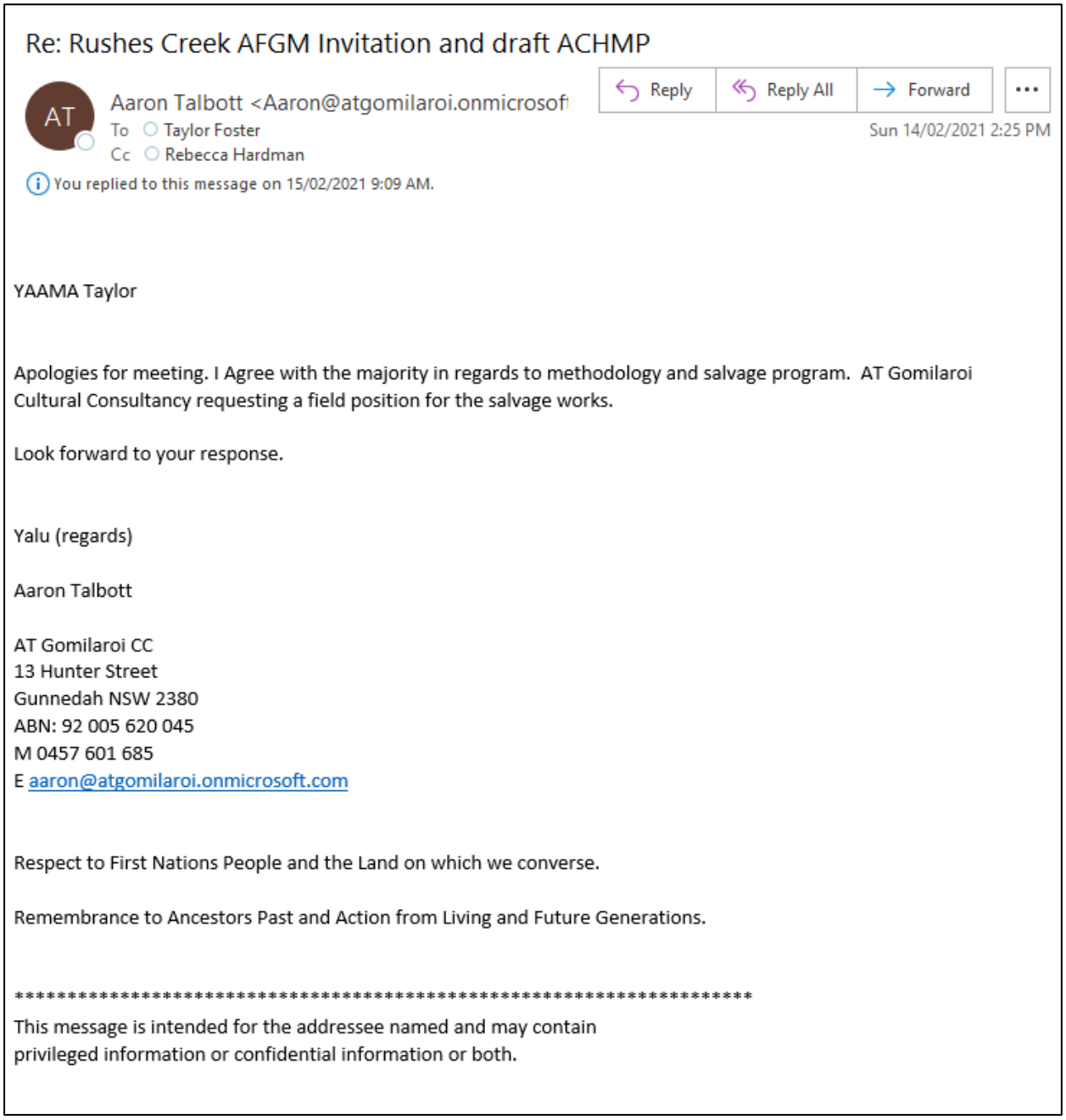
If there are padded areas that are grassed areas closes to creek lines, grader scraps could all so apply if there areas.

As a RAP I would also like the opportunity to be involved in works on this site like the aboriginal land council and as a knowledge holder and Gomeroi native title holder and I come from the 3 clan groups of the Gunnedah area I and my family should play an important role in the heritage management and the mitigation works, custodians should not be left out of this process.

I would also recommend having a meeting with all RAPS involved to discusses these matters as this location is part of a tribal boundary area between Gunnedah, manila and Tamworth clans but I would strongly recommend that all aboriginal objects to be salvage is to stay on site of that location and out of the impact zone because of the spiritual connection of that area.

Regards Michael long

Ph 0447867745



Re: Rushes Creek AFGM Invitation and draft ACHMP

AT

Aaron Talbott <Aaron@atgomilaroi.onmicrosoft

To Taylor Foster

Cc Rebecca Hardman

Reply | Reply All | Forward | ...

Sun 14/02/2021 2:25 PM

You replied to this message on 15/02/2021 9:09 AM.

YAAMA Taylor

Apologies for meeting. I Agree with the majority in regards to methodology and salvage program. AT Gomilaroi Cultural Consultancy requesting a field position for the salvage works.

Look forward to your response.

Yalu (regards)

Aaron Talbott

AT Gomilaroi CC
13 Hunter Street
Gunnedah NSW 2380
ABN: 92 005 620 045
M 0457 601 685
E aaron@atgomilaroi.onmicrosoft.com

Respect to First Nations People and the Land on which we converse.

Remembrance to Ancestors Past and Action from Living and Future Generations.

****

This message is intended for the addressee named and may contain
privileged information or confidential information or both.

Appendix 3 Figure 9: OzArk responses to feedback on the Aboriginal Cultural Heritage Management Plan

OzArk Environment & Heritage ABN 59 104 582 354

Dubbo
Queanbeyan
Newcastle

T: 02 6882 0118
enquiry@ozarkehm.com.au
www.ozarkehm.com.au

145 Wingewarra St
PO Box 2069
DUBBO NSW 2830

3 February 2021

White Cockatoo
c/- Michael J Long
[redacted]

RE: RUSHES CREEK POULTRY FARM: ABORIGINAL CULTURAL HERITAGE MANAGEMENT PLAN REVIEW AND SALVAGE

Dear Michael,

Thank you for taking the time to read and provide feedback on the draft Aboriginal Cultural Heritage Management Plan (ACHMP) for the Rushes Creek Poultry Farm.

Please see below in green comments to each of the points raised in your feedback –

1) Isolated artefacts find to be salvaged in the impact zone.

All isolated finds within the impact zone will be subject to surface collection.

2) All surfaces scatter artefacts to be salvaged in the impact zone.

All artefact scatters within the impact zone will be subject to surface collection.

3) Where scatted artefacts are located and to impacted on, they need to be 50cm by 50cm test spits done in transaction formation with no less 20m apart with any less than 15 test pits per transaction, or RAPS or ARCHO determine otherwise.

After the above process is done a RAP meeting should be held to determine which artefacts scatters sites are going require more archaeological investigation, where spit of each transaction on scatter site with the highest percentage of artefacts should be chased and till percentage of artefacts declined and this should be determined by the RAPs and archaeologist.

No subsurface excavation will be taking place at the location of the artefact scatters (Happy Hills-OS3 and Bondah-OS11) which will be impacted by the development. Neither of these sites were considered to be associated with subsurface deposits.

4) Scarred trees that are found in the impact area are to be fenced off and RAP meeting to determine how it to be salvaged with a 50 metre (m) buffer zone from tree dripping zone.

If any grinding grooves found in the ground a meeting is to take places with RAPS to determine if an exploration process is required or monitoring over the farms life span also have a 50m buffer zone.

OzArk Environment & Heritage

Should any scarred trees, grinding grooves or ground ovens be identified within the impact footprint, they will be managed as per Section 7.2.1 and 7.2.2 of the ACHMP. This includes:

- Fencing the site with a 10 m buffer
- An archaeologist will visit the potential site to determine if it is an Aboriginal site
- If it is determined to be an Aboriginal site, a Registered Aboriginal party (RAP) representative will be invited to visit the site.
- The site will be registered on the Aboriginal heritage Information Management System (AHIMS) register
- RAPs will be contacted to discuss management options.

5) Burials or Aboriginal graves or camp ovens found in the project area a RAP meeting is to be held so RAP can determine the best solution for the community for e.g., knowledge holders of Gomeroi laws and customs to visited sites so the full cultural values is to be documented.

If any potential Aboriginal ancestral remains are encountered, they will be managed as per Section 7.1 of the ACHMP. The process for this is detailed below:

- All work close to the find will cease immediately and a minimum buffer of 10 m in all directions from the visible remains will be cordoned off with temporary construction fencing
- The find will be immediately reported to the site supervisor who will immediately advise the Proponent.
- The Proponent will promptly contact the nearest police station (as required for all human remains discoveries)
- The Proponent will contact Heritage NSW (131 555) for advice on identification of the skeletal material as Aboriginal and management of the material
- If the remains are Aboriginal ancestral remains, the RAPs will be contacted and consultative arrangements will be made to discuss ongoing care of the remains, including advice on recommended forensic anthropologists.
- Recommencement of work in the area surrounding the Aboriginal ancestral remains can only occur once the updated ACHMP for the Development has been endorsed by the Secretary (or their delegate), or the Secretary is satisfied that the measures to be implemented in managing the remains have been undertaken and makes a written direction in that regard.

If any ground ovens are encountered, they will be managed as per the procedure listed in 4) above.

6) Where the artefacts in project area that is to be impacted is to be salvaged and the sign off of the area should been done by RAPS and archaeologist. And then all archaeological salvage sign off to be presented at the annual meeting.

The salvage will be completed by an archaeologist and RAPs. A copy of the salvage report will be sent to all RAPs which will document the results of the salvage as opposed to holding a meeting.

7) If there are padded areas that are grassed areas closes to creek lines, grader scraps could all so apply if their areas.

OzArk Environment & Heritage

No areas of potential archaeological deposits (PAD) will be impacted by the development. As such, no grader scrapes are proposed.

8) As a RAP I would also like the opportunity to be involved in works on this site like the aboriginal land council and as a knowledge holder and Gomeroi native title holder and I come from the 3 clan groups of the Gunnedah area I and my family should play an important role in the heritage management and the mitigation works, custodians should not be left out of this process.

OzArk will note that you are interested in participating in the upcoming salvage.

9) I would also recommend having a meeting with all RAPS involved to discusses these matters as this location is part of a tribal boundary area between Gunnedah, manila and Tamworth clans but I would strongly recommend that all aboriginal objects to be salvage is to stay on site of that location and out of the impact zone because of the spiritual connection of that area.

As you are aware, a meeting is being held on Thursday 4 February 2021 in Gunnedah to discuss the ACHMP and any concerns relating to the development.

OzArk has noted that your preference is for salvaged artefacts to be relocated back on site.

If you have any further questions or comments please feel free to contact me at stephanie@ozarkehm.com.au.

Kind regards,

Stephanie Rusden
OzArk Archaeologist

Appendix H:

Pollution Incident Response Management Plan (PIRMP)

POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

Rushes Creek Poultry Production Farm
1582 Rushes Creek Road, Rushes Creek NSW 2346

Prepared for:

ProTen Tamworth Pty Ltd
Suite 1103, Level 11,
99 Mount Street
North Sydney NSW 2060
Australia

SLR Ref: 631.30722.00100-R01
Version No: -v1.0
August 2022

PREPARED BY

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
Suite 2B, 125 Bull Street
Newcastle West NSW 2302

T: +61 2 4940 0442
E: newcastleau@slrconsulting.com www.slrconsulting.com

BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with ProTen Tamworth Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
631.30722.00100-R01-v1.0	30 August 2022	Hugh Jones (SLR)	Anna Kleinmeulman (SLR)	Bill Williams (ProTen)

CONTENTS

CONTENTS

TABLES

FIGURES

APPENDIX

1 Introduction

1.1 Background and Scope

ProTen Tamworth Pty Limited (ProTen) owns and operates the Rushes Creek Poultry Production Farm (Rushes Creek) located on Rushes Creek Road, Rushes Creek NSW in the Tamworth Local Government Area (LGA). In summary, Rushes Creek shall comprise 54 fully enclosed climate-controlled poultry sheds, where broiler birds are grown for the purpose of producing poultry meat (for human consumption), and associated support and servicing infrastructure. The farm has a site capacity of 3,051,000 birds at any one time.

Rushes Creek operates under the provisions of Environment Protection Licence (EPL) EPL 21569 administered by the Environment Protection Authority (EPA) and is required to comply the *Protection of the Environment Operations Act 1997* (POEO Act). Part 5.7A of the POEO Act requires all EPL holders to prepare, keep, test, and implement pollution incident response management plans (PIRMPs). The aims of a PIRMP include to:

- Minimise the risk of a pollution incident occurring as a result of the licensed activities by identifying the particular risks and nominating the controls to minimise and manage those risks;
- Establish clear and effective notification, action, and communication procedures to ensure the right people are promptly informed in the event of a pollution incident; and
- Ensure employees are appropriately inducted and trained in relation to risk management and incident response.

This document comprises the PIRMP for Rushes Creek. It covers the key actions to minimise the occurrence of a pollution incident, the key actions to manage a pollution incident if one happened to occur, and the notification requirements for pollution incidents.

If a pollution incident occurs as a result of an activity at Rushes Creek that causes or threatens to cause material harm to the environment (definition in ***Section 1.3***), the person carrying on the activity must immediately notify ProTen's Site Management so that they can implement this PIRMP.

1.2 PIRMP Availability

A copy of this PIRMP will be kept in written form at the site office at Rushes Creek and will be made readily available to all personnel for implementing the PIRMP and to any authorised EPA officer on request.

The PIRMP will be made publicly available within 14 days of finalisation on ProTen's website:
https://proten.com.au/Sustainability/Environmental-Documents

1.3 Definitions

The POEO Act provides the following definitions:

Pollution – *means –*

(a) Water pollution, or
(b) Air pollution, or
(c) Noise pollution, or
(d) Land pollution.

Pollution incident – *means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.*

Material harm to the environment –

(1) For the purposes of this Part –

(a) Harm to the environment is material if –

(i) It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

1.4 Legislative Requirements

PIRMPs must include the information listed in section 153C of the *POEO Act* and clause 131 of the *Protection of the Environment Operations (General) Regulation 2021* (General Regulation). Table 1 lists these legislative requirements and references which section(s) of this document each requirement has been addressed.

Table 1 Legislative Requirements

Relevant Legislation & Requirement	PIRMP Section
Section 153C of the POEO Act	
(a) the procedures to be followed by the holder of the relevant environment protection licence, or the occupier of the relevant premises, in notifying a pollution incident to— (i) the owners or occupiers of premises in the vicinity of the premises to which the environment protection licence or the direction under section 153B relates, and (ii) the local authority for the area in which the premises to which the environment protection licence or the direction under section 153B relates are located and any area affected, or potentially affected, by the pollution, and any persons or authorities required to be notified by Part 5.7,	**Section 3.5**
(b) a detailed description of the action to be taken, immediately after a pollution incident, by the holder of the relevant environment protection licence, or the occupier of the relevant premises, to reduce or control any pollution,	**Section 3.3**
(c) the procedures to be followed for co-ordinating, with the authorities or persons that have been notified, any action taken in combating the pollution caused by the incident and, in particular, the persons through whom all communications are to be made,	**Section 3.3, 3.4 & 3.5**
(d) any other matter required by the regulations.	**See below**
Clause 131 of the General Regulation	
(a) a description of the hazards to human health or the environment associated with the activity to which the licence relates (the relevant activity),	**Section 2.5 & Appendix A**
(b) the likelihood of any such hazards occurring, including details of any conditions or events that could, or would, increase that likelihood,	**Appendix A**
(c) details of the pre-emptive action to be taken to minimise or prevent any risk of harm to human health or the environment arising out of the relevant activity,	**Section 2.6 & Appendix A**
(d) an inventory of potential pollutants on the premises or used in carrying out the relevant activity,	**Section 2.6.7**
(e) the maximum quantity of any pollutant that is likely to be stored or held at particular locations (including underground tanks) at or on the premises to which the licence relates,	**Section 2.6.7**
(f) a description of the safety equipment or other devices that are used to minimise the risks to human health or the environment and to contain or control a pollution incident,	**Section 2.7**
(g) the names, positions and 24-hour contact details of those key individuals who— (i) are responsible for activating the plan, and (ii) are authorised to notify relevant authorities under section 148 of the Act, and (iii) are responsible for managing the response to a pollution incident,	**Section 3.1**

(h) the contact details of each relevant authority referred to in section 148 of the Act,	**Section 3.5.2**
(i) details of the mechanisms for providing early warnings and regular updates to the owners and occupiers of premises in the vicinity of the premises to which the licence relates or where the scheduled activity is carried on,	**Section 3.5.3**
(j) the arrangements for minimising the risk of harm to any persons who are on the premises or who are present where the scheduled activity is being carried on,	**Section 3.3 & 3.4**
(k) a detailed map (or set of maps) showing the location of the premises to which the licence relates, the surrounding area that is likely to be affected by a pollution incident, the location of potential pollutants on the premises and the location of any stormwater drains on the premises,	**Figure 1**, **Figure 2 & Figure 3**
(l) a detailed description of how any identified risk of harm to human health will be reduced, including (as a minimum) by means of early warnings, updates and the action to be taken during or immediately after a pollution incident to reduce that risk,	**Sections 3.2**, **3.3 & 3.4**
(m) the nature and objectives of any staff training program in relation to the plan,	**Section 3.2**
(n) the dates on which the plan has been tested and the name of the person who carried out the test,	**Annexure C**
(o) the dates on which the plan is updated,	**Annexure C**
(p) the manner in which the plan is to be tested and maintained.	**Section 3.6**

1.5 Other Relevant Documents

This PIRMPs should be read and implemented in conjunction with the following:

- Rushes Creek EPL 21569
- Rushes Creek Construction Environment Management Plan (CEMP)
- Rushes Creek Operational Environmental Management Plan (OEMP)
- Rushes Creek Emergency Disposal and Biosecurity Strategy

2 Site Particulars

2.1 Site Details

Rushes Creek Poultry Farm is situated across multiple lots within the locality of Rushes Creek, including:

- Lot 171 DP 752169 – 1582 Rushes Creek Rd, Rushes Creek
- Unformed Council public road traversing through Lot 171 DP 752169
- Part Lot 62 DP 1276824 – 1582 Rushes Creek Rd, Rushes Creek
- Part Lot 143 DP 752189 – Kyora Rushes Creek, Rushes Creek
- Part Lot 1 DP 1108119 – Kyora Rushes Creek, Rushes Creek
- Lot 86 DP 752169 – 1582 Rushes Creek Rd, Rushes Creek
- Lot 101 DP 752169 – 1582 Rushes Creek Rd, Rushes Creek
- Lot 118 DP 752169 – 1582 Rushes Creek Rd, Rushes Creek
- Lot 1 DP 1132078 – Kyora Rushes Creek, Rushes Creek
- Lot 26 DP 752169 – Rushes Creek Rd, Rushes Creek
- Lot 1 DP 1132298 – Kyora Rushes Creek, Rushes Creek
- Lot 1 DP 44215 – 1582 Rushes Creek Rd, Rushes Creek

Rushes Creek locality adjoins Manilla and New Mexico to the north, Klori to the east, Carroll and Somerton to the south, and Keepit and Wongo Creek to the west, refer to **Figure 2**.

Figure 1 Location of the Site (Source: SLR Consulting Australia Pty Ltd)

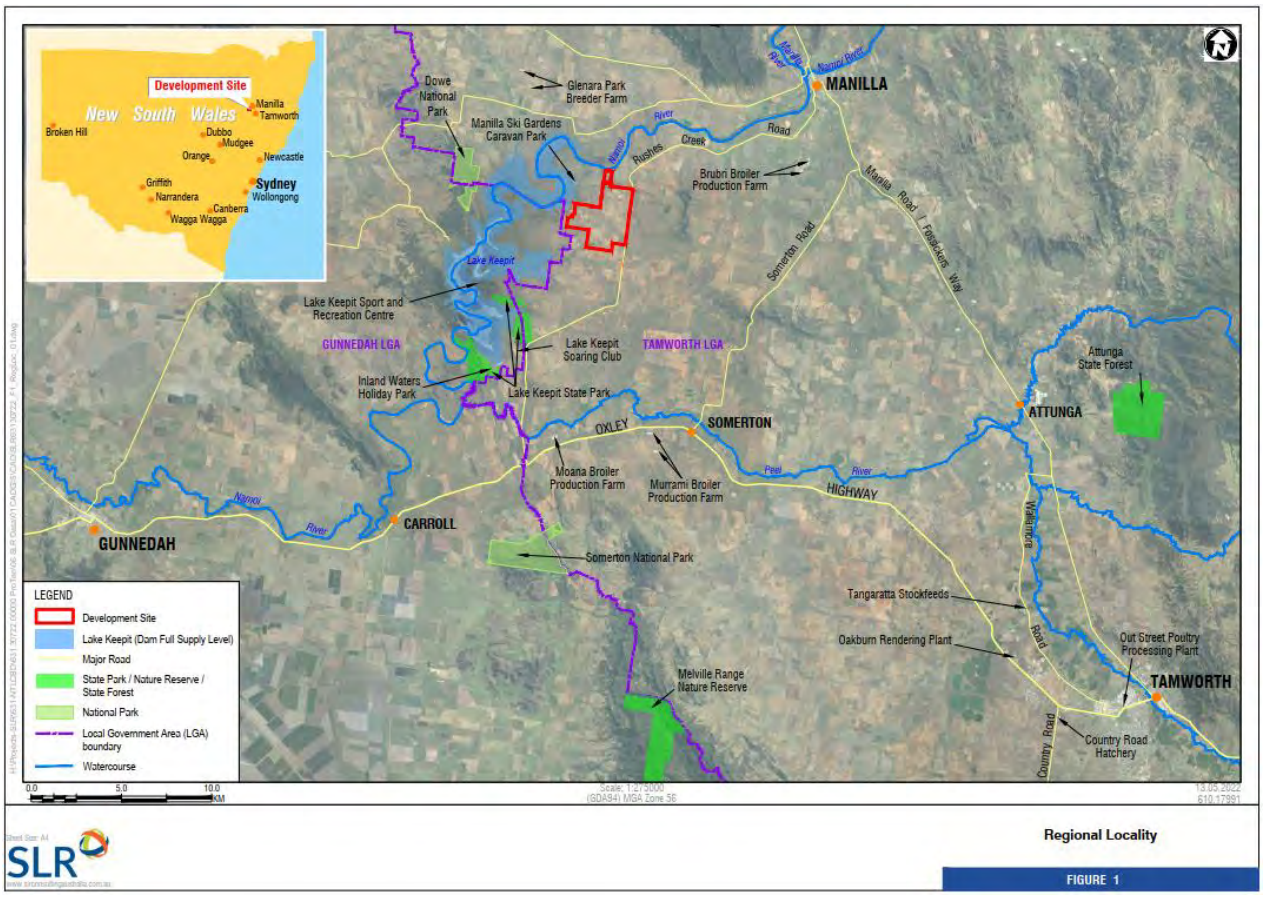
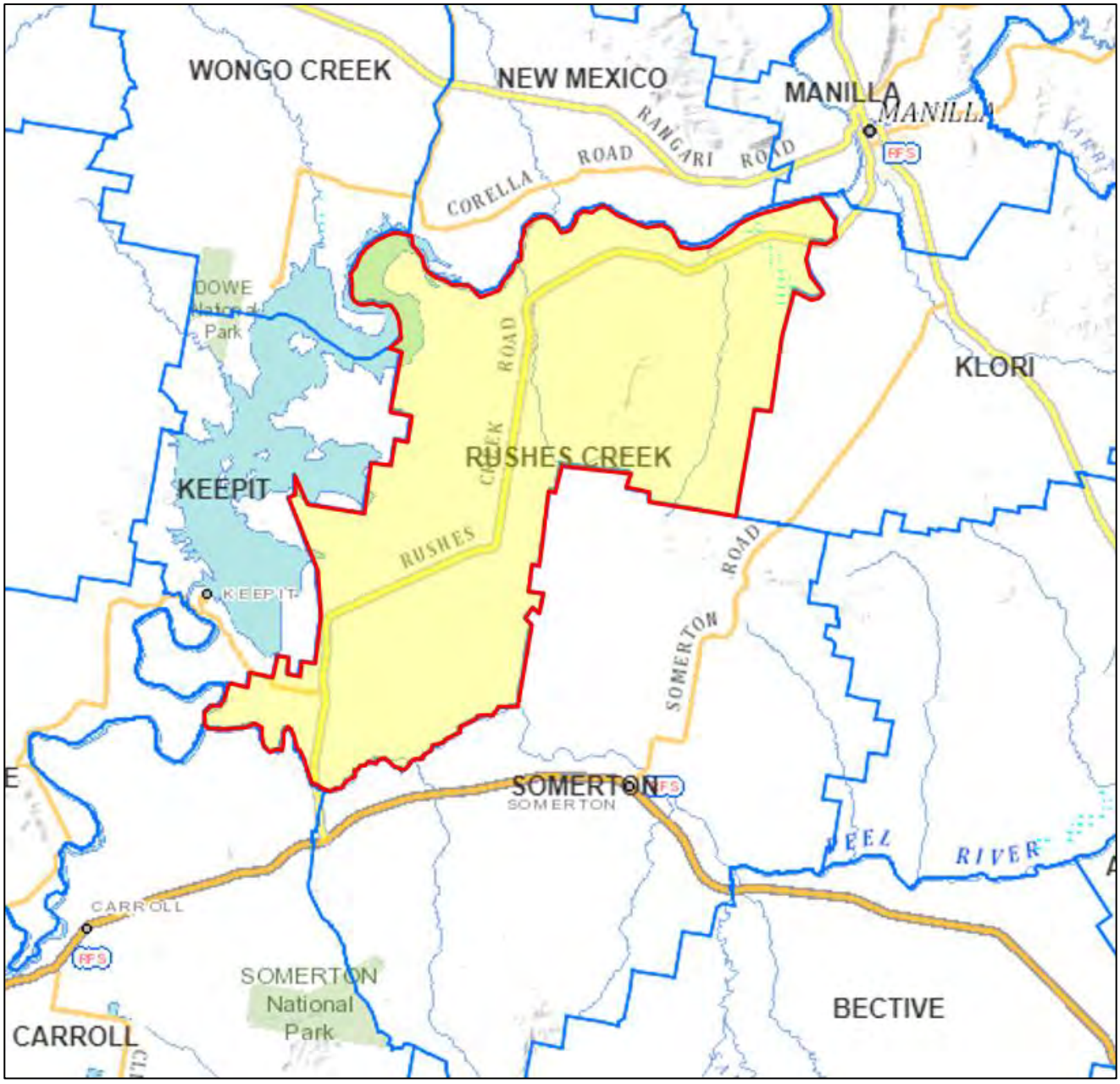


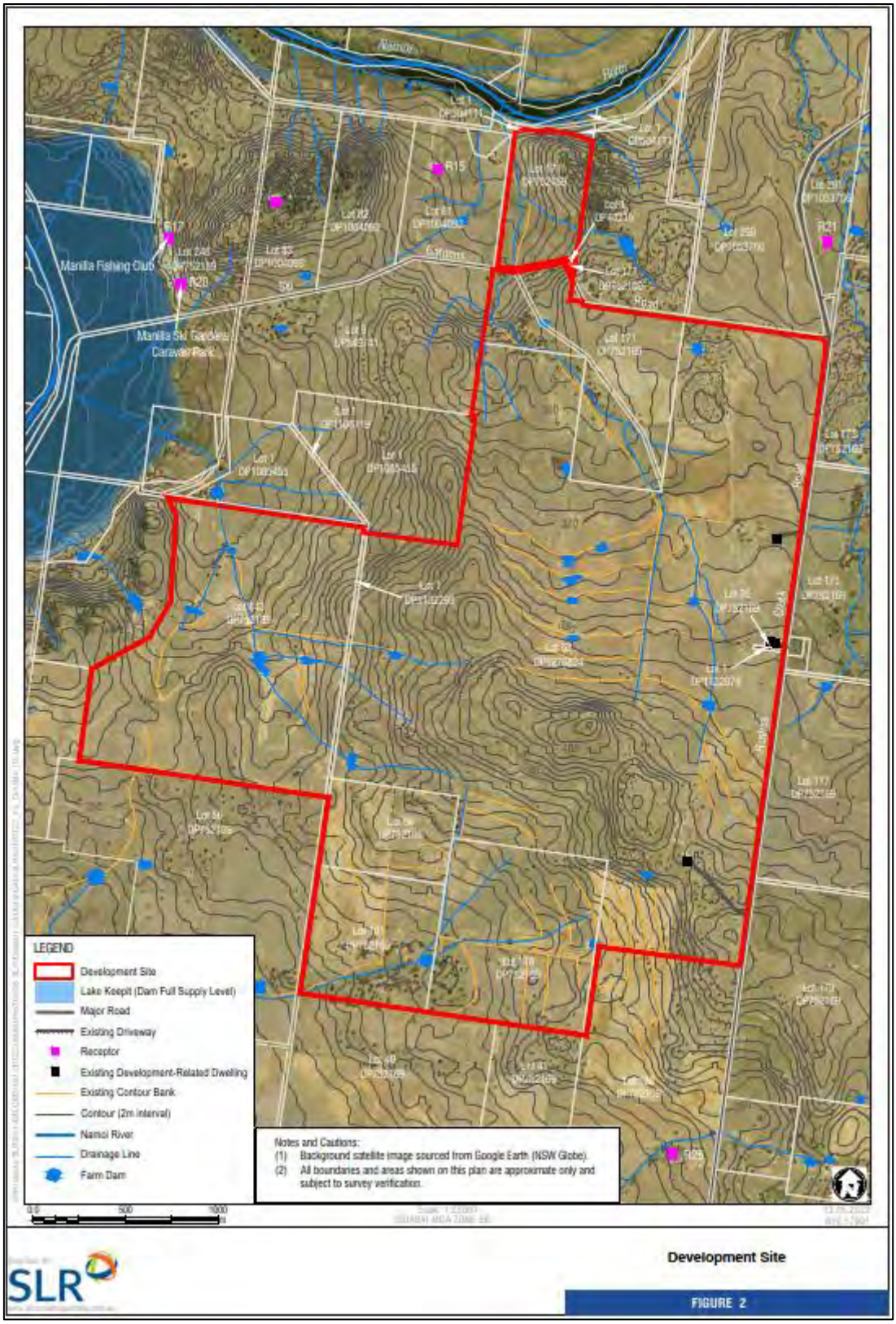
Figure 2 Cadastral Suburb Boundaries



2.2 Surrounding Receptors

Rushes Creek is located within a rural setting that is removed from any populated areas, with the nearest being the village of Manilla approximately 12.5km to the northeast. The site also has a relatively low density of surrounding residences, with the nearest identified on **Figure 3**.

Figure 3 Location of Receptors (Source: SLR Consulting Australia Pty Ltd)



2.3 Development Consent

Development Consent SSD 7704 was issued by Department of Planning & Environment (DPE) on 16 April 2020. For the purposes of this document, the approved development is described in detail in the document titled *Rushes Creek Poultry Production Farm, Environmental Impact Statement* and the appendices contained within.

In summary, Rushes Creek comprises four poultry farms containing 54 fully-enclosed climate-controlled poultry sheds, where broiler birds are grown for the purpose of producing poultry meat (for human consumption), and associated support and servicing infrastructure. The farm has a site capacity of 3,051,000 birds at day 1 placement.

2.4 Environment Protection Licence

Rushes Creek operates under the provisions of EPL 21569 for the scheduled activity of "livestock intensive activities". It covers the fee-based activity of "bird accommodation" to a scale of greater than (>) 1,000 tonnes.

2.5 Potential Environmental Hazards

The likelihood of environmental hazards occurring at Rushes Creek has been captured via a broad-brush risk assessment (see **Appendix A**). The purpose of the risk assessment was to identify the potential hazards and/or risks posed by the poultry farm during construction and operation and the controls necessary to effectively mitigate and/or manage these risks.

The potential hazards/risks that have been identified at Rushes Creek are (in no particular order):

- Failure of construction waste management systems;
- Failure of construction erosion and sediment control systems;
- Chemical and/or oil spill;
- Failure of the surface water management system;
- Failure of the various waste management systems;
- Mass mortality event; and
- Fire in or around the poultry sheds.

2.6 Pre-Emptive Action to be Taken

The CEMP and OEMP prepared for Rushes Creek should be referred to for a comprehensive list of the environmental management and mitigation measures to be implemented in relation to the various environmental risks, including (but not limited to) potentially hazardous materials, surface water management and waste management. The below sub-sections provide key commitments from the CEMP and OEMP relevant to potential pollution risks and incidents.

2.6.1 General Site Maintenance

Rushes Creek will be managed in compliance with ProTen's standard operating procedures, including a regular inspection and maintenance program to ensure all necessary environmental controls are in place, plant and equipment is regularly serviced and any required maintenance/remediation works are identified and undertaken. Such activities will minimise the potential for adverse environmental impacts and incidents, extend the life of equipment, reduce operating costs and maximise operational efficiency.

2.6.2 Potentially Hazardous Materials Management

Section 2.6.7 provides an inventory of potentially hazardous materials to be stored and used at Rushes Creek. The mitigation and management measures that will be implemented to minimise the potential for environmental incidents relating to the storage and use of these materials are listed in **Table 2**.

Table 2 Hazardous Materials Mitigation and Management Measures

Control	Responsibility	Timing/Frequency
Chemicals, fuels and oils will be stored and handled in accordance with: • Relevant Australian Standards; and • The EPA's Storing and Handling of Liquids: Environmental Protection, Participants Manuel (2007).	Site Management	On-going
Diesel will be stored in an aboveground bunded tank, with the minimum bund volume being 110% of the respective tank capacity. The tanks will be located away from the chemical store in the office-workshop and away from anything else considered flammable.	Site Management	On-going
Safety data sheet (SDS) for each hazardous substance/fuel will be maintained within the office-workshop and/or chemical store.	Site Management	On-going
Appropriate spill kits will be maintained within the office-workshop and/or chemical store.	Site Management	On-going
The actions specified in **Section 3.3** will be promptly implemented in the event of a chemical/fuel spill.	All employees and contractors	As required
Personal protective equipment (PPE) maintained within the office-workshop.	Site Management	On-going
Employees and contractors working on-site will be instructed in the proper use and handling of chemicals/fuels, as well as spill response.	Site Management	Prior to starting work – site induction. On-going – toolbox talks.

2.6.3 Water Management

Given the controlled environment in which Rushes Creek will operate, including an engineered surface water management system, it poses a low risk to local water resources. **Table 3** lists the development design features and mitigation and management measures that will be implemented to ensure negligible risk to local water resources throughout the life of the poultry farm.

Table 3 Water Mitigation and Management Measures

Control	Responsibility	Timing/Frequency
Site construction preparation will include Erosion & Sediment Control measures installed and stabilised prior to commencing surface disturbance.	Site Management	Pre–Construction & Construction
Installation of surface water management system.	Site Management	Pre–Construction & Construction
Site Landscaping	Site Management	Post–Construction & On-going
Poultry sheds will be fully enclosed and have fully-sealed flooring.	Site Management	On-going
Poultry sheds will be surrounded by a dwarf concrete bund wall to prevent rainwater/runoff entering the sheds and to allow for the controlled discharge of wash down water from the sheds.	Site Management	On-going
Poultry shed wash down water and rainfall runoff within the farm bounds will be captured in the engineered surface water management system conservatively designed to cater for a 1% AEP 72-hour event.	Site Management	On-going
Internal surfaces of the retention dams will be compacted or lined to provide an impermeable surface.	Site Management	On-going
An on-going inspection and maintenance program will be implemented to ensure the continued integrity and efficiency of the surface water management system.	Site Management	Monthly and after significant rain
The grassed swale drains between the poultry sheds will be managed to minimise soil disturbance and maximise treatment potential. They will be regularly slashed to encourage continual grass growth and nutrient up-take.	Site Management	On-going
Dry-cleaning practices at the end of each production cycle will be maximised within the poultry sheds prior to washing with water to minimise the volume of wash water and the amount of poultry litter (and associated sediments and nutrients) in the wash down water.	Site Management	End of each cycle
An aerated wastewater treatment system providing secondary level treatment will be installed to manage the relatively small volume of sewage to be generated by the staff amenities. It will be maintained in accordance with the manufacturer's specifications and Council requirements.	Site Management	On-going

2.6.4 Waste Management

Table 4 lists the primary construction and operational waste streams with their respective classifications under the *Waste Classification Guidelines Part 1: Classifying Waste* (EPA 2014) and intended reuse/recycling/disposal method.

Table 4 Waste Streams

Waste Type	NSW Classification	Reuse / Recycle / Disposal
Construction Waste (green waste, excavated natural material (VENM/ENM), concrete, timber framework, plasterboard, metal, electrical cabling, glass, conduits and pipes, sediment fencing, geotextile materials)	General soil waste (non-putrescible)	On-site reuse and/or off-site composting and/or off-site disposal at licensed facility.
General daily waste	General solid waste (putrescible and non-putrescible)	Placed in to enclosed bins and removed by a licensed contractor for landfill disposal at a licensed facility.
Empty chemical/fuel containers	Hazardous waste if containers previously used to store dangerous goods (Class 1, 3, 4, 5 or 8) and from which residues have not been removed by washing or vacuuming. General solid waste (non-putrescible) if containers have been cleaned by washing or vacuuming.	Chemicals required for sanitisation, water treatment, weed control and pest control purposes will be purchased from a local supply company and/or delivered direct to the Development Site by ProTen. Empty chemical containers will be returned to the local supply company and/or ProTen for reuse, recycling or appropriate disposal. Alternatively, a licensed contractor will be engaged to provide a chemical container pickup service for recycling, reuse or appropriate disposal. Any non-returnable chemical containers will be collected and managed via the drumMUSTER program.
Poultry litter	General solid waste (putrescible)	Poultry litter is highly sought after as an organic fertiliser and/or rehabilitation agent for agricultural lands. As such, litter collected from the sheds will likely be sold as a commercial raw product and/or sold directly to regional farmers. ProTen will ensure truck loads leaving the Development Site are covered to minimise emissions of odour and particulate matter.

Waste Type	NSW Classification	Reuse / Recycle / Disposal
		The litter will not be stockpiled or disposed of within the bounds of the Development Site under any circumstances for best management practice and biosecurity reasons.
Daily dead birds	General solid waste (putrescible)	The poultry sheds will be inspected daily and any dead birds will be collected and moved to the on-site dead bird freezers for short-term storage prior to being collected and transported to Baiada's rendering plant near Tamworth for treatment and production of tallow and poultry offal meal (i.e. value-added products). Dead birds will not be stockpiled or disposed of within the Development Site under any circumstances for best management practice and biosecurity reasons.
Sewage (from staff amenities)	Liquid waste	Treated and disposed of via an AWTS installed and maintained in accordance with the manufacturer's specifications and Council requirements.
Green waste	General solid waste (non-putrescible)	Direct reuse on site and/or off-site composting or disposal at licensed facility.
Tyres	Special waste	Off-site recycling or disposal at licensed facility.
Air and oil filters and rags	General solid waste (non-putrescible)	Off-site recycling or disposal at licensed facility.
Batteries	Hazardous waste	Off-site recycling.
Light bulbs / fluorescent tubes	Hazardous waste	Off-site recycling.

The mitigation and management measures listed in **Table 5** will be implemented to ensure waste is effectively managed/disposed of off-site.

Table 5 Waste Mitigation and Management Measures

Control	Responsibility	Timing/Frequency
Waste streams will be managed in accordance with the reuse/recycling/disposal methods listed in **Table 4**.	All employees and contractors	On-going
Waste materials removed from site for reuse/recycling/disposal will be directed to a facility lawfully permitted to accept the respective material.	Site Management	On-going
No disposal of construction waste materials will occur within the development site.	Construction Site Supervisor	Construction

Control	Responsibility	Timing/Frequency
Appropriate waste skips/bins will be provided on-site and checked daily. If the skip/bin is reaching capacity, arrangements will be made for its removal and replacement within the next 24-48 hours.	Construction Site Supervisor	Construction
All skips/bins leaving the Site will be suitably covered to avoid spillage and/or dust emissions during transit.	Construction Site Supervisor	Construction
Packing wastes will be reduced, where possible, by returning packaging to the suppliers (e.g. pallets, reels), purchasing in bulk, requesting cardboard or metal drums (as opposed to plastics).	Construction Site Supervisor	Construction
Any portable self-contained toilets and washroom facilities will be regularly serviced and emptied by a licensed contractor.	Construction Site Supervisor & Site Management	Construction & On-going
There will not be any on-site stockpiling or disposal of waste, including poultry litter and dead birds.	Site Management	On-going
Waste materials generated elsewhere (i.e. outside of the Rushes Creek site) will not be received on-site for any purpose.	Site Management	On-going

2.6.5 Mass Mortality Disposal

In the unlikely event of an emergency animal disease (EAD) outbreak, ProTen will immediately implement strict quarantine procedures to isolate the farm and notify the Department of Primary Industries (DPI). Upon confirmation that it is indeed an EAD outbreak and immediate slaughter of farm stock is necessary, slaughter and disposal will be managed/guided by DPI and other relevant regulatory authorities.

The preferred disposal option in the event of mass mortality is in-shed composting, which has been identified by emergency management agencies as a preferred method of carcass disposal. When undertaken properly in enclosed sheds with sealed flooring (like at Rushes Creek), in-shed composting should not result in any notable environmental impact.

Refer to the *Biosecurity and Emergency Disposal Plan* prepared for Rushes Creek for details on the preferred methods for bird euthanasia and disposal of bird carcasses and fomites in the unlikely event of an EAD outbreak at Rushes Creek.

2.6.6 Fire Management

The Development Site is not mapped as bushfire prone land.

Table 6 lists the fire prevention strategies that will be implemented in order to minimise the likelihood of a fire at Rushes Creek.

Table 6 Fire Management Measures

Control	Responsibility	Timing/Frequency
The walls of the poultry sheds are made of fire-retardant insulated panels.	Site Management	On-going
Buildings, including electrical installations and fire provisions, will be designed, constructed, and maintained in compliance with the relevant requirements of the Building Code of Australia (BCA) and relevant Australian Standards.	Site Management	On-going
The diesel tanks will be maintained away from the chemical/fuel stores in the office-workshop and away from anything else considered flammable.	Site Management	On-going
The water storage tanks (combined 2,500 kilolitres [kL]), will be interconnected and automatically filled via a pressurised line to remain near capacity at all times. These tanks will be available for fire-fighting purposes, with one fitted with a 150 mm large bore suction connection, which is traditionally used by Fire and Rescue NSW, and two 65 mm small bore suction connection, which is traditionally used by NSW Rural Fire Service.	Site Management	On-going
General housekeeping will be regularly undertaken to ensure any trees/shrubs in the vicinity of electrical installations are adequately pruned or removed to maintained clearance and the areas around electrical installations are kept clear of any combustible materials.	Site Management	On-going
PPE maintained within the office-workshop.	Site Management	On-going
Fire-fighting runoff would be expected to enter the engineered surface water management system, which has been conservatively designed to cater for a 1% AEP 72-hour event, and be captured in the retention dams. An on-going inspection and maintenance program will be implemented to ensure the continued integrity and efficiency of the surface water management system.	Site Management	Monthly and after significant rain

2.6.7 Inventory of Pollutants

The potentially hazardous materials that will be stored and/or used at Rushes Creek will include:

- Natural gas for heating the poultry sheds;
- Petrol and diesel for farm equipment and generator requirements;
- Pest and weed control products;

- Water treatment products to ensure the water supply meets biosecurity requirements and is suitable for bird consumption; and
- Sanitation products for use in the poultry sheds at the end of production cycle and within the wheel wash facility and footbaths.

Table 7 provides in inventory of potentially hazardous materials at Rushes Creek, with their respective Australian Dangerous Goods (ADG) classes (where relevant). **Figure 4** shows the storage locations for these materials.

Table 7 Inventory of Potential Hazardous Materials

Substance (or similar)	Description	ADG	On-Site Storage	SEPP (Resilience & Hazards) Threshold	SEPP (Resilience & Hazards) Threshold Screening
General Use					
LPG	Natural gas to heat poultry sheds	Class 2.1	LPG Tanks – size 9x 7,500L	N/A	
Premium Cool Plus 50	Coolant for vehicles	Class 9[2]	Chemical Store – 20L	N/A	
Virukill	Sanitiser	N/A	Chemical Store – 40L	N/A	
Hand Sanitiser 70% Alcohol	Hand Sanitiser	N/A	Office Workshop – 25L	N/A	
Barmac Out of Bounds	Insecticide	N/A	Chemical Store – 5L	N/A	
Glyphosate (e.g. Roundup)	Herbicide	N/A	Chemical Store – 50L	N/A	
MCPA 750	Selective Herbicide	N/A	Chemical Store 25L	N/A	
Oxyfluorfen 240 Herbicide	Broadleaf Herbicide	N/A	Chemical Store – 25L	N/A	
Ratshot Blue Blocks	Rodenticide Blocks	N/A	Chemical Store – 100kg	N/A	
Water Treatment					
Citric Acid	pH Water Buffering	N/A	Water pump room – 1,000L	N/A	
Sodium Hypochlorite 12.5%	Liquid Chlorine – water sanitiser	Class B	Dam pump shed – 1,000L	25 Tonnes	Below
Twin Oxide P art A	Water Sanitiser	Class 5.1	Water pump room – 100L	5 Tonnes	Below
Twin Oxide Part B	Water Sanitiser	N/A	Water pump room – 100L	N/A	

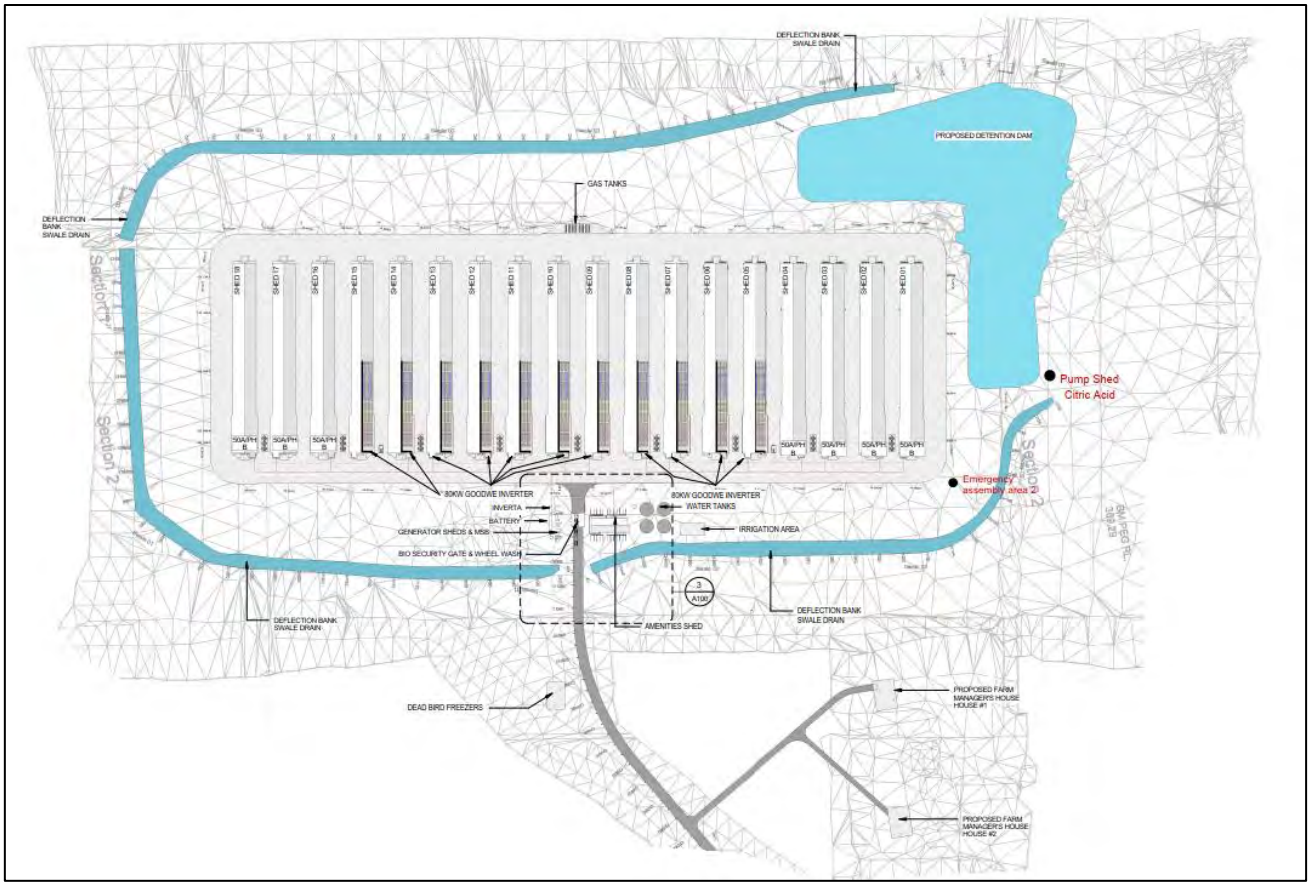
Substance (or similar)	Description	ADG	On-Site Storage	SEPP (Resilience & Hazards) Threshold	SEPP (Resilience & Hazards) Threshold Screening
Hydrocarbons					
Diesel	Fuel for Generators and Mobile Plant	Class C1[3]	Generators – 8,000L	22,500L	Below
Unleaded Petrol	Fuel for Mobile Plant	Class 3	40L	5 tonnes	Below
15W-40 Oil (e.g. Castrol)	Engine Oil	N/A	Workshop – 20L	N/A	N/A
Agri Grease	Lubricant	N/A	Workshop – 4.5kg	N/A	N/A
Castrol Garden 2T	Two-Stroke Oil	N/A	Workshop – 1L	N/A	N/A

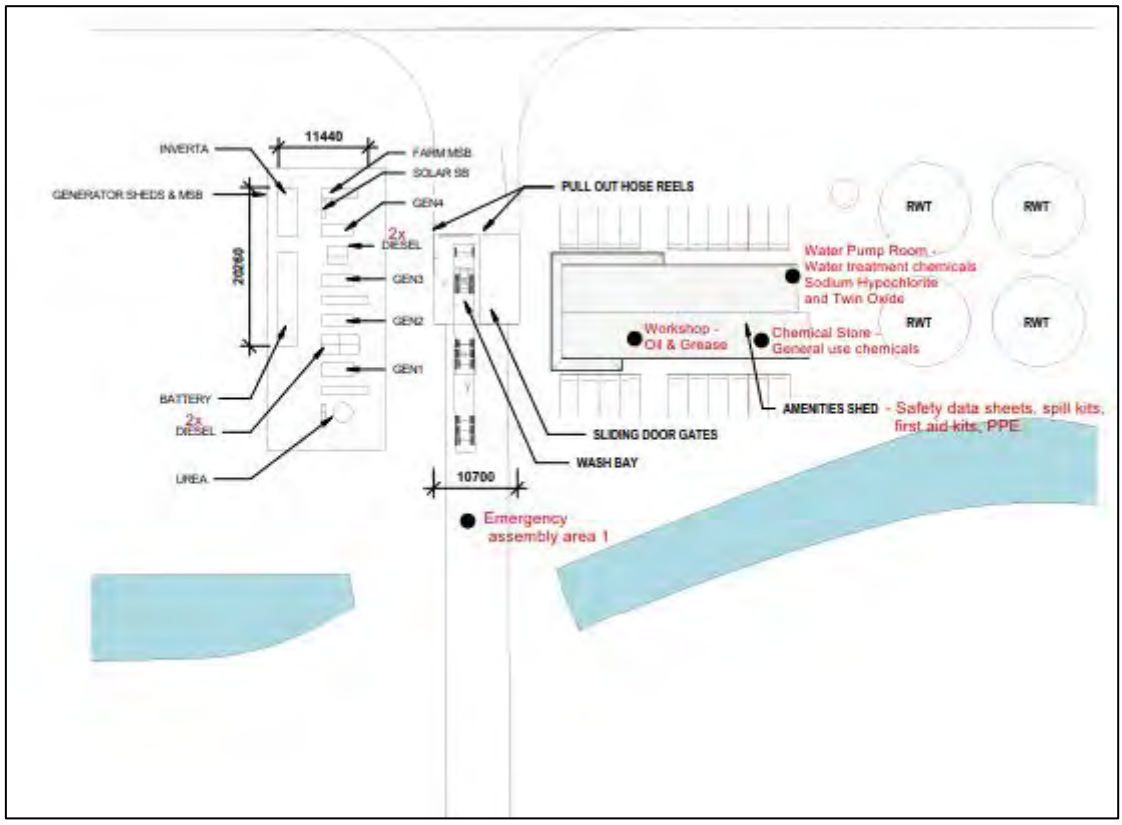
1 - *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development*

2 - Class 9 are miscellaneous dangerous goods that pose little threat to people or property (Department of Planning [DoP] 2011)

3- Class C1 - combustible liquid - if combustible liquids of class C1 are present on site and stored in a separate bund or within a storage area where there are no flammable materials stored they are not considered to be potentially hazardous (DoP 2011).

Figure 4 Potentially Hazardous Materials Storage Locations





2.7 Safety Equipment

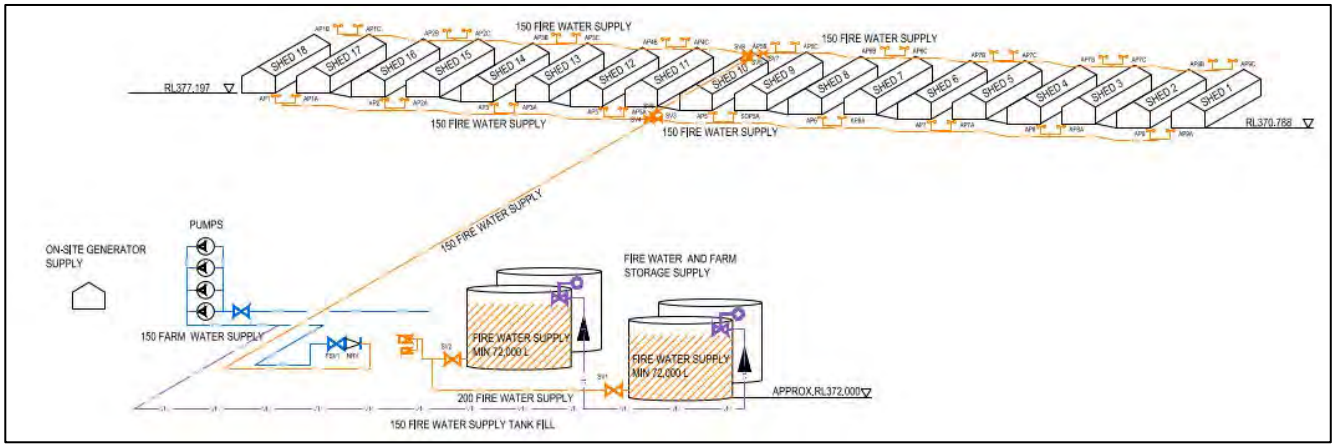
Table 8 lists the key safety equipment to be maintained on-site at Rushes Creek. **Figure 5** shows the locations of this equipment on-site.

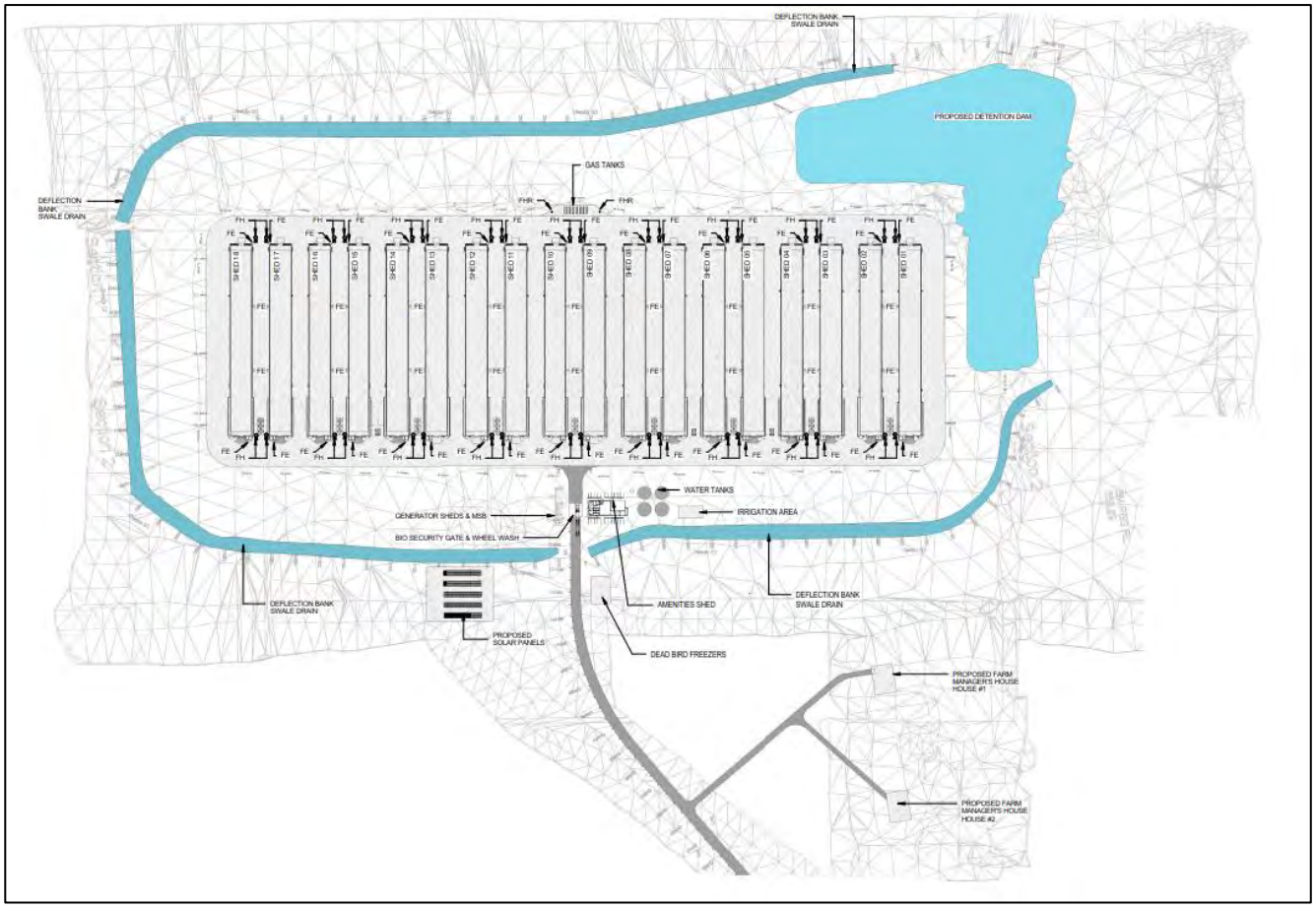
Table 8 Inventory of Safety Equipment

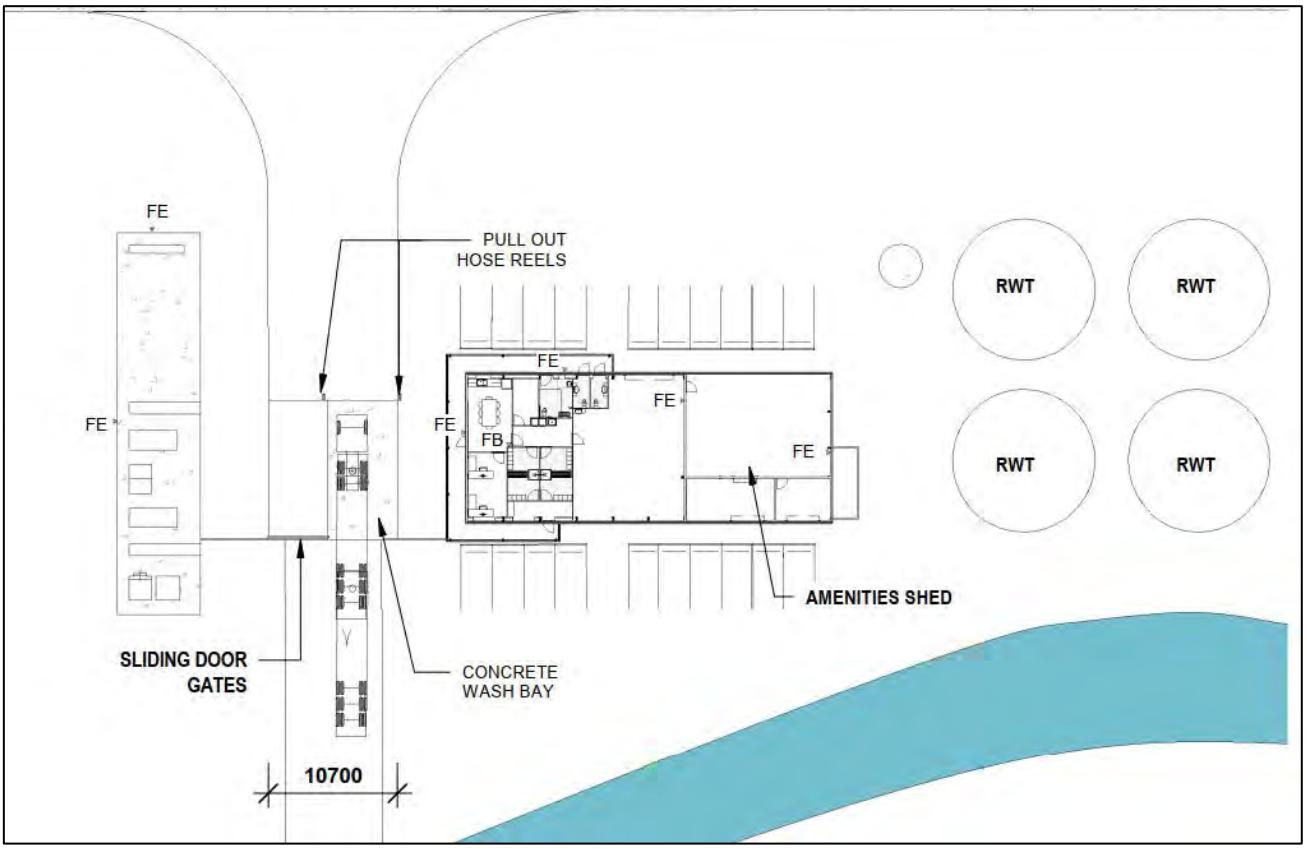
Product Name	Location(s)	Maintenance Requirement
Water Storage Tanks – • Combined 2,500 kL. • Interconnected and automatically filled. • Fitted with a 150mm large bore suction connection and two 65mm small bore suction connections	Adjacent to office workshop	Maintenance and testing every 6 months
Fire Hydrants to meet AS 2419.1	Throughout the Poultry Farm. Located on the eastern and western end of sheds and on the north and south of the Farm.	Maintenance and testing every 6 months
Fire Extinguishers	Designated locations compliant with relevant Australian Standards.	Maintenance and testing every 6 months
Fire Blankets		
Hose Reels		

Product Name	Location(s)	Maintenance Requirement
Safety Data Sheets (SDSs)	Office-workshop / chemical store	Reviewed for currency every 12 months
Spill Kits	Office-workshop / chemical store	Reviewed for currency every 12 months
First Aid Kits	Office-workshop	Reviewed for currency every month
Personal Protective Equipment (PPE)	Office-workshop	As required and needed

Figure 5 Safety Equipment Storage Locations



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3 Management and Responsibilities

3.1 ProTen Site Management

The implementation of this PIRMP is to be undertaken by ProTen's Site Management team, the members of which are listed in Table 9. These individuals are responsible for activating the PIRMP, managing the response to the incident. The Senior Management team are authorised to notify the relevant authorities.

Table 9 ProTen's Site Management Team

Location / Personnel	Contact Details
Site Management	
Rushes Creek Farm Manager – Jae St Leon	Ph: 0476 507 171 Email: jaestl@proten.com.au
Rushes Creek Assistant Farm Manager – Not Yet Allocated	Ph: N/A Email: N/A
Tamworth Safety, Health, Environment & Quality (SHEQ) Officer – Richard Bullock	Ph: 0407 659 997 Email: richardb@proten.com.au
Senior Management	
ProTen NSW Operations Manager – Graham Kirby	Ph: 0438 842 459 Email: graham@proten.com.au
ProTen Regional Operations Manager – Graeme Attwell	Ph: 0447 048 321 Email: graemea@proten.com.au
ProTen Risk Manager – Jim Rimmer	Ph: 02 6962 1770 / 0438 750 974 Email: jrimmer@proten.com.au
ProTen's Safety, Health, Environment & Quality (SHEQ) Advisor – Kathryn Singh	Ph: 02 6962 1770 / 0434 550 789 Email: kates@proten.com.au

3.2 Inductions and Training

All staff and contractors are to be appropriately inducted and trained prior to commencing work on-site. Training in relation to potential pollution incidents will take place initially through the site induction and then on an on-going basis through "toolbox talks" (or similar). The topics to be covered include:

- General site maintenance and management expectations and requirements;
- Familiarisation with site environmental mitigation and management measures in this PIRMP and the OEMP;
- The location and use of fire safety and first aid equipment;
- The proper use and handling of potentially hazardous materials and spill response;
- Appropriate response and management of environmental incidents; and
- Location of the on-site emergency assembly area.

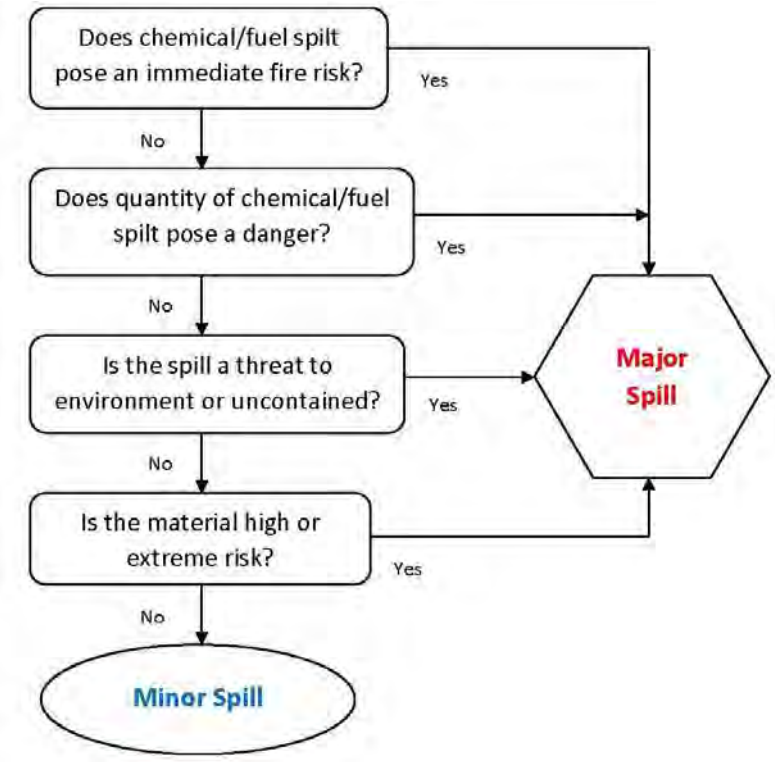
It is important that all staff and contractors are aware of the key steps required to respond to and manage a pollution incident.

3.3 Spill Response

All Employees and contractors working on-site will be made aware of the correct procedures in the event of a chemical/fuel spill, including the appropriate PPE (for example, gloves and safety glasses). Prompt response to a chemical spill, whether a minor or major spill, will likely limit the consequences.

Spills will be either minor or major depending on the volume, location and hazard of the material. **Figure 5** provides a quick reference.

Figure 6 Defining Minor or Major Spill

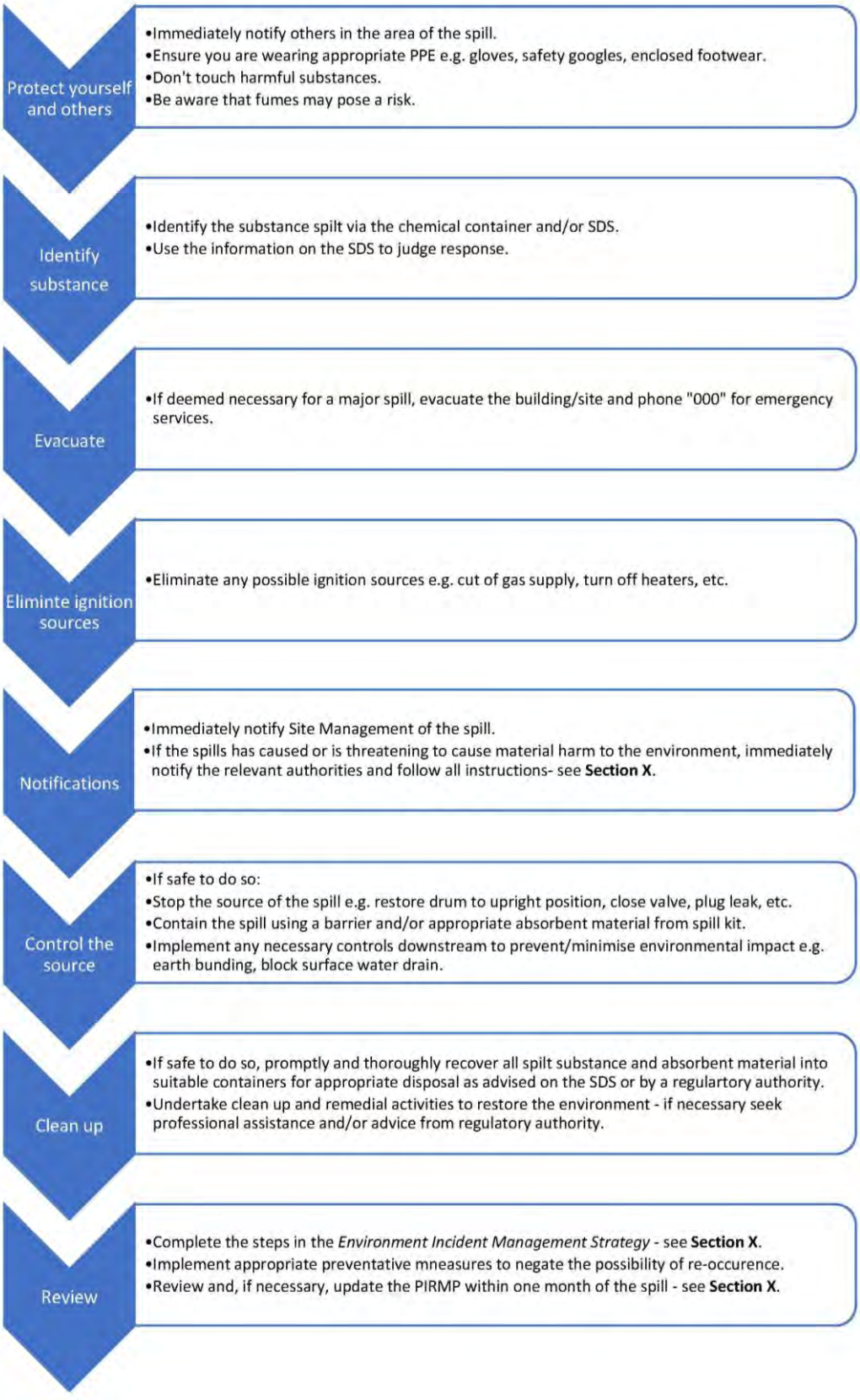


A minor spill is one that an individual can clean up. The information on the respective SDS can typically be followed in the event of a minor chemical or fuel spill.

The chance of a major spill at Rushes Creek is considered highly unlikely given the low volumes of chemicals and fuels to be stored and used on-site, the nature of these chemicals and fuels, and the storage facilities.

Figure 7 provides the response procedures for a chemical/fuel spill.

Figure 7 Spill Response



3.4 Site Evacuation Procedure

Minimising the potential for impact to persons on-site at Rushes Creek during a pollution incident must be the highest priority. If a pollution incident requires site evacuation, actions will be completed in accordance with the Site Evacuation Procedure. In the event of an evacuation:

1. The alarm system will be sounded.
2. The Site Warden (or other nominated staff member) will contact emergency services by phoning "000" if the incident presents an immediate threat to human health and/or property. Any instructions provided by the emergency services will be strictly followed.
3. All workers on-site at the time will promptly stop work and move to the emergency assembly area (see **Figure 4**) and remain there until instructed to leave. The Site Warden (or other nominated staff member) will perform a role call at the emergency assembly area.
4. If evacuation from the site is necessary, the Site Warden (or other nominated staff member) will lead/direct the evacuation to Rushes Creek Road or an adjoining property (subject to instructions from emergency services).
5. Workers will only return to work once the Site Warden (or other nominated staff member) gives the "all clear".
6. ProTen's Regional Operations Manager is to be notified as soon as possible.

All employees and contractors will be informed of the location of the emergency assembly area through site inductions, signage and on-going training.

3.5 Communication Strategy

3.5.1 Notification to Site Management

Under section 148 of the POEO Act, an employee or person conducting an activity must notify the employer of any incident that has caused or threatens to cause material harm to the environment.

As such, anyone conducting work at Rushes Creek who becomes aware of an incident must notify a member of ProTen's Site Management team of the incident and provide all relevant information about the incident. **Section 3.1** contains the contact details for ProTen's Site Management team.

3.5.2 Notification to Relevant Authorities

Under section 148 of the POEO Act, there is a duty to notify the "relevant authorities" of any incident that has caused or threatens to cause material harm to the environment. These notification responsibilities for Rushes Creek are summarised as:

- **The duty of an employee or any person undertaking an activity:**

Any person engaged as an employee or undertaking an activity (at Farm 61) must, immediately after becoming aware of any potential incident, notify their relevant manager of the incident and all relevant information about it. This is to be undertaken as per Section 3; and

- **The duty of the employer or occupier of a premises to notify:**

An employer or occupier of the premises on which the incident occurs, who is notified (or otherwise becomes aware of) a potential pollution incident, must undertake notification to the appropriate regulatory authorities of any "material harm incidents", as defined in Section 1.3, including relevant information. Notification shall be undertaken by Senior Management (with prior authorisation from ProTen CEO) as per Section 3.

In accordance with subsection 148(8) of the POEO Act, the relevant authorities for Rushes Creek are:

- Council
- EPA
- NSW Health
- SafeWork NSW
- Fire and Rescue NSW

Table 10 lists the contact details for the relevant regulatory authorities for Rushes Creek.

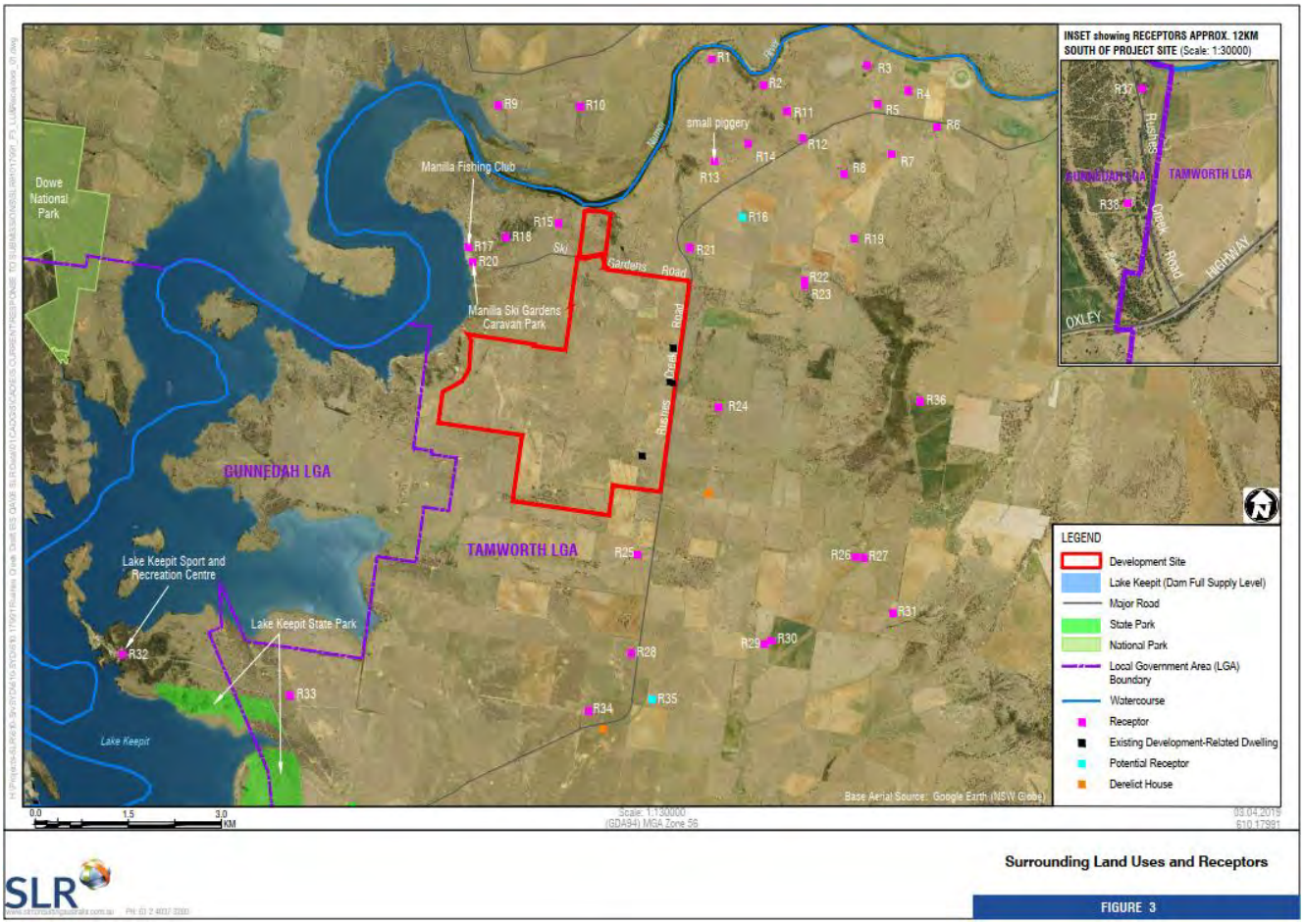
Table 10 Relevant Regulatory Authorities

Regulatory Authority	Contact Details
Tamworth Regional Council	
Customer Service Call Centre	Ph: 02 6767 5555 or 1300 733 625 Email: trc@tamworth.nsw.gov.au
Environment Protection Authority	
Environment Line	Ph: 131 555 Email: info@epa.nsw.gov.au
Narrabri Regional Office	Ph: 02 6792 4020 Email: gas.reg@epa.nsw.gov.au
NSW Health	
Tamworth Local Health District – Public Health	Ph: 02 6764 8000
SafeWork NSW	
Incident Notification Hotline	Ph: 131 050
Fire and Rescue NSW	
Zone Office Regional North 3 – Peel	Ph: 02 5732 8400

3.5.3 Notification to Neighbouring Land Users and Local Community

Rushes Creek is located within a rural setting that is removed from any populated areas, with the nearest being the village of Manilla approximately 21km to the northeast. The Site also has a relatively low density of surrounding residences, with the nearest identified on **Figure 8**. A list of adjoining neighbours and local community contact details will be available on site should notification be required.

Figure 8 Surrounding Land Uses & Receptors



In the event of a pollution incident that has caused or threatens to cause material harm to the environment, ProTen's Senior Management will consult with the relevant authorities (see **Section 3.5.2**) to determine if neighbouring land users and the wider community are to be notified of the pollution incident. When determining the appropriate response and notification process for a particular pollution incident, all aspects of the event will be taken into consideration (for example, type and extent of pollution).

Notification strategies for neighbouring land users may include, letter drop, phone calls and/or emails. Notification strategies for the wider community may include notification on ProTen's company website, local newspaper and/or local radio.

Community stakeholders can submit inquiries and/or complaints to ProTen via the following ways:

- Phone – ProTen's toll-free environmental hotline 1800 776 994 (listed on the company website); or
- Email – headoffice@proten.com.au; or
- In writing – PO Box 1746, North Sydney NSW 2059.

3.6 PRIMP Review and Testing

The PIRMP will be reviewed and tested every 12 months in accordance with the General Regulations. Reviews and tests are to be carried out in a manner that ensures the information included in the PIRMP is accurate and current and ensures that the PIRMP is capable of being implemented in a workable and effective manner.

The PIRMP will be reviewed, updated/revised (if necessary) and tested annually in September. Testing will involve employees and contractors reviewing and discussing a factsheet outlining key elements of the PIRMP and completion of a short quiz on the requirements for various pollution incident scenarios. ProTen will record each test and those that completed the test and will maintain this record for at least 4 years.

The PIRMP will also be reviewed and, if necessary, updated/revised, within one month of any pollution incident.

All employees and contractors will be informed of any update to the PIRMP during toolbox talks.

4 Environmental incident Management Strategy

4.1 Definitions

The POEO Act provides the following definitions:

Pollution – *means –*

(a) Water pollution, or
(b) Air pollution, or
(c) Noise pollution, or
(d) Land pollution.

Pollution incident – *means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.*

Material harm to the environment –

(3) For the purposes of this Part –

(c) Harm to the environment is material if –

(iii) It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(iv) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

(d) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

(4) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

4.2 Performance Objectives

To ensure that any environmental incident caused by or relating to the Rushes Creek poultry farm is effectively responded to, and any resulting adverse environmental and/or community impact is promptly prevented or effectively managed.

4.3 Responsibility

ProTen's Site Management is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental incident.

All employees and contractors are to:

- Notify Site Management about any hazard and potential hazard that may result in an environmental incident, regardless of the nature or scale;
- Take immediate action to notify Site Management of any environmental incident – see ProTen contact details in **Section 3.1**; and
- Take immediate action (where it is safe to do so) to prevent, stop, contain and/or minimise the environmental impact of the incident – see spill response procedure **Section 3.3.**

4.4 Notifications

Under the POEO Act, there is a duty to notify the relevant authorities of any incident that has caused or threatens to cause material harm to the environment. The notifications requirements and contact details for the authorities are provided in **Section 3.5.2** .

4.5 Handling Procedure

Preventative Action

Where possible and safe to do so, immediate action should be taken to prevent, stop, contain and/or minimise the environmental impact of the incident. The situation should be visually assessed, and emergency response undertaken if required. See the spill response procedure in **Section 3.3**.

In the unlikely event that a pollution incident requires site evacuation, actions will be completed in accordance with the Site Evacuation Procedure – see **Section 3.4**. All employees and contractors will be informed of the location of emergency assembly areas through site inductions and toolbox talks.

Assistance

Where assistance is required handling the situation, ProTen's Regional Operations Manager and/or SHEQ should be contacted – contact details in **Section 3.1**.

Where the incident is reported via a government agency (for example, Council or the EPA), ProTen's Regional Operations Manager and SHEQ Manager must be notified immediately (even if outside of normal business hours).

If adequate resources are not available and the incident threatens public health or property, emergency services should be contacted by telephoning "000" for assistance.

Investigate

A field investigation should be immediately initiated to determine the cause of the incident.

In the event of a serious pollution incident or emergency, it is more than likely that Fire and Rescue NSW and/or the EPA will take control and manage the required investigation and remedial activities. Any instructions issued must be strictly adhered to.

Remedial Action

Once the cause of the incident has been established, every possible effort must be made to undertake appropriate remedial action(s) to fix the cause of the incident and mitigate any further impact. In some instances, outside resources such as specialist contractors/consultants may be required.

Record

It is imperative that an honest assessment of the situation is carried out and documented. Every environment incident is to be recorded on ProTen's standard *Environmental Incident Report Form* contained in **Appendix B** and a copy of the completed form is to be maintained for at least 4 years.

4.6 Preventative Action

Once the incident has been suitably handled, appropriate preventative measures should be identified and implemented to negate the possibility of re-occurrence.

Additionally, this PIRMP should be reviewed within one month of any pollution incident. The review should ensure that the information is accurate and current and ensure that the PIRMP is capable of being implemented in a workable and effective manner.

5 References

Australian Chicken Meat Federation (2010) *National Farm Biosecurity Manual for Chicken Growers*

Department of Agriculture, Fisheries and Forestry (2009) *National Water Biosecurity Manual – Poultry Production*

Department of Primary Industries (2012) *Best Practice Management for Meat Chicken Production in NSW*

EME Advisory (2020) *Re-Development of the Rushes Creek Poultry Production Farm, Environmental Impact Statement*

EME Advisory (2021) *Rushes Creek Poultry Production Farm, Operational Environmental Management Plan*

EME Advisory (2022) *Rushes Creek Poultry Production Farm, Biosecurity and Emergency Disposal Plan*

Environment Protection Authority (2014) *Waste Classification Guidelines Waste Classification Guidelines Part 1: Classifying Waste*

Environment Protection Authority (2020) *Guideline: Pollution Incident ResponseManagement Plans*

Department of Planning (2011) *Hazardous and Offensive Development Application Guidelines, Applying SEPP 33*

Appendix A:

Risk Assessment

Risk No.	Hazard	Potential Risk	Current Controls	Risk Rating with Current Controls		
				Consequence	Likelihood	Risk Rating
1	Spill	Minor chemical/fuel spill causing impact to the environment and/or human health.	• Chemicals stored and handled in accordance with the relevant AS and EPA requirements. • Diesel stored in aboveground bunded tanks, with the minimum bund volume being 110% of the respectively tank capacity. Tanks located away from the chemical store and away from anything else considered flammable. • SDSs maintained within the office-workshop and/or chemical store. • Spill kits maintained within the office-workshop and/or chemical store. • PPE maintained within the office-workshop and/or chemical store. • Employees/contractors instructed in the proper use and handling of chemicals/fuels, as well as spill response.	3	C	Medium
2		Major chemical/fuel spill causing impact to the environment and/or human health.		5	E	Medium
3	Water	Failure of the surface water management system resulting in off-site discharge from retention dams.	• Poultry shed wash down water and rainfall runoff within the farm bounds captured in the engineered surface water management system conservatively designed to cater for a 1% AEP 72-hour event. • On-going inspections and maintenance program to ensure the continued integrity and efficiency of the surface water management system. • Dry-cleaning practices at the end of cycle maximised within the poultry sheds to minimise the volume of wash water and the amount of poultry litter (and associated sediments and nutrients) in the wash down water.	3	D	Low
4		Retention dams leak leading to groundwater infiltration.	• Internal surfaces of the retention dams compacted or lined to provide an impermeable surface.	3	D	Low

Risk No.	Hazard	Potential Risk	Current Controls	Risk Rating with Current Controls		
				Consequence	Likelihood	Risk Rating
5		Failure of the sewage management system servicing the staff amenities leading to surface water and/or groundwater impact.	• AWTS installed providing secondary level treatment for the relatively small volume of sewage to be generated by the staff amenities. • AWTS serviced and maintained in accordance with the manufacturer's specifications and Council requirements.	2	D	Low
6	Waste	Failure of the solid waste management systems leading to on-site stockpiling and/or disposal and associated environmental impact.	• Waste streams will be managed in accordance with the reuse/recycling/disposal methods listed in the EIS (and PIRMP). • Waste materials removed from site for reuse/recycling/disposal will be directed to a facility lawfully permitted to accept the respective material. • There will not be any on-site stockpiling or disposal of waste, including poultry litter and dead birds. • Waste materials generated elsewhere (i.e. outside of the Fitzsimons site) will not be received on-site for any purpose.	3	D	Low
7	Mass Mortality	Mass Mortality event leading to on-site stockpiling and/or disposal of birds and associated environmental impact.	• A range of proven biosecurity measures implemented on a routine basis in accordance with government and industry guidelines. • Quarantine, slaughter and disposal procedures detailed in the Biosecurity and Emergency Disposal Plan prepared in compliance with the latest versions of AUSVETPLAN: *Operational Manual – Destruction of Animals and AUSVETPLAN: Operational Manual – Disposal*. • The preferred disposal option in the event of mass mortality is in-shed composting, which has been identified by emergency management agencies as a preferred method of carcass disposal. When undertaken properly in enclosed sheds with sealed flooring (like at Fitzsimons), in-shed composting should not result in any notable environmental impact.	4	E	Low

Risk No.	Hazard	Potential Risk	Current Controls	Risk Rating with Current Controls		
				Consequence	Likelihood	Risk Rating
8	Fire	Fire event in and/or around the poultry sheds and ancillaries causing a nearby combustible load to be ignited.	• The walls of the poultry sheds are made of fire-retardant insulated panels. Buildings, including electrical installations and fire provisions, designed, constructed and maintained in compliance with the relevant requirements of the BCA and relevant AS. • Diesel tanks located maintained away from the chemical store and away from anything else considered flammable. • Water storage tanks (combined 2,500 kL) are interconnected and automatically filled via a pressurised line to remain near capacity. These tanks are available for fire-fighting purposes, with one fitted with a 150 mm large bore suction connection for FRNSW and two 65 mm small bore suction connections for NSW RFS. • General housekeeping regularly undertaken to ensure any trees/shrubs in the vicinity of electrical installations are adequately pruned or removed to maintained clearance and the areas around electrical installations are kept clear of any combustible materials. • PPE maintained within the office-workshop and/or chemical store.	4	D	Medium
9			• Fire-fighting runoff expected to enter the engineered surface water management system, which has been conservatively designed to cater for a 1% AEP 72-hour event, and be captured in the retention dams. • On-going inspection and maintenance program to ensure the continued integrity and efficiency of the surface water management system.	3	D	Low

Step 1 – Consequence Criteria

Level		Description
1	Insignificant	• Incident that causes negligible reversible environmental impact requiring very minor or no remediation. • No injuries and no first aid required. • Very low financial impact.
2	Minor	• Incident that causes minor reversible environmental impact requiring minor remediation. • Minor spill immediately contained with no off-site impacts. injuries and no first aid required. • Minor injuries requiring only first aid treatment. • Low financial impact.
3	Moderate	• Incident that has caused moderate reversible environment impact with short-term effect requiring moderate remediation. • Minor spill contained without external assistance. • Injuries requiring medical treatment. • Moderate financial impact.
4	Major	• Incident that causes serious environmental impact with medium term effects requiring significant remediation. • Major spill with off-site impacts. • Significant injuries requiring medical treatment. • Major financial impact.
5	Catastrophic	• Incident that causes disastrous environmental impact with long term effect requiring major remediation. • Major uncontained spill with off-site impacts. • Permanent disability and/or death. • Huge financial impact.

Step 2 – Likelihood Criteria

Level		Description
A	Almost certain	• Incident is anticipated to occur on multiple occasions. • Event is likely to occur more than twice a year.
B	Likely	• Incident is likely to occur at least once. • Incident is likely to occur once or twice a year.
C	Possible	• Incident may occur. • Incident is likely to occur more than once or twice in a 5 year period.
D	Unlikely	• Incident is unlikely to occur. • Incident is likely to occur once or twice in a 10 year period.
E	Rare	• Incident is anticipated to occur only in exceptional circumstances. • Incident is likely to occur once or twice in a 20 year period.

Step 3 – Risk Matrix

Likelihood	Consequence				
	5 – Catastrophic	4 – Major	3 – Moderate	2 – Minor	1 – Insignificant
A – Almost Certain	High	High	High	Medium	Medium
B – Likely	High	High	Medium	Medium	Low
C – Possible	High	Medium	Medium	Low	Low
D – Unlikely	Medium	Medium	Low	Low	Low
E – Rare	Medium	Low	Low	Low	Low

Appendix B:

Environmental Incident Report Form

Section A - Incident Details

Incident Details	
ProTen Farm	
Date	
Time	
Description of incident	
Recorded by	
Investigation	
Has the incident caused, or does it threaten to cause material harm to the environment?	YES / NO If yes, implement PIRMP (NSW) and contact EPA and Authorities as per section B Comments:
Person responsible for investigating and Reporting	
Investigation method	
Findings of investigation	
Action Taken and Close Out	
Remedial Action taken	Yes/No If Yes, Describe:

Further Corrective Action required	Yes/No If Yes, Describe:
Report submitted to EPA	Date Time
Close out	Name: Title: Signature: Date:

Section B – Notification of Authorities for PIRMP

Authority:	**Emergency Services – Fire/Police/Ambulance**		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	**EPA**		
Date:		Time:	
Person Spoken to:			
EPA Incident Number:			
instructions			
Authority:	EPA – Local Office		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	NSW Health		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	Safework NSW		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	Local Council		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	DPE		
Date:		Time:	
Person Spoken to:			
instructions			

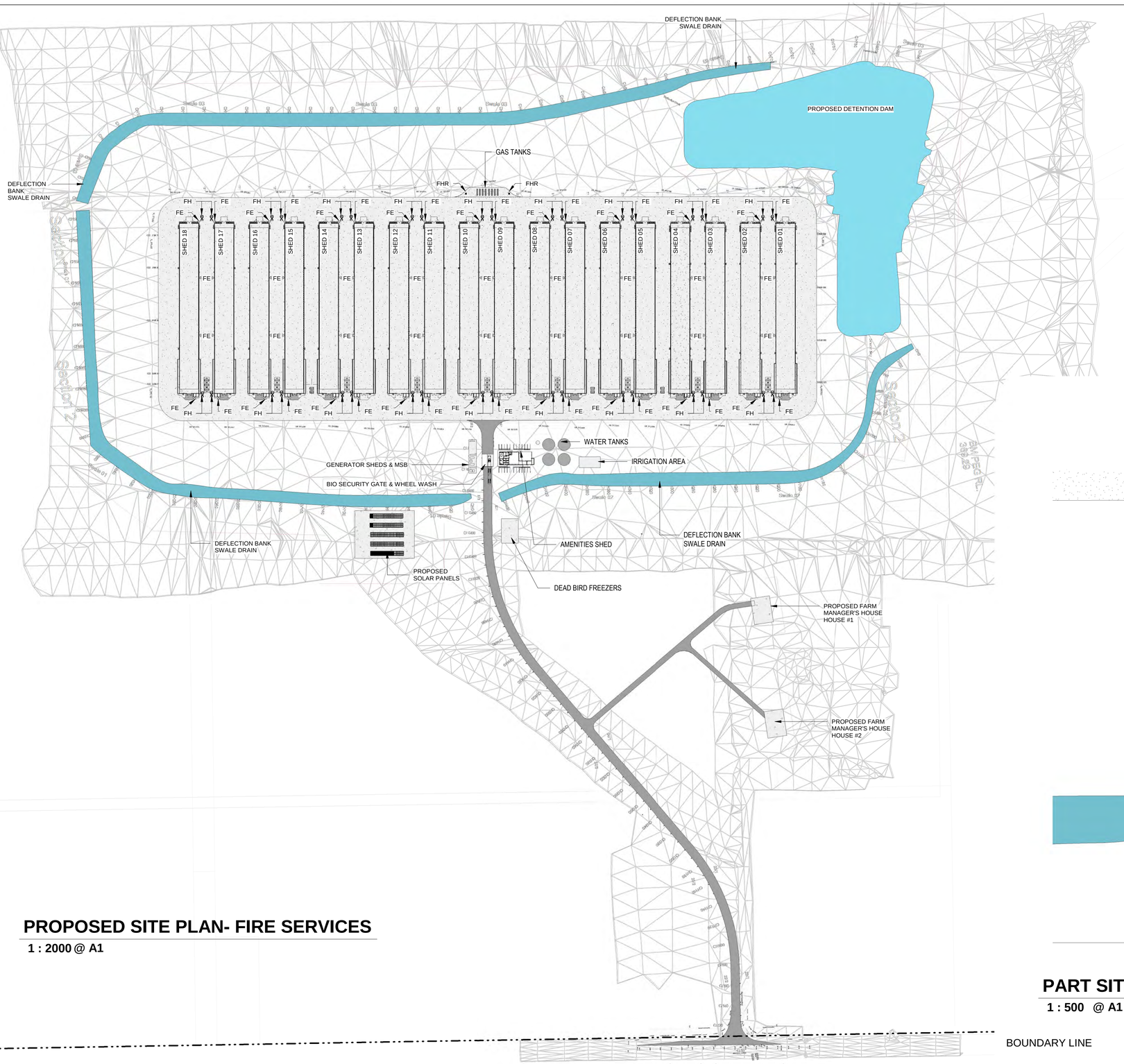
Appendix C:

PIRMP Testing History

Test No.	Date	Description

Appendix D:

Farm 2 Fire Services Plan

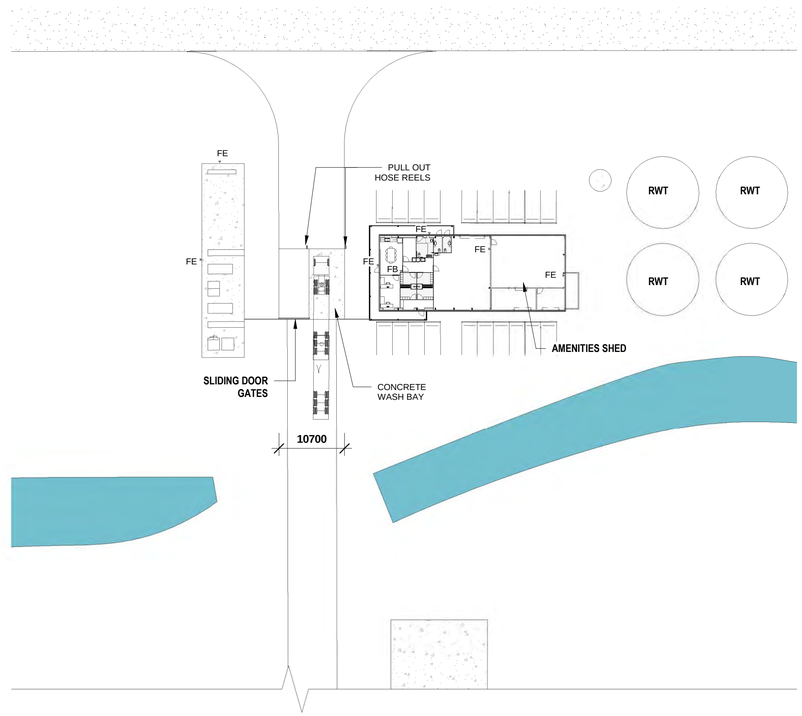


PROPOSED SITE PLAN- FIRE SERVICES

1 : 2000 @ A1

LEGEND:

FE	PORTABLE FIRE EXTINGUISHER. INSTALLED IN ACCORDANCE WITH AS. 2444.
FH	EXTERNAL DOUBLE HEADED FIRE HYDRANT ACCESS POINT. INSTALLED IN ACCORDANCE WITH AS.2419.1.
FB	DENOTE FIRE BLANKET
FHR	DENOTE FIRE HOSE REEL



PART SITE PLAN - FIRE SERVICES

1 : 500 @ A1

0 20m 40m 60m 80m 100m 200m

SCALE 1:2000

CONSTRUCTION ISSUE

UPON APPROVAL BY STATUTORY AUTHORITIES

ISSUE OF REVIT FILES

TQCSI ISO 9001:2015 Quality Certified AU1406-QC

BUILDING DESIGNERS ASSOCIATION OF AUSTRALIA

SCALE/S	As indicated
DATE	26/08/2022
DRAWN	BT
CHECKED	NK

DESCRIPTION	DATE	BY	REV.

tesseract international
111 Conyngham street, Frewville SA 5063
T+618 8362 8860 I
E enquiries@tesseract.com.au
W www.tesseract.com.au

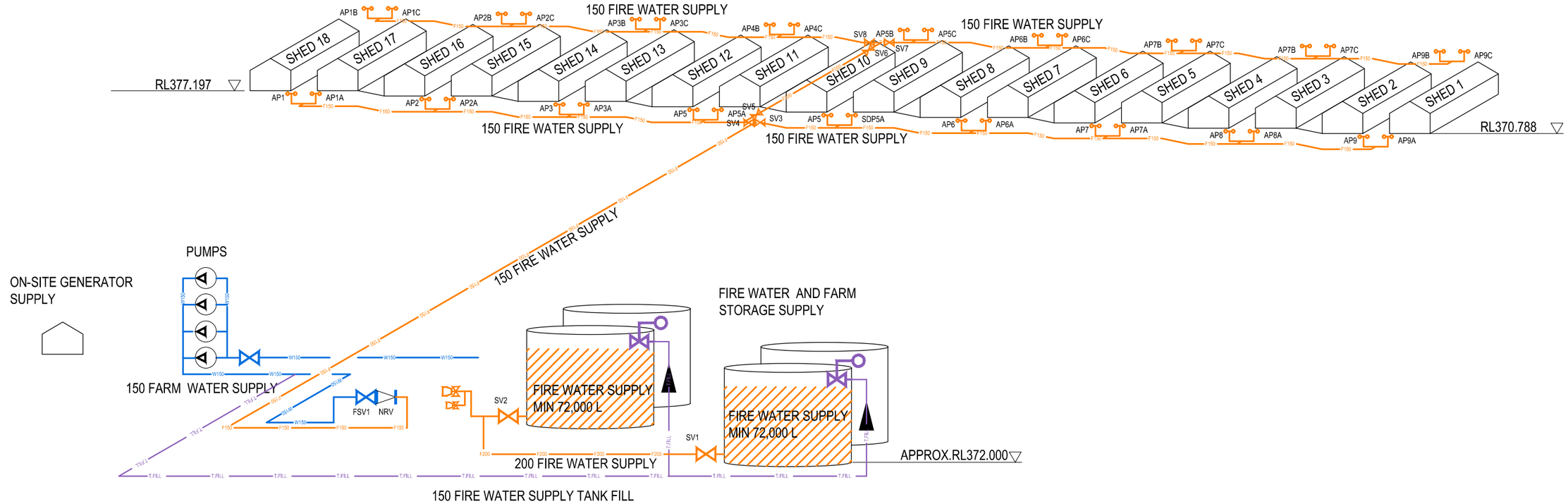
TITLE	SITE PLAN- FIRE SERVICES	CLIENT	PROTEN / AGRIBIZ
ADDRESS	RUSHES CREEK RD. RUSHES CREEK NSW 2346	PROJECT	AGRIBIZ NEW POULTRY FARM RUSHES CREEK

JOB # 21-166

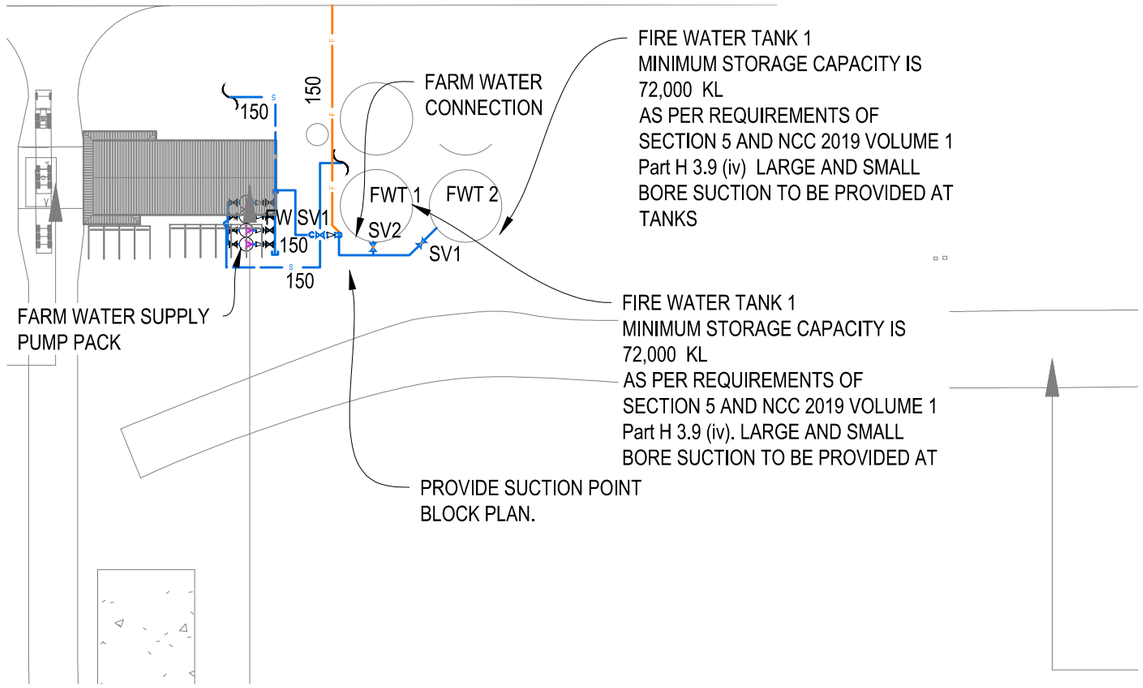
SHEET A101 REV.

Appendix E:

Farm 2 Fire Services Elevation Plan



FOR CONTINUATION REFER FS104



FOR APPROVAL

Issue	Date	Description	By
B	30.06.2021	FIRE SERVICES APPROVAL	BS
A	01.06.2021	FIRE SERVICES ISSUE PRELIM	BS

Checked – JC Approved –
Design – BS Drawn – BS
Scales – AS SHOWN Date – OCTOBER 2021
Document Stage – FOR APPROVAL

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Drawing title –
COVER SHEET AND NOTES

Project – PROPOSED POULTRY SHED

Client – PROTEN LTD / AGRIBIZ

Site –
RUSHES CREEK ROAD. RUSHES CREEK ,NSW 2346

Project T218536 Sheet No. FS-401
Digital Ref: Issue : A

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Appendix I:

Greenhouse Gas Emissions Assessment (GHG)

Report

Rushes Creek Mod 3 – Greenhouse Gas Assessment

Job: 22-143

Date: 17 June 2022

Astute Environmental Consulting

Astute Environmental Consulting Pty Ltd
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Ph: +61 429 304 644
www.astute-environmental.com.au

TABLE OF CONTENTS

Project Title	Rushes Creek Mod 3 – Greenhouse Gas Assessment
Job Number	22-143
Client	ProTen Tamworth
Approved for release by	Geordie Galvin
Disclaimer and Copyright:	**This report is subject to the disclaimer and copyright statement located at www.astute-environmental.com.au.**

Document Control

Version	Date	Author	Reviewer
R1-1	17/06/22	W. Shillito	G. Galvin
R1-2	17/06/22	W. Shillito	G. Galvin

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1 INTRODUCTION

Astute Environmental Consulting ("Astute) was engaged by ProTen to conduct a greenhouse gas (GHG) assessment relating to Modification 3 which refers to Farm 2 at the Rushes Creek Poultry Complex in the Tamworth Regional local government area.

ProTen was granted Development Consent SSD 7704 in April 2020 to construct and operate four poultry farm units (Farms 1 to 4) (up to 54 tunnel ventilated sheds) on a rural property on Rushes Creek Road approximately 43 kilometres (km) northwest of Tamworth and 33 km northeast of Gunnedah ("the site").

1.1 Background

ProTen is seeking approval to undertake an additional modification to Development Consent SSD 7704 (Modification 3).

Modification 3 relates to Stage 1 only (Farm 2) and comprises the following components:

- Minor amendments to the positioning of ancillaries at Farm 2 (including diesel generators) as shown in Figure 1-1;
- Additional emergency standby diesel generator capacity at Farm 2;
- Addition of an emergency standby diesel generator and diesel storage at the Namoi River water supply pump; and
- Concurrent construction and operation of diesel generators at Farm 2 for up to 12 months[1].

The Department of Planning and Environment issued a Request for Information on the 31 May 2022, where in Attachment A, they requested additional information as follows:

The Department notes that the amended modification application has not incorporated the off-grid solar and battery solution, as requested in the Department's comments on the modification dated 4 February 2022. It is acknowledged this will be progressed as a separate subsequent modification application. The Department, therefore, requests that an assessment of greenhouse gas emissions be carried out for the current modification.

The GHG assessment should quantify the CO_2 emissions generated by the modification in comparison to the approved operational energy supply scenario (grid electricity + 0.25 hectares of solar).

[1] EME Advisory report, Mod 3 v2.

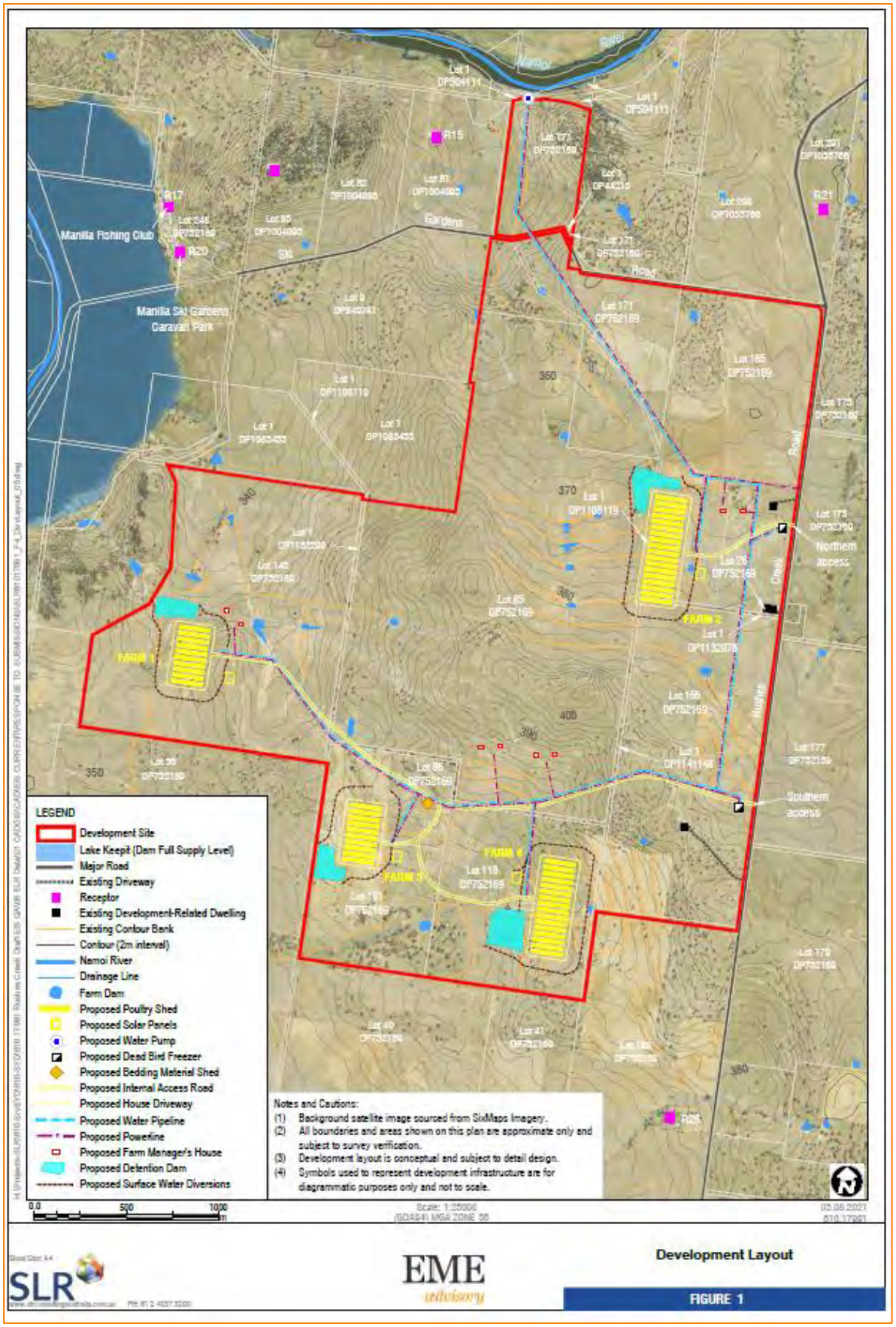


Figure 1-1: Development Layout (Source: EME Advisory)

1.2 Scope of Work

The scope of work for this assessment is to calculate the GHG for the current modification and compare them to the approved operational energy supply scenario. The GHG emissions from the proposed Modification 4 have also been included. For simplicity, the three energy supply configurations have been named Scenario A, B and C. A summary is as follows;

Scenario A (Development Consent):

The original Development Consent SSD 7704 in April 2020 was based on all operational power requirements being met by the main electricity grid with supplementary power supplied by solar panels (0.25 ha per farm).

Scenario B (Modification 3 v2):

Due to the current demand for broiler birds in Australia ProTen need to commence operations at Farm 2, with power requirements changing from Scenario A to completely off-grid with a solar and battery solution. The off-grid solar option is still being designed and ProTen anticipates that Farm 2 and associated ancillaries will need to be powered using diesel generators for up to 12 months[2].

Mod 3 v2, therefore, is 12 months of operation of Farm 2 on generator only.

Scenario C (Proposed Modification 4)

The proposed long-term solution is for an off-grid solar and battery solution (with backup diesel generators).

This would see the solar and battery system being the primary source of electricity except for the use of diesel generators for supplementary power requirements.

[2] Mod 3 v2

2 GREENHOUSE GAS INVENTORY

The National Greenhouse Accounts (NGA) Factors (DISER, 2020) defines three scopes (Scope 1, 2 and 3) for different emission categories. The categories are presented in Table 2-1 below.

Table 2-1: Emission Categories

Scope	Definition	Included?
1	Direct (or point-source) emission factors give the kilograms of carbon dioxide equivalent (CO2-e) emitted per unit of activity at the point of emission release (i.e., fuel use, energy use, manufacturing process activity, mining activity, on-site waste disposal, etc.).	Yes
2	Indirect emissions from the generation of the electricity purchased and consumed by an organisation as kilograms of CO2-e per unit of electricity consumed. Scope 2 emissions are physically produced by the burning of fuels (coal, natural gas, etc.) at the power station.	Yes
3	Indirect emissions which are not included in scope 2, occurring within an organisation's value chain.	No

Emissions generated in all three scopes defined above provide a suitable approximation of the total GHG emissions generated from the site. Scope 3 emissions can be a significant component of the total emissions inventory; however, these emissions are typically not controlled by the operation.

Various indirect sources associated with the poultry farm such as emissions generated by employees travelling to and from the site are relatively minor and have not been considered further in this assessment as the primary focus is on the change in emissions with the various power options.

2.1 Sources of GHG

For this assessment and comparing the three scenarios described in Section 1.2, the Scope 1 emissions sources are from the combustion of diesel fuel for both Modification 3 for 12 months and also using these generators as a backup power source.

Scope 2 emissions have been identified as the consumption of electricity to power the farm. The inclusion of solar and battery power has been subtracted from the GHG from the diesel and electricity consumption as no emission factors are published in the NGA for electricity generated by solar and will offset the emissions.

The energy (MWh) demand of Farm 2 has been provided by SLR in discussion with ProTen and its suppliers and consultants. It has been estimated that the total energy use for the farm (based on Mod 4) will be 933 MWh/annum, with the generators used to provide supplementary power at 158,345 kWh/annum (158.3 MWh/annum)[3].

Datasheets were also provided for the diesel generators and assumptions were made to calculate the fuel consumption. The input data are summarised in Table 2-2.

[3] H Jones, personal communication, 3 June 2022

Table 2-2: Summary of data inputs

Scenario	Comments	Solar Power?	Energy demand for Farm (MWh)	Network Electricity consumed (MWh)	Solar Electricity Supplied (MWh)	Diesel Generated Electricity (MWh)
A	Development Consent SSD 7704	Yes	933	547	365	21
B	Modification 3 v2	No		0	0	933
C	Modification 4	Yes		0	775	158

Note:

1. Scenario A
    a. Solar generation from 0.25 ha of solar assumes 365 MWH/year generation capacity averaged across 12 months (based on 1 MW generated ~1,500 MWh/year).
    b. Generator use has been assumed to be 200 hours per year due to emergency power requirements based on average energy requirements of 0.1 MW/hour[4].
2. Scenario B - Mod 3 v2 includes 100% generator with no solar.
3. Scenario C - Mod 4 assumes 83% solar and 17% generator supplied power based on data supplied.

2.2 Emission Factors

The emission factors relevant to the site are presented in Table 2-3.

Table 2-3: Summary of Emission Factors (DISER, 2020)

Type	Scope	Energy Content Factor (Gj/kL)	Emission Factor			Units
			CO_2	CH_4	N_2O	
Diesel	1	38.6	69.9	0.1	0.2	kg CO_2-e/GJ
Electricity	2	-	0.81	--	-	kg CO_2-e/kWh

2.3 Generator Emissions

GHG emissions from the diesel generators were estimated based on the Technical Guidelines for the estimation of emissions by facilities in Australia (Department of the Environment and Energy, 2017) using anticipated fuel consumption using the equation below:

$$E = \frac{Q \times EC \times EF}{1{,}000}$$

Where:

[4] ProTen have informed us that the expected emergency use will typyically be under 200 hours per year.

- *E* is the total emissions released measured in tonnes $CO_{2\text{-}e}$
- *Q* is the quantity of fuel combusted in *kL*
- *EC* is the energy content factor of the fuel in *GJ/kL*; and
- *EF* is the emission factor for the fuel in *kg* $CO_{2\text{-}e}$*/GJ*

The assumptions for the amount of diesel consumed is as follows;

Scenario A:

- The emergency generator will run for 200 hours a year as a backup only;
- The run time equates to approximately 2.28% of the year which is an energy requirement of 21.3 MWh (933 MWh/year x 2.28% divided by 200 hours = 106 kW/h);
- The fuel consumption rate is the equivalent of 29 l/hour as shown in Figure 2-1 for an output of 106 kW/h[5].

Scenario B:

- The diesel generators are expected to run for the entire year for year 1 only;
- In the second year and every year onwards the off grid and solar solution (i.e. Scenario C – Mod 4) will provide the electrical demand;
- The generators are expected to run for 17% of the year; and
- The fuel consumption rate is the equivalent of 29 l/hour as shown in Figure 2-1 for an output of 106 kW/h.

Scenario C:

- The off grid and solar solution will provide the electrical demand;
- The generators are expected to run for 17% of the year; and
- The fuel consumption rate is the equivalent of 29 l/hour as shown in Figure 2-1

[5] 322 kW generator at 33% = 106 kW per hour.

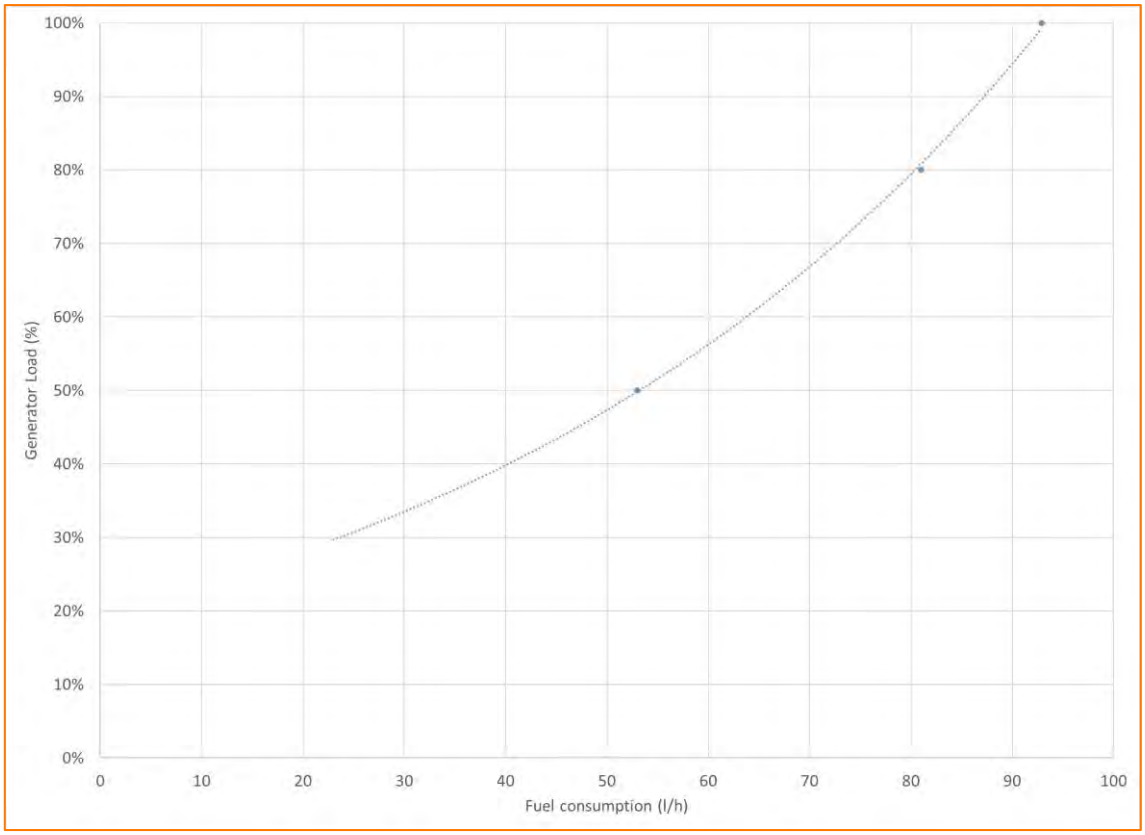


Figure 2-1: Generator fuel consumption loads – 322 kw @ 100% PRP (Himonsa , 2021)

2.4 Summary of GHG emissions

A summary of the GHG emissions for the three scenarios for five years is presented in Table 2-4 and cumulative emissions are presented from year 1 to year 5 in Figure 2-2.

Figure 2-2 shows that while Scenario B (Mod 3 v2 -12 months of diesel generated electricity) is higher than the approved scenario (Scenario A), by year 2, overall emissions would be lower than the currently approved grid solution.

Table 2-4: Summary of Yearly GHG emissions (tons CO_2-e)

Year	GHG from Diesel			GHG from Electricity			TOTAL		
	Scenario A	Scenario B	Scenario C	Scenario A	Scenario B	Scenario C	Scenario A	Scenario B	Scenario C
1	16	692	117	443	0	0	459	692	117
2	16	117	117	443	0	0	459	117	117
3	16	117	117	443	0	0	459	117	117
4	16	117	117	443	0	0	459	117	117
5	16	117	117	443	0	0	459	117	117

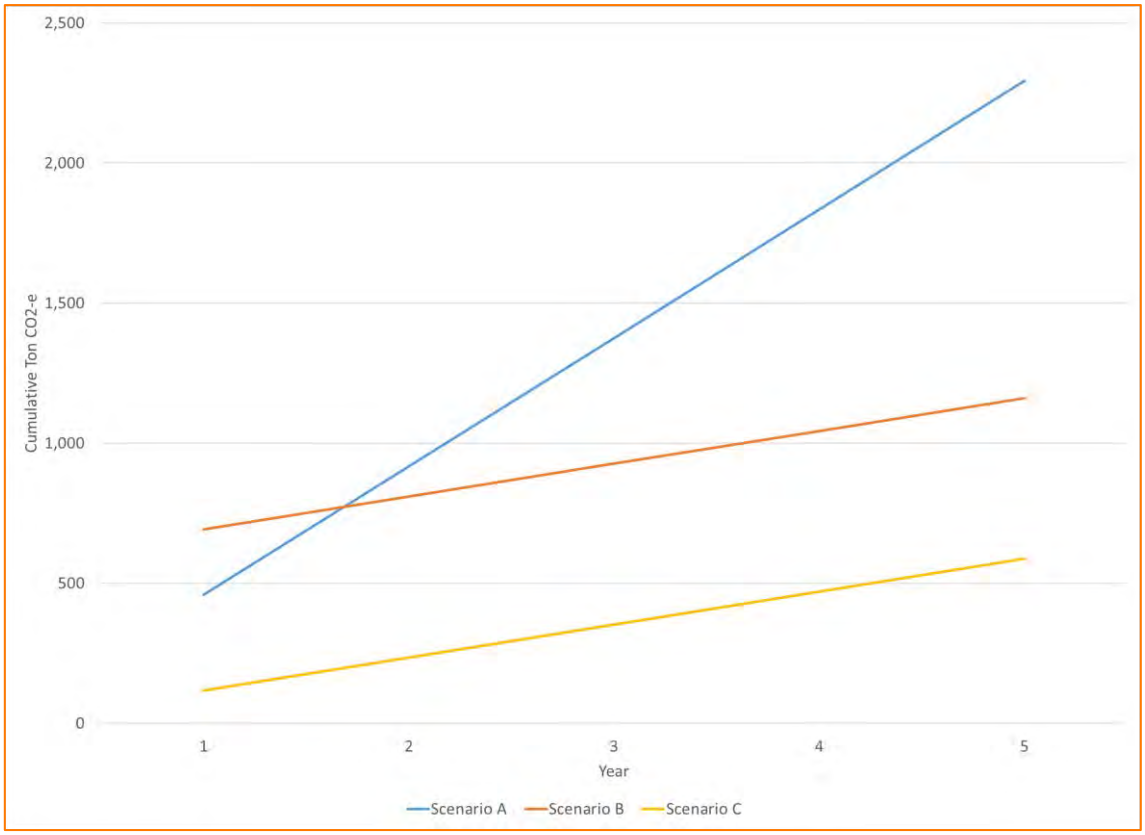


Figure 2-2: Cumulative GHG emissions over 5 years

2.5 GHG Management

As part of their ongoing operations, ProTen will apply various mitigation measures to minimise the overall generation of GHG emissions at the site. Some examples of mitigation and management practices include:

- Regular maintenance checks and cleaning of the solar panels;
- Monitoring and recording the consumption of diesel in the generators;
- Combustion tuning of the diesel generators as required;
- Ensuring the ventilation fans are cleaned and serviced regularly; and
- Investigating ways to reduce energy consumption and monitoring the total site electricity consumption

3 CONCLUSION

This report has assessed the potential GHG emissions associated with the operation of Farm 2 using the emission factors in the document National Greenhouse Accounts Factors (DISER, 2020) and has been based on the scenarios identified above.

The results show that while the 12 month generator operation (Scenario B) will have higher emissions in the first year than the approved grid solution (Scenario A) once the off grid solar and battery solution is brought online (Scenario C), the cumulative GHG emissions will be below the approved Scenario A emissions by year 2.

4 REFERENCES

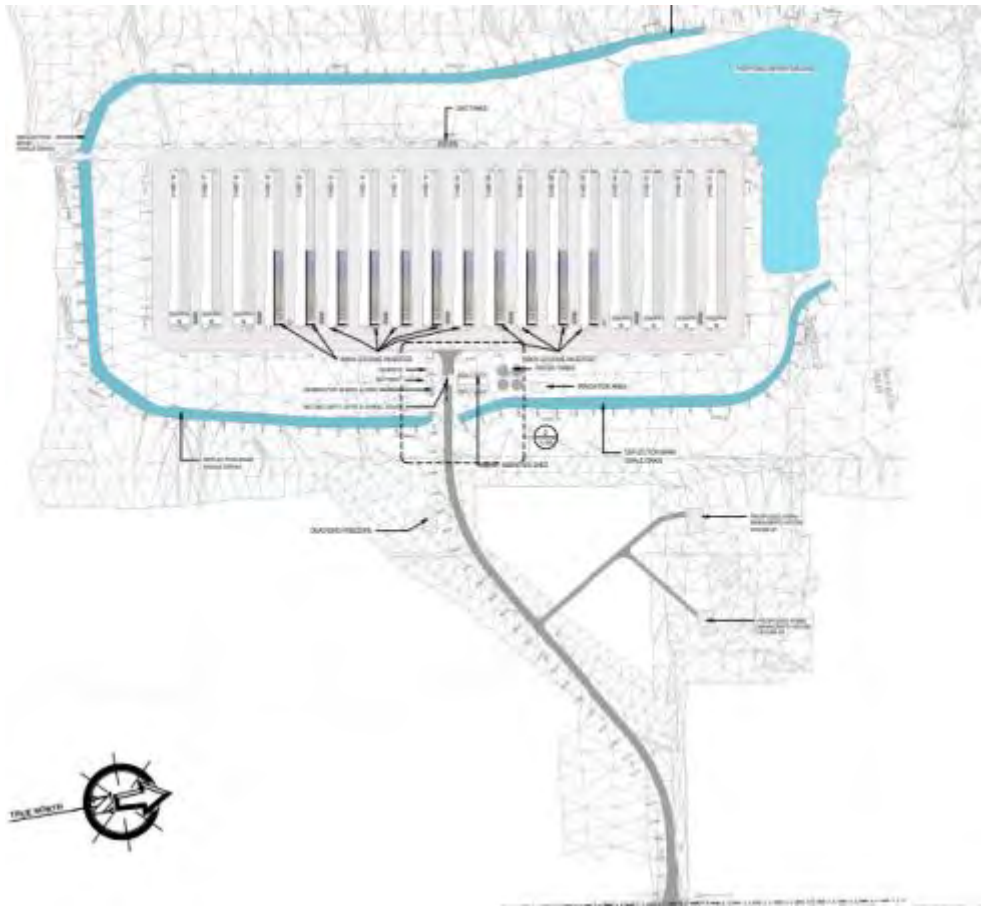
Department of the Environment and Energy. (2017). *National Greenhouse and Energy Reporting Scheme Measurement Technical Guidelines for the estimation of emissions by facilities in Australia.* Canberra: Commonwealth of Australia.

DISER. (2020). *National Greenhouse Accounts Factors.* Canberra: Commonwealth of Australia, Department of Industry, Science, Energy and Resources.

Himonsa . (2021). *HFW-400 Tf Industiral Range Generator .* 30730 San Javier / Murcia SPAIN: Himonsa .

Appendix J:

Emergency Plan (EP)



Rushes Creek rd, Rushes Creek NSW • Lot 171 DP 752169 – 1582 Rushes Creek Road, Rushes Creek; • Unformed Council public road traversing through Lot 171 DP 752169; • Lot 62 DP 1276824 – 1582 Rushes Creek Road, Rushes Creek; • Lot 143 DP 752189 – 'Kyora' Rushes Creek Road, Rushes Creek; • Lot 1 DP 1108119 – 'Kyora' Rushes Creek Road, Rushes Creek; • Lot 26, 86, 101, 118 DP 752169 – 1582 Rushes Creek Road, Rushes Creek; • Lot 1 DP 1132078 – 'Kyora' Rushes Creek Road, Rushes Creek; • Lot 1 DP 1132298 – 'Kyora' Rushes Creek Road, Rushes Creek; and • Lot 1 DP 44215 – 1582 Rushes Creek Road, Rushes Creek. Local Government Area of Tamworth		
SITE CONTACT NUMBER	N/A	0434 006 299

Table of Contents

1. Preliminary

1.1 Purpose of Plan

The purpose of this Plan is to document procedures for responding to the potential emergencies that can occur at the site. This procedure should not be considered rigid but rather as flexible guidelines to be adapted to respond to any foreseeable emergency and their impact.

This Plan and procedures herein have been formulated to comply with Australian Standard AS 3745 Planning for Emergencies in Facilities.

1.2 Scope of the Plan

This Plan has been developed for ProTen Rushes Creek Poultry Production Farm's, Rushes Creek Rd, Rushes Creek NSW. Lot 171 DP 752169 – 1582 Rushes Creek Road, Rushes Creek; Unformed Council public road traversing through Lot 171 DP 752169; Lot 62 DP 1276824 – 1582 Rushes Creek Road, Rushes Creek; Lot 143 DP 752189 – 'Kyora' Rushes Creek Road, Rushes Creek; Lot 1 DP 1108119 – 'Kyora' Rushes Creek Road, Rushes Creek; Lot 26, 86, 101, 118 DP 752169 – 1582 Rushes Creek Road, Rushes Creek; Lot 1 DP 1132078 – 'Kyora' Rushes Creek Road, Rushes Creek; Lot 1 DP 1132298 – 'Kyora' Rushes Creek Road, Rushes Creek; and Lot 1 DP 44215 – 1582 Rushes Creek Road, Rushes Creek to ensure awareness in regards to emergency situations

2. Definitions

ECT –Emergency Control Team

A structured organisation that will initiate an appropriate response to emergency situations. ECT consists of chief warden, deputy chief warden, warden.

Chief Warden – Farm Manager

Deputy Chief Warden – Assistant Farm Manager

Emergency – Any event that arises internally or from external sources, which may adversely affect persons or the community generally, and which requires an immediate response.

Authority – During emergencies, instruction given by ECT personnel shall overrule normal management structure. Once an emergency is declared, the powers of wardens shall override all normal non-emergency management procedures. Wardens have the authority to marshal all staff and any visitors to designated emergency assembly areas.

First Aid Personnel – the roles of first aid personnel and wardens are separate and distinct. Wardens who are also first aiders shall not be required to carry out first aid duties during an emergency.

Control Point (CP) – Main Office.

- Keep phone lines open

In the event of an evacuation the Deputy Chief Warden will ensure that the site Visitors Log Book is brought to the assembly area and report to the Chief Warden.

Co-ordination with Other Agencies – Police, NSW Fire Brigade and local council are to be provided with site layout and copies of emergency procedures.

Warden Identification – control of emergencies is greatly assisted if key personnel can be quickly identified. This is achieved through helmets and labels.

Colour Code for Safety Helmets

White Helmet:	Chief Warden/Deputy Chief Warden
Yellow Helmet:	Warden
Green Helmet marked with White Cross:	First-Aid Officer

3. References

- AS 3745 Planning for Emergencies in Facilities.

4. Site Profile

4.1 Site Details

Building Type: Each Farm has 1 x Amenities Shed and tunnel-ventilated climate-controlled poultry sheds – Farm 1 (10 Sheds), Farm 2 (18 Sheds), Farm 3 (10 Sheds), Farm 4 (16 Sheds).

Number of Floors: One

Occupant Numbers: Approx. 20 Full time equivalent staff across four farms. Numbers increase when catching, placing and washing, up to a maximum of 30. Numbers will fluctuate during the construction process with contractors and sub-contractors varying on site depending on phase of construction. Up to a maximum of 60.

Nominated Hours: Operates 24 hours a day with all activities besides bird transport undertaken between 7:00 am and 7:00 pm. As the birds reach their desired slaughter weight they are removed from the sheds and transported from the site

Table 1: Site Details

Item	Details
Building Name	ProTen Tamworth Farm 1-4
Building Owner	ProTen Tamworth
Site Address	Rushes Creek Rd, Rushes Creek NSW
Local Government Authority	Tamworth Shire Council

4.2 Key Activities & Processes

Birds are grown for human consumption. Each Farm comprises either 10,16 or 18 tunnel-ventilated climate-controlled poultry sheds, with associated support infrastructure and staff amenities. Each Farm houses 56,500 birds per shed. Total bird numbers per farm are - Farm 1 - 565,000 birds; Farm 2 - 1017000 birds, Farm 3 - 565,000 birds; Farm 4 – 904,000 birds at any one time equating to a total population of up to 3,051,000 birds.

4.3 Neighbouring Properties

The complex is removed from any urban areas, with the nearest populated areas identified as Manilla township which is located approximately 12.5 km to the north east of the site. There is a very low density of surrounding residential dwellings, with 36 privately-owned residences located within the neighbouring and nearby properties. The nearest residences are located approximately 1.02 km to the south of Farm 4. (see Figure 1)

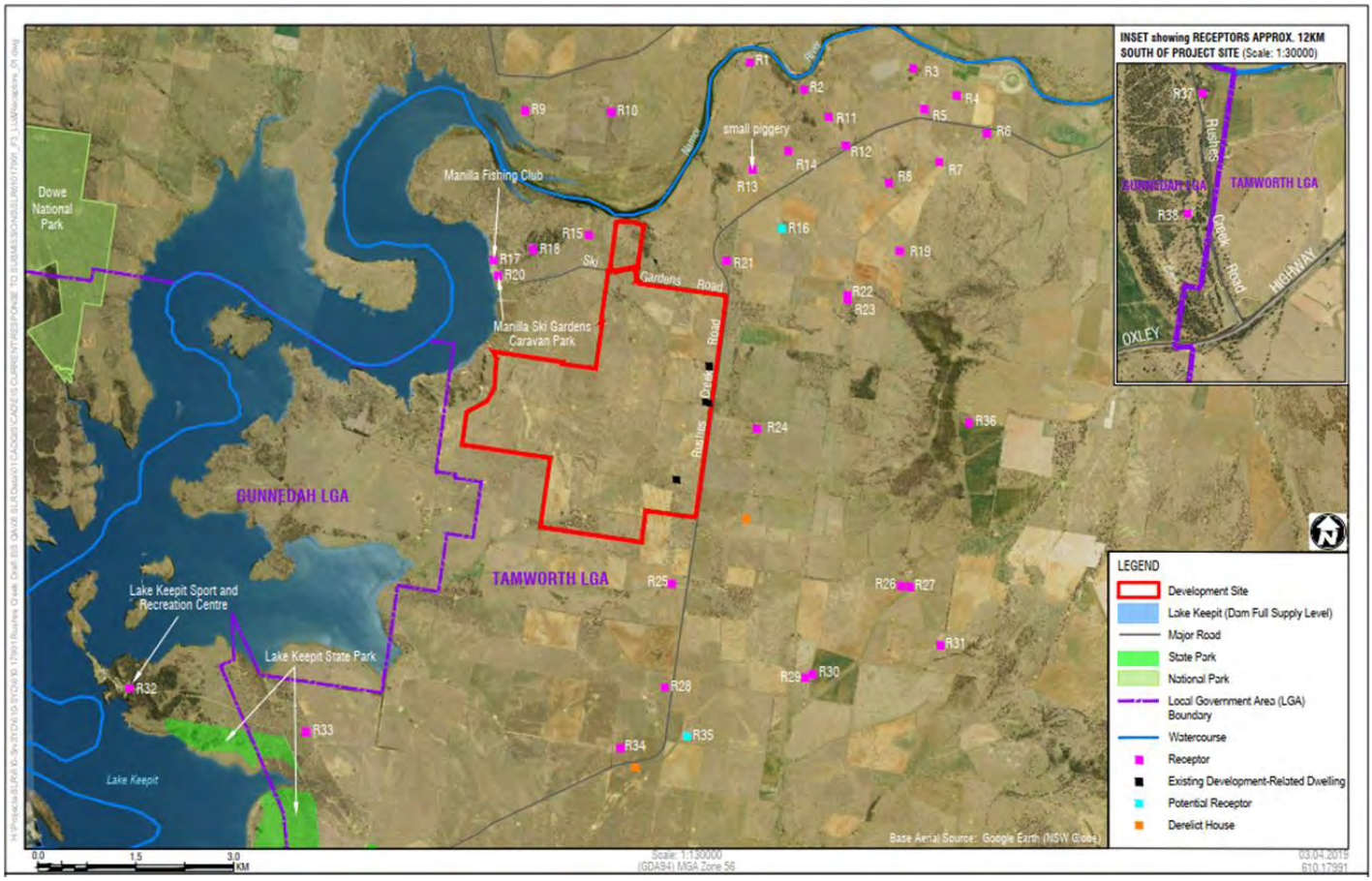


Figure 1: Location of Sensitive Receptors (Source: SLR Consulting Australia Pty Ltd)

4.4 Revision and Maintenance

This Plan shall be reviewed annually or within 1 month after an emergency event has occurred by the Risk Manager. The Risk Manager shall ensure revisions are logged and all reproductions updated accordingly.

4.5 Location of Emergency Documentation

Copies of the Emergency Plan and drawings will be kept at the Main Office & in the Emergency Information box located at the entrance to the property.

4.6 Diagrams and Drawings

Diagrams and drawings associated with emergency response procedures are kept in iLeader. A layout of the entire site can be seen on the drawings.

The location and type of emergency equipment, including but not limited to exits, emergency assembly areas, fire hose reels and spill kits can be seen on these Drawings.

The type of chemicals stored can be seen in the Chemical Register.

4.7 Availability of Emergency Plan

A hard copy of the most up to date Emergency Plan shall be made available for viewing to any of the following upon request:

- Emergency services (ie. Fire Brigade, Police, Ambulance etc)
- Environmental Protection Authority

- SafeWork NSW
- NSW Department of Planning and Environment

5. Risk Identification

5.1 Risk Management Procedure

The procedure describes the minimum requirements for managing health, safety, environment and quality risks at ProTen Farms. Procedures and forms can be found in iLeader.

5.2 Pollution Incident Risk Assessment

ProTen utlisies an external consulting organisation to ensure compliance with Pollution Incident Response. A Pollution Incident Response Management Plan has been prepared by this company and exist on the ProTen website at https://www.proten.com.au/Sustainability/Environmental-Documents.

All potential foreseeable impacts from high risk hazards and activities have been considered and included in the Emergency Response Plans.

5.3 Hazard Identification

ProTen has utilised and external consulting organisation to develop and prepare a Fire Safety Study in accordance with the Hazardous Industry Planning Advisory Paper No.2 – Fire Safety Study Guidelines (Department of Planning, 2011). This study exits on the ProTen website a https://www.proten.com.au/Sustainability/Environmental-Documents

The following is a brief description of the main high risk areas for pollution incidents and the primary and secondary controls implemented to manage the risk.

Chemical Handling and Storage

Limited chemicals are used as part of the poultry production operation. Appropriately sealed chemical storage containers are provided at the Farm for the short-term storage of the limited volumes of chemicals delivered to the site. At each delivery of new chemical supplies, all empty chemical containers are retrieved by the chemical company for reuse, recycling or appropriate disposal. The primary areas of use are:

- Sanitation of the poultry sheds during the cleaning phase at the end of each production cycle;
- Disinfection of the water supply; and
- Pest and vermin control, when and where necessary.

The following primary controls are implemented to manage the risks from chemical handling and storage:

- Chemical and SDS registers are maintained to ensure information is up to date.
- Chemicals are stored within bunded areas.
- Bulk transfer facility with provision for spill containment
- Placarding and signage of chemicals in accordance with the Australian Dangerous Goods Code (ADGC)
- Training on chemical awareness
- Chemical risk assessments and procedures for handling chemicals
- Routine housekeeping inspections

The following secondary controls are implemented to further manage risks of pollution incidents:

- Spill kits containing equipment for clean-up of spills or leaks of chemicals are located close to high risk areas and maintained to ensure they are fully stocked
- Storm-water system
- Spill response procedures
- Training in spill response

- Incident investigation and reporting procedures

6. Emergency Equipment

6.1 Alarm Systems

Air Horn:	Emergency Evacuation air horn alerts the ECT and building occupants of an emergency should an evacuation be required. The air horn is manually activated.
Lights in Shed:	These are flicked on and off three times to alert the workers that there is an emergency and to evacuate the building

6.2 Fire Fighting Equipment

Fire Extinguisher:	Portable firefighting extinguishers are located on the sheds. The Fire Extinguishers are a combination of Dry Chemical and Foam Type extinguishers and are strategically located dependent on the material fire risk presented. The location of all firefighting equipment is clearly marked with the appropriate signs and identity disks. If portable fire extinguishers have been used and require replacement, they are to be placed in the maintenance workshop. Any damaged or unserviceable equipment must be reported to the Manager immediately.
Fire Hose Reels	Located at the Gas tanks. Hose Reels are operated by turning the control valve anti-clockwise, un-reeling the hose, opening the nozzle and directing water at the base of the fire. Hose Reels must be cleaned and re-rolled onto their drum and made ready for future use. Willful tampering or misuse of fire equipment is an offense.
Fire Hydrants:	Fire Hydrants are located at the East and West end of the sheds. These are to provided fire fighters with a fire hydrant system in accordance with H3.9 or AS 2419.1.

6.3 Fire Water Supply

Fire Water Supply	The fire water supply is fed directly from the ring main. On site water storage is via Water Tanks.

6.4 Evacuation and Exits

Emergency Exits	Exits are located throughout each shed and lead to an open area external to the building. In any evacuation, occupants should always vacate the building from the nearest exit point unless approaching the danger. They should then choose the next nearest alternative exit. All exits are designated by the green and white signs.
Assembly Area	There are two Evacuation Assembly Area's which is located at the main entrance to the property and at the rear of the property.

6.5 Spill Response Equipment

Spill Kits	Spill kits are installed in locations appropriate to the risks. Spill kits are to be included on housekeeping checklists to ensure they are regularly inspected. Re-stocking of spill kits should occur immediately after the spill kit material has been used. Used spill kit material is classified as Hazardous Waste and should not be disposed of in General Waste.

Storm Water	Refer to Environment Management Plan (Soil and Water Management Plan)

7. Responsibility

The following personnel assume the primary responsibility for the activities covered by this procedure:

1. Risk Manager
2. Emergency control team (ECT)
3. All personnel

7.1 Primary Roles & Responsibilities

The primary role of the Risk Manager is to:

- Establish and implement emergency plans and emergency procedures
- Ensure that those affected by the plans and procedures are aware of them
- Monitor the effect of the plans and procedures on the organisation
- Rectify any identified deficiencies or inaccuracies
- Determine the number of ECT personnel consistent with the nature and risk of the buildings, structures and workplaces
- Ensure that personnel are appointed to all positions on the ECT
- Arrange training of ECT personnel

The primary role of the ECT is to ensure that life safety takes precedence over asset protection.

- The ECT will meet as required (debrief after each exercise or actual evacuation) or at intervals not greater than six months
- The ECT will review procedures after an emergency or an exercise and advise the Risk Manager of any changes that affect the emergency management plan

Each person in the ECT has clearly defined duties and responsibilities, as follows:

7.2 Chief Warden

On becoming aware of an emergency the chief warden shall assume control until the emergency services arrive and take the following actions:

- Ascertain the nature of the emergency and determine appropriate action
- Ensure that the appropriate emergency service has been notified
- Ensure that wardens are advised of the situation
- If necessary, initiate evacuation and control entry to the affected areas
- Ensure the progress of the evacuation and any action taken is recorded in the *Chief Warden Incident Log Report - PRT-F-SHEQ-001*
- Brief the emergency services personnel upon arrival on type, scope and location of the emergency and the status of the evacuation and, thereafter, act on the senior officer's instructions

7.3 Deputy Chief Warden

The deputy chief warden shall assume the responsibilities normally carried out by the chief warden if the chief warden is unavailable, and otherwise assist as required.

7.4 Wardens

Persons selected as wardens may be required to carry out a number of activities, including the following:

- Ensure that the appropriate emergency service has been notified
- Search the sheds to ensure all persons have evacuated
- Ensure orderly flow of persons into protected areas
- Assist persons with disabilities
- Moving people to the nominated assembly areas
- Report to the chief warden on completion of required activities

8. Emergency Evacuation

8.1 Fundamentals

Wardens have been trained to assist and direct in an emergency situation. They will be wearing white or yellow helmets and it is important to listen to their instruction in an emergency situation.

On hearing the alarm, or as instructed by the ECT (emergency control team) all occupants should:

1. Evacuate the building immediately via the nearest exit.
2. Follow any instructions given by wardens.
3. Make your way to the applicable evacuation assembly area.

8.2 Chief Warden

Upon notification of an emergency, the Chief Warden will assume control, until emergency services arrive, and take the following actions:

1. Ensure that the applicable alarm has been activated
2. Arrange notification of Deputy Chief Warden
3. Go to Control Point
4. Co-ordinate evacuation activities
5. Make contact with the emergency site via the hand held two-way radio system
6. Transmit clear and concise evacuation instructions
7. Take steps to ensure no person enters the premises until the Emergency Services give the all clear
8. Pass on all available information to Emergency Services

8.3 Deputy Chief Warden

Upon notification the Deputy Chief Warden will:

1. Go to emergency control point
2. Assist the warden with evacuation activities
3. Co-ordinate evacuation activities if Chief Warden is not in attendance

8.4 Wardens

On hearing the alarm or becoming aware of an emergency:

WILL:

1. Respond according to the area emergency evacuation plans.
2. Instruct all occupants to evacuate the area and proceed to the designated emergency assembly point.
3. Report to the Chief Warden, or the person in charge at the control point when the warden's area has been cleared.
4. Ensure all persons are accounted for at the assembly area.

5. Wait at the assembly area for instructions from the Chief Warden, or Emergency Services.

WILL NOT:

1. Try and contact anyone to find out what is going on
2. Allow persons to obstruct or hang around the building / area.

8.5 All Staff

WILL:

1. Follow instructions given by any Warden
2. Proceed to designated assembly area
3. Remain in the assembly area until all clear is given by Chief Warden or Emergency Services Personnel

WILL NOT:

1. Continue to carry on with normal business
2. Try and contact anyone to find out what is going on
3. Obstruct or hang around the building

8.6 Visitors including Contractors

WILL:

4. Follow instructions given by any Warden
5. Proceed to designated assembly area
6. Remain in the assembly area until all clear is given by Chief Warden or Emergency Services Personnel

WILL NOT:

7. Continue to carry on with normal business
8. Try and contact anyone to find out what is going on
9. Obstruct or hang around the building

8.7 Medical Emergency

1. Contact the nearest first aider (list of first aiders on first aid kits).
2. If necessary, call an ambulance on 000.
3. If an ambulance is called, facilitate access on to site.

9. Emergency Contacts

EMERGENCY CONTACTS		
SERVICE	**NAME**	**CONTACT DETAILS**
FIRE **AMBULANCE** **POLICE**	EMERGENCY SERVICES	000 (24HRS)
FIRE WARDEN	Farm Manager (Chief) Assistant Farm Manager (Deputy) Farm Hand/Assistant (Warden)	Farm 2 – 0434 006 299
HOSPITAL	Tamworth Base Hospital Dean St, North Tamworth NSW 2340	02 6767 7700
MEDICAL CLINICS	Tamworth General Practice. 160 Bridge St & 516 Peel St	02 6766 3888
STATE EMERGENCY SERVICES	Storms, Floods	13 25 00
SAFEWORK NSW REPORTING	Serious Incident Notification	13 10 50
POLICE STATION	Manilla Police Station	02 6785 1039

LOCAL COUNCIL	Tamworth Regional Council	02 6767 5555 1300 733 625
INTERNAL POWER FAULTS/EMERGENGIES	WBB Electrical Pty Ltd	0421641351
GAS LEAKS	ELGAS	1800 819 783
POISON INFORMATION	Poisons Information	13 11 26
WATER	AquaWest ACS Plumbing	0429 303 333 408 614 531

10. Handing Over the Incident to Emergency Services

The Emergency Management approach is for an 'early over – response' appropriate to the size and type of incident.

This means that:

1. The scale of an incident governs the scale of response.
2. The type of incident governs the type of response.
3. The passage of time after an incident is first reported governs the type of response.

Hand Over Control/ Command Centre

When the external Combatant Agency arrives on site, their Senior Officer is called the **Incident Controller.** The external agencies will **report to the Command Centre** and staging area for emergency services to the incident.

The Chief Warden will brief the Incident Controller on the situation at the Command Centre to enable safe entry of emergency services.

The Chief Warden will arrange if necessary, for the escort of the emergency services to the incident scene.

By law the Incident Controller has overriding authority for the incident.

The briefing will cover:

1. Location nature and status of emergency
2. Details of personnel injured or trapped
3. Action taken to date
4. Location of all personnel involved
5. Any other relevant information including:
    1. Details of hazardous materials involved
    2. Particular hazards
    3. Location of equipment and plant
    4. Access to building and plant

The Chief Warden will continue to command all ProTen Resources.

11. Emergency Response

Note: For all shed related emergencies, in particular fire and explosion, power to the shed is turned off via the Main Control Board and the back-up generator relating to that shed is isolated. This can only be performed if safe to do so.

11.1 Fire & Smoke

Fire procedure embraces four essential steps:

Life safety

1. Ensure the immediate safety of anyone within the vicinity of the fire
2. Communicate situation to Chief Warden and or Deputy

Call the fire brigade (dial 0 -000)

1. Call the brigade in all incidents of fire or suspicion of fire

Evacuate

2. Assess escape route, normal exits and plan the evacuation
3. Evacuate to designated assembly area
4. Head counts are conducted
5. Do not allow anyone to leave assembly area until all clear has been received
6. Smoking is not allowed in assembly areas

Fight the fire

1. Select, use and operate appropriate hose reel or portable extinguisher if trained to do so
2. If there are risks associated with attempts to control a fire, withdraw, closing but not locking doors
3. Be aware of location of switchboards when using hose reels
4. Shut down equipment if safe to do so
5. If the fire is in relation to the sheds and can not be controlled, isolate gas and power supplies, if safe to do so. Refer note above

11.2 Chemical Spill / Toxic Emission

It is important to know what you are handling in the first place. Only those people trained in the storage and handling of dangerous goods should have access to them.

1. Spill, emission or leak identified
2. Assess the nature of the chemical spill or emission and the danger to people
3. Assist persons in immediate danger – only if safe to do so
4. Restrict the danger area by shutting door/s on the spill area – only if safe to do so
5. If flammable – shut off all ignition sources – only if safe to do so
6. Raise the alarm
    1. Notify Chief Warden and or Deputy
    2. Notify Fire Brigade on 000 **in all cases regardless of severity (requirement under the NSW Fire Brigade Act)**

3. Chief Warden will assume control until Fire Brigade arrive

7. Attend to the emergency – **only if trained and it is safe to do so**
8. Locate SDS
9. Note the wind direction – this is important if an evacuation is required
    1. Know whereabouts and use spill kits for minor non hazardous spills
    2. Properly place and dispose of waste
    3. *Please note that orange spill kits are located around the site for use in the event of an oil spill or chemical spill*

11.3 Gas Leak

10. Gas leak detected
11. Assist persons in immediate danger immediately – only if safe to do so
12. If Flammable – shut off all ignition sources – only if safe to do so
13. Raise the alarm – notify fire brigade on 000 and give details of problem
14. Alert Chief Warden and or Deputy
15. Evacuate to the designated assembly area
16. Stay there until accounted for and instructed that you may leave
17. An alternative assembly area may need to be used if the weather conditions are transporting vapours toward the primary assembly area
18. Listen for instructions and take not of unusual smells and conditions

11.4 Explosion

1. Assess the situation and check for the possibility of further explosion or fire if safe to do so
2. Assist anyone in danger if it is safe to do so
3. Notify the Chief Warden or Deputy and the first aider, who will decide whether an evacuation is necessary
4. Notify Emergency Services 000
5. The Chief Warden or Deputy will organise to isolate and contain any hazards resulting from the explosion
6. In case of a bomb, extreme care must be taken because there may be other bombs. Disturb as little as possible to preserve evidence for the police investigation.

11.5 Motor Vehicle or Aircraft Accident

7. Assess the situation to ensure that the area is safe. Check for live wires, petrol spills (aviation gas is highly volatile), fumes, damaged structures, other vehicles or traffic and any other possible dangers
8. Call a runner if necessary and notify the Chief Warden or Deputy and the first aider, who will call Emergency Services and decide whether an evacuation is necessary
9. Keep bystanders away
10. Assist anyone in danger if it is safe to do so
11. If injuries have occurred, assist wherever possible until the Ambulance arrives

11.6 Storm, Flood or Bushfire

12. Stay calm
13. Notify the Chief Warden or Deputy
14. Stay off the telephones unless calling Emergency Services 000
15. Assess the situation, if plant or equipment is at risk shut it down if safe to do so
16. Keep everyone onsite until danger has passed or an evacuation is required
17. In the event of a power blackout, provision has been made throughout the site

11.7 Medical Emergency

Contact nearest first aider. List of first aiders located on first aid boxes.

11.7.1 First Aid

Trained First Aiders are available. The Risk Manager corrdinates first aid training and first aid personnel manage area first aid kits. Trained first aiders provide first aid treatment and life support for staff and visitors to the site.

11.7.2 Medical priorities at the accident scene

1. Check and remove any danger to the victim or yourself
2. Check conscious state of victim

11.7.3 Conscious

1. Check and treat any serous bleeding and manage any life threatening condition
2. Contact the Ambulance service 000
3. Stay with victim until professional help arrives

11.7.4 Unconscious

1. Place victim on their side
2. Clear the victim's airway (mouth) and check their breathing and pulse
3. If the victim is not breathing commence appropriate resuscitation
4. Call loudly for someone to contact the Ambulance service
5. Do not leave the victim

11.7.5 Emergency Services

Ambulance Service 000

1. Give medical condition of victim
2. Give location, building
3. Direct ambulance to entry gate and send a runner to direct ambulance officers to accident site

11.8 Bomb Threat by Telephone

1. Bomb threat received
2. Let caller finish message
3. Record all information on nearest paper

4. Try and attract the attention of those near you to ring Police on 000

Ask

1. When is bomb going to explode?
2. Where is it now?
3. What does it look like?
4. What kind is it?
5. What will cause it to explode?

When call hangs up –

6. DO NOT HANG UP – leave receiver off the hook
7. Complete bomb threat checklist
8. On a different telephone – ring Police on 000
9. Alert Chief Warden
10. Follow all directions given by Chief Warden
11. Hand bomb threat checklist to Police

11.8.1 Bomb or Suspicious Item Found

12. Suspicious item found
13. Take note of time and method of receipt
14. Don't touch it, don't cover it, don't move it, don't disturb it in any way
15. Evacuate immediate area
16. Contact Police on 000
17. Alert Chief Warden
18. Follow all instructions given by Police
19. Complete bomb threat checklist
20. Hand bomb threat checklist to Police

11.8.2 Bomb Threat – Response ECT

Chief Warden or Deputy Chief Warden

1. Follow instructions of Police when asked to assist with bomb threat procedures
2. If evacuation is ordered by Police, pass instructions to Wardens
3. Control evacuation
4. Pass 'all clear' instructions to Wardens as advised by Police

Wardens

When advised to conduct a search of your area of responsibility:

1. Advise staff and reassure all persons in the area
2. Initiate search for a suspect item which should not be in the area

3. Shut down / switch off all equipment
4. Leave lights on

If an evacuation is ordered:

1. Instruct all persons to inspect their own areas prior to evacuation
2. Instruct all persons to leave personal bags and parcels with them when evacuating
3. Evacuate all persons to designated assembly area
4. Account for all persons

If trained to do so:

1. Remove flammable materials from the area and turn off supply of flammable substances
2. Ensure all doors and windows in the danger area are opened as appropriate

At assembly area

1. Conduct a check to ensure all areas are cleared
2. Contact Control Point and inform emergency control personnel of actions taken, and advise of details of any areas not accounted for
3. Ensure no person re-enters evacuated areas
4. Await further instructions from Police or the Chief Warden

11.8.3 Bomb Threat Search Procedure

Suspect item search techniques for wardens or persons designated to conduct search. If a search order is given by Police, an immediate search of all areas must be conducted.

Remember, you are searching for an item that should not be where it is.

Search

1. Direct personnel present to collect personal items and remain where they are
2. Search external areas first
3. Always search areas upward:
    1. Floor to waist
    2. Waist to chin
    3. Chin to ceiling
4. If nothing is found – immediately report to Police / Chief Warden ‘area searched, nothing found’
5. Stand by for instructions

If a suspect item is found

1. **Don’t touch it**
2. **Don’t move it**
3. **Don’t cover it**
4. **Do not disturb it in any way**
5. Evacuate immediate area – avoid suspect item

6. Account for all persons
7. Provide Police exact details:
    1. Exact location of item
    2. Exact description of item
    3. Any unaccounted for person/s
1. Be prepared to be interviewed by Police and Emergency Services for further details and information
2. Await further instructions in designated assembly area
3. Ensure no person re-enters area until authorised by Chief Warden, Police and / or the Emergency Services

11.9 Public Disorder

1. Follow SOP198 Farm Invasion
2. Secure the area – if safe and possible to do so
3. Ring Police on 000
4. Remain in the area in which you are located – if safe to do so
5. Do not confront
6. Act under instructions from Police or your Wardens
7. Stand by for instructions
8. ECT will provide assistance when requested by Police or Emergency Services Personnel, in controlling any necessary evacuation

11.10 Threat by Mail

1. Letter of threat received
2. Place letter down and do not touch again – this is to preserve evidence
3. Ring Police 000
4. Ensure your Manager is notified
5. Follow all directions given by Police

11.11 Threat by Person

Evaluate the person making the threat:

Has the person a complaint against our business?

Is the person under the influence of alcohol or drugs?

Was the threat made in a sarcastic or joking manner?

6. Stay calm
7. Take note of the appearance and other characteristics of the person making the threat
8. Maintain a safe distance
9. Try and gain someone's attention
10. Self-control is essential; you cannot control a situation if you're not in control of yourself

11. Focus on issues. Where personal abuse occurs; avoid being sidetracked by ignoring the abuse and focus on the issues
12. When the person leaves, ring Police on 000
13. Ensure your supervisor is notified
14. Alert management
15. Follow all directions given by Police

12. Media Liaison

Refer Reputational Risk and Media Response- PRT-P&P-HR-019

13. Training

Training shall be conducted for personnel who have responsibilities in an emergency situation.

Evacuation drills shall be conducted for all personnel, at least twice a year. The systems shall be tested by a combination of drills and/ or scenarios.

Emergency Response	Test
Fire and Smoke	Drill
Chemical Spill/ Toxic Emissions	Drill and/or scenario
Gas Leak	Drill
Explosion	Drill
Motor Vehicle Accident	Scenario
Storm, Flood or Bush Fire	Scenario
Medical Emergency	Scenario
Bomb Threat	Desk Top Scenario
Threat by Mail	Desk Top Scenario
Threat by Person	Desk Top Scenario

14. Post-Emergency Activities

Following an emergency, a full investigation shall be carried out. This is overseen by the Risk Manager. At the completion of the investigation, the Emergency Response Plan shall be revised, if necessary.

Where required, trauma counselling shall be provided to personnel affected by the emergency to the extent that such counselling is considered to be required.

15. Statutory Investigations

A serious emergency may be subjected to an official or statutory investigation. Evidence must therefore be protected and not disturbed. ProTen will co-operate with the authorities in their investigations. Legal advice should be considered in relation to internal reports and statements.

Examples of potential investigations include:

15.1 Coronial Enquires

These will be held in the case of any fatality or notifiable emergency, which a coroner considers in the public interest.

In these cases preservation of evidence is critical. The Chief Warden will ensure that there is no cleaning up, repairs or movement of bodies apart from the necessary to control the emergency, without approval of the Senior Police Officer on site.

The police will manage all aspects of a coronial inquiry. Every co-operation should be given to the investigating police.

15.2 Crime Scene

When the Chief Warden becomes aware that an emergency is potentially the result of criminal activity, it is essential that appropriate crime scene preservation measures are put in place. In such circumstances, the advice or requirement of the Senior Police Officer on site should be solicited before any action is taken. If the Police are not on site, telephone 000 for initial instructions.

15.3 Fire Investigations

NSW Fire Brigades will investigate the cause of a fire that they attend and if this investigation causes suspicion that a crime has been committed (including breach of regulations) they will request the Police to prosecute.

For fires where the cause is not obvious, the NSW Fire Brigades may conduct a more thorough investigation to establish the cause of the fire. Consequently the preservation of evidence in the vicinity of the origin of the fire is critical. Only that work necessary to actually extinguish the fire in this area should be conducted and no further hose-down or cleanup be performed until approved by the Incident Controller.

15.4 Other Statutory Investigations

Other relevant Government authorities may decide to investigate an emergency, for example, *Safety Regulatory Authority in each State*, *Environmental Authority in each state and relevant Fire Authorities in each state.* These agencies should be directed in the first instance to the Risk Manager.

15.5 Emergency Incident Reporting and Investigation

All Emergency Incidents must be reported to the Chief Warden as soon as possible and actions to contain the emergency will be undertaken in accordance with this procedure. When the emergency situation has been contained and the all clear has been given, an investigation into the emergency will commence immediately and a report shall be completed within a 24-hour timeframe.

The report and investigation shall be undertaken in consultation with all relevant personnel including but not limited to - the person who raised the alarm, witnesses, the Deputy Wardens, Wardens from where the emergency situation occurred, Risk Manager, the Farm Manager and *WHS Officer* if required.

The report shall detail the following information as a minimum:

1. *Introduction* - Where the emergency situation occurred, type of emergency, date and time of the emergency
2. *Body* - The facts of the emergency – what happened before, during and after the emergency situation, if further investigation or testing is required, ask why? five (5) times
3. *Conclusions* - What caused the emergency situation based on the facts and evidence sourced during the investigation
4. *Recommendations* - Realistic recommendations that will eliminate and / or reduce the risks of a similar emergency situation taking place

The scene of the emergency situation shall not be disturbed unless to save life or relieve suffering, to prevent further damage to property and personnel or if otherwise instructed via the Police and / or the Regulator. Photos, diagrams, maps and illustrations of the scene and witness statements may be taken after the incident has occurred to help with the emergency investigation and report.

The emergency report and investigation will be discussed as soon as reasonable practicable.
All actions arising from such an investigation will be given to the site manager to delegate appropriately and follow through to completion.

15.6 Emergency Evacuation Drill

To ensure a smooth site evacuation process in the event of an emergency, emergency evacuation drills shall be held twice per year as per the SHEQ Risk Management Plan document. The emergency situation may not necessarily be a fire drill but instead, may be any one of the emergency situations described in this

procedure. Where a 'real' evacuation has occurred on site the need to hold the scheduled drills shall be assessed by the Chief Warden.

During emergency drills and false alarms (which shall be treated like an emergency drill) all ECT Personnel shall act in their appointed positions and complete their respective duties. *All observations made during the site emergency drills shall be collected on the Evacuation Exercise Observer's Checklist -PRT-F-SHEQ-002.* All actions / learning's made from the emergency drills shall be included in the *Chief Warden Incident Log Report - PRT-F-SHEQ-001*.

All employees, visitors and contractors MUST take place in evacuation drill and fully comply with the contents of this procedure. Anyone refusing to leave the worksite or take part in evacuation exercises will face disciplinary action unless they are authorised not to participate in the drill prior by the site manager and with the Chief Warden's knowledge.

The *Chief Warden Incident Log Report - PRT-F-SHEQ-001* shall include the following information as a minimum:

1. Date and Time and Type of emergency situation
2. If applicable the time it took to evacuate and have all personnel accounted for
3. Observations as to the way personnel acted (both the general occupants and crisis control personnel)
4. Area Warden Response times
5. If anyone re-entered the building or area affected without instruction or the all clear given and / or refused to follow instructions

This *Chief Warden Incident Log Report - PRT-F-SHEQ-001* shall be used to monitor the sites progress and emergency evacuation response times. This report shall be discussed at the next ECT Committee meeting and with the appropriate management staff.

Records
Chief Warden Incident Log Report - PRT-F-SHEQ-001

Evacuation Exercise Observer's Checklist -PRT-F-SHEQ-002

Training Progress

Date	Employee's Signature	Trainer's Signature

Once training is completed, please proceed by completing list below and sign of accordingly.

Declaration of Understanding

I acknowledge that I have read this procedure and understand my responsibilities in ensuring that I comply with its instruction.

Employee's Name (print)		Employee's Signature	Date
Manager's Name (print)		Manager's Signature	Date

Appendix K:

Long Term Environmental Management Plan (LTEMP)

LONG TERM ENVIRONMENTAL MANAGEMENT PLAN

Rushes Creek Poultry Production Farm
Rushes Creek Road, Rushes Creek, NSW

Prepared for:

ProTen Pty Ltd
North Sydney, NSW, 2060

SLR Ref: 610.30237.00000-R04
Version No: -v0.1
December 2021

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with ProTen Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
610.30237.00000-R04-v0.1	9 December 2021	Jason Roesler	Hugh Selby (CEnvP-SC)	Hugh Selby (CEnvP-SC)

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DOCUMENT REFERENCES

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APPENDICES

1 INTRODUCTION

SLR Consulting Australia Pty Ltd (SLR) was engaged by ProTen Tamworth Pty Limited (ProTen) to prepare a Long-Term Environmental Management Plan (LTEMP) following the remediation of soil impacted by arsenic near a former sheep dip at the proposed poultry production farm located at Rushes Creek Road, Rushes Creek, NSW (the Site). The Site forms a small portion (approximately 700m^2) of the larger Rushes Creek Poultry Production Farm (the Property), which was granted Development Consent SSD 7704 by the Department of Planning, Industry and Environment (DPIE) (as delegate for the Minister) on 16 April 2020. A Consolidated Consent was then issued on 15 June 2021, following a modification to the approach to remediation of the arsenic impacted soil. The approved approach to remediation was to cap the arsenic impacted soils onsite.

The site locality and site layout have been identified in **Figure 1** and **Figure 2** in **Appendix A** respectively. Photographs of the site before and after remediation have been presented in **Appendix B**.

1.1 Responsible Parties

Table 1-1 LTEMP Responsible Authority and Parties

Item	Details
Party responsible for implementing the LTEMP	ProTen Pty Ltd
Responsible Authority	Tamworth Regional Council
Time Period for LTEMP	From 09 December 2021. Subject to review every 3 years
Enforceability of the LTEMP	See Section 1.1.1
Responsibility of enforcement	See Section 1.1.2
Where / how the LTEMP will be recorded	See Section 1.1.3

1.1.1 Enforceability of the LTEMP

The Namoi Unlimited (2019) *Policy Managing Contaminated Land or Potentially Contaminated Land* applies to all land within the Tamworth Regional Council (TRC) Local Government Area (LGA). This Policy relates to TRC's responsibility in contaminated land matters as the regulatory authority for land use planning. This Policy is in place to ensure compliance with the requirements of the Contaminated Land Management Act (1997), the Environmental Planning and Assessment Act 1979 (EP & A Act), State Environmental Planning Policy (SEPP)55 – Remediation of Land (SEPP55) and the associated Managing Land Contamination: Planning Guidelines (SEPP55 Guidelines); The National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), ASC NEPM, and all relevant Council policies, procedures, and processes.

This Policy commits TRC to maintaining a Contaminated or Potentially Contaminated Land Database (CPCL Database) for land within the local government area. The CPCL Database will identify properties known to the Council, which have a history of contamination, or that have been associated with uses that may have resulted in contamination. The CPCL Database will record details of any site remediation or abatement that has been undertaken, validation records, and audits of remediation work as required by the SEPP55 Guidelines. Information regarding individual properties will be recorded in the CPCL Database. Any enquiries to TRC associated with a property should be checked against information contained within the CPCL Database and associated GIS layers.

1.1.2 Responsibility of enforcement

The ProTen Site Manager undertaking works within Rushes Creek Poultry Production Farm, NSW.

1.1.3 How the LTEMP will be recorded

A copy of the LTEMP is kept in TRC's electronic records system under TRC's CPCL database as per the Namoi Unlimited (2019) *Policy Managing Contaminated Land or Potentially Contaminated Land.*

The LTEMP is also kept in ProTen's Database of documents for the Property, and will be flagged as part of the ProTen Site Induction.

1.2 Purpose

The purpose of this LTEMP is to provide procedures for the owners of the site (ProTen) to meet their statutory obligations relating to the management of potential environmental, health and safety impacts from exposure to arsenic and asbestos impacted soil at the site. The LTEMP is a document that sets the framework within which activities are to be undertaken at the site, including the responsibilities and reporting. All ProTen personnel and subcontractors are responsible for ensuring that their activities are conducted in accordance with all legislative requirements and the requirements of this LTEMP at all times.

This LTEMP is applicable to the management of arsenic and asbestos at this site until the Responsible Authority withdraws this requirement. **Table 1-1** lists the Responsible Authority and Parties, time for the plan, enforceability of the plan and where it will be recorded.

1.3 Objectives

The objective of this LTEMP is to maintain the integrity of the capping layers and prevent unplanned breaches of the surface coverings as part of the ongoing primary production land use of the site. The LTEMP aims to:

- Summarise both the surface and sub surface conditions at the site
- Assign responsibilities for the implementation of this EMP
- Protect the health of site workers/occupants by ensuring continued maintenance of the capping layers to prevent exposure to the underlying contaminants
- Protect the health of site workers/occupants in the event that the capping layers are disturbed.

Stakeholder compliance with and implementation of this document will be required, and regular audits should be undertaken to ensure all requirements identified are implemented. The LTEMP will also require regular review to ensure that current site conditions and activities are accurately reflected and any changes in such are catered for in the plan, which may be revised as more information becomes available.

Note: This LTEMP does not cover general site redevelopment activities and deals only with the risks and mitigation measures associated with arsenic and asbestos contaminated soils at the site as shown on **Figure 2** in **Appendix A**.

1.4 Scope

The LTEMP includes information and guidance about:

- advising site occupants (including contractors engaged in maintenance and/or construction work) of the environmental issues and potential hazards, and their accountability for compliance with the LTEMP
- responsibilities of owners, construction / maintenance personnel and subcontractors
- requirements for ongoing monitoring

This LTEMP is not a Health and Safety Management Plan. For health and safety requirements refer to the Occupation, Health and Safety regulations which requires each employer to assess risks and provide for safe work systems in each case.

2 BACKGROUND

2.1 Site Identification

The Site identification details are provided in **Table 2-1**.

Table 2-1 Site Identification

Site Information	Details	
Site Address	• Rushes Creek Road, Rushes Creek, NSW (the Site)	
Parcel Reference	• Part Lot 62 DP1276824 (the Site)	
Site Area	• 0.01 hectares (Ha) (the Site) • 1016 Ha total Property area	
Current Land Use	RU1: Primary Production	
Proposed Future Land Use	Ongoing use as an RU1: Primary Production Poultry production farm	
Local Government	Tamworth Regional Council (TRC)	
Approximate Site – GPS Coordinates (Geocentric Datum of Australia 1994)	Latitude: 30°48'49.91"S Longitude: 150°35'52.46"	Zone: 56 J Easting: 270205.783 E Northing: 6588558.235 S

2.1.1 Topography

Generally, the site is relatively flat with an elevation of approximately 373mHD. Surface water drainage is generally in a westerly direction towards Namoi River located approximately 3.7km to the west and 2.3km to the north.

2.1.2 Risk to Underlying Groundwater

Based on the proposed construction plans SLR considers that there is no risk to groundwater beneath the site.

No groundwater sampling is proposed under this LTEMP

2.1.3 Environmentally Sensitive area

There are no sensitive environmental receptors within 500m of the site.

2.1.4 Acid Sulfate Soils

The Australia Soil Resource Information System (ASRIS) indicated that there was no known occurrence of acid sulfate soils at or within the immediate vicinity of the site.

2.2 Previous Investigations

This LTEMP has been prepared following from previous investigations undertaken by SLR consulting Pty Ltd (SLR) on the site to assess the distribution and concentration of arsenic across the site. The results of the previous investigations are summarised below.

2.2.1 Preliminary Site Investigation

The PSI undertaken by SLR titled 'Stage 1 Preliminary Site Investigation Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek' dated July 2018 (SLR 2018) involved a desktop review (including land titles and aerial photographs) and site inspection of the Property. The PSI concluded that:

- An area of environmental concern (AEC) was identified for the Property (the former sheep dip on the Site)
- that the Development Site could be made suitable for the proposed redevelopment, subject to the undertaking of a targeted soil investigation addressing the AEC
- Based on the nature of the COPC identified for the AEC, there are well established means of remediation and/or management that could be implemented to allow the Development to proceed, regardless of the findings of a targeted soil investigation.

2.2.2 Detailed Site Investigation

The DSI undertaken by SLR titled 'Detailed Site Investigation Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek NSW' dated February 2019 (SLR 2019) involved a desktop review of previous reports, site inspection and intrusive works at the site, undertaken over two separate mobilisations consisting a total of 21 test pits. The DSI concluded that:

- Analytical results indicate that arsenic concentrations in soil ranged from below the HIL-A guideline value (100 mg/kg) to exceedances as high as 2,600 mg/kg , and is likely to be associated with the former sheep dip, is elevated above the relevant soil health investigation level (HIL) for standard residential with garden/accessible soil (HIL-A) guideline value in the National Environmental Protection Council's National Environmental Protection (Assessment of Site Contamination) Measure, as amended in 2013 (NEPM 2013)
- Soil sampling undertaken as part of the DSI has delineated the arsenic contamination to the north and south of the sheep dip, with low concentrations still exceeding the HIL-A guideline extending beyond the limit of the assessment to the east (assessment limited by the site shed) and to the west (with concentrations not expected to extend more than 10 metres west given the reducing concentrations from the source)
- Based on the guidance provided in NEPM 2013, SLR considers that the arsenic in soils contamination at the site presents an unacceptable risk to present and future site users, particularly during the proposed site redevelopment. Therefore, the arsenic identified in soils at the site is considered to warrant remedial action.

A groundwater assessment was not undertaken as part of the DSI due to the limited leaching potential of the identified arsenic (confirmed with toxicity characteristic leaching procedure analysis), the observed reduction in arsenic concentrations in soil with depth, and the anticipated depth of groundwater

2.2.3 Asbestos Unexpected Find

An Incident Report (SLR 2021b) was prepared titled, *'Incident Report, Asbestos Unexpected Find, Proposed Poultry Production Farm, Rushes Creek Road, Rushes Creek, NSW'*, (610.30237.00000-R03) following an Unexpected Find of Potential Asbestos Containing Material (PACM) on 23 / 24 September 2021.

SLR attended the Site at Rushes Creek Road, Rushes Creek, NSW on 28 September 2021 to assess the material. SLR delineated the extent of the impacted soil via excavation of four test pits on the edges of the unexpected find and supervised the excavation of potentially asbestos impacted soil. Approximately 130m3 of material was excavated and transported to the arsenic remediation area approximately 300m east of the unexpected find. The material was stockpiled within the designated capping perimeter of the arsenic remediation and covered with HDPE. As part of the implementation of the arsenic remediation, this material was utilised as part of the long-term cap placed over the arsenic impacted soils as per the approved RAP (SLR, 2021a) for the arsenic impacted soils.

2.2.4 Remedial Action Plan

A RAP titled 'Remedial Action Plan Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek, NSW' (SLR 2019) was prepared and approved as part of the development consent for the poultry farm. The remedial strategy detailed in the 2019 RAP was to excavate the arsenic contaminated soil and dispose of this material off-site at a facility licensed to receive the waste.

It was identified that the landfill at Kemps Creek on the western fringes of Sydney is the only landfill licensed in NSW to take this type of contaminated soil. Given the time elapsed between preparation of the RAP and the proposed construction, review of Contractor pricing for the transport and disposal of the arsenic contaminated soil at Kemps Creek was deemed not feasible.

As such, an alternative remediation approach was proposed in the revised RAP (SLR 2021a). Based on the discussions with the client, consultation with the EPA, the risks posed to potential receptors including humans at the site and groundwater, and in consideration of the proposed development, the preferred alternative remedial strategy is on-site containment of arsenic contaminated soil. This involves placement of capping (4 layers, with a total thickness of approximately 1.3m) across the arsenic impacted soils (approximately 700m^2). The extent of the capping is shown on **Figure 3** in **Appendix A**.

2.2.5 Site Remediation and Validation

The Remediation and Validation of works (SLR, 2021c) undertaken by SLR are documented in '*Site Remediation and Validation Report, Rushes Creek Poultry Production Farm, Rushes Creek Road, Rushes Creek, NSW 2346'(610.30237.00000-R02).*

The remediation works were undertaken between 20 September 2021 and 29 October 2021 by TPE Civil (the principal contractor). The works included the following general steps:

1. Excavation of test pits to confirm the delineation of the arsenic impacted soils and capping extent.
2. Establishment of environmental controls around the remedial area.
3. Removal of vegetation to the extent practical without disturbing the impacted soil

4. Excavation of Virgin Excavated Natural Material (VENM) in the form of low permeability clay sourced from within the Property for use in the capping layers

5. The utilisation of stockpiled material (timber from the former sheep shed and ACM impacted soils) placed within the remediation area as the earth cover layer

6. Placement and compaction of the VENM to form a cap over the arsenic impacted soils (as well as the timber and PACM impacted soils) in accordance the RAP (SLR, 2021a)

7. Grassing of the capping and installation of a fence around the cap.

8. Survey of the capping and fencing.

9. Inspections of the capping works by an Environmental Consultant and the Site Auditor.

SLR concluded that the site is suitable from a contamination perspective for use as a Poultry Production Farm, subject to the maintenance and monitoring of the capping as per the Long Term Environmental Management Plan (LTEMP) for the site.

2.3 Site Contamination Status

Following the remediation and validation works as documented in SLR (2021c), the site contamination status can be summarised as follows:

- Arsenic impacted surface and subsurface soils (concentrations exceeding the Remediation Assessment Criteria [RAC], up to 2,600mg/kg) from a historical sheep dip and asbestos containing material (ACM) impacted soils obtained from an unexpected find, are capped with a minimum of 1.3m of low permeability clay. The site is fenced and Danger “Asbestos” signage is present.

  Figure 3 of **Appendix A** shows the location and capping extent. **Figure 4** of **Appendix A** shows the layers used in the capping material .

2.3.1 Potential Sources of Contamination

The contamination managed through this LTEMP comprises:

- Arsenic impacted soils to a depth of approximately 1.3 mbgl
- Bonded asbestos and asbestos impacted soils obtained from the Unexpected find as discussed in Section **2.2.3**.

3 REMEDIATION CRITERIA

The Remediation Action Criteria (RAC) applied was the Health based Investigation/Screening Levels (HIL/HSL) provided in ‘Schedule B1 – *Guideline on Investigation Levels for Soil and Groundwater*’ of the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013 (NEPM, 1999). NEPM 1999 provides a framework for the use of investigation and screening levels based on human health and ecological risks. The HILs/HSLs detailed in the NEPM (1999) are scientifically based, generic assessment criteria designed to be used in the initial screening of data for assessment of potential risks to human health from chronic exposure to contaminants.

Given the proximity of the site to low density residential housing, the criteria applied is:

- The soil health investigation levels (HILs) detailed in the NEPM (2013) - HIL-A includes standard residential with garden/accessible soil. The criteria is included in **Table 3-1**.

Table 3-1 Remediation Assessment Criteria

Contaminant of Potential Concern	Criteria (mg/kg)
Arsenic	100
Cadmium	20
Chromium (III+VI)	100
Copper	6,000
Lead	300
Mercury	40
Nickel	400
Zinc	7,400
PAHs (Sum of total)	300
Benzo(a)pyrene TEQ (LOR)	3
Asbestos from ACM in Soil	0.01 %w/w
Asbestos from FA & AF in Soil	0.001 %w/w

4 Conceptual Site Model

4.1 Existing Capping

The extent of the earthen capping layer is shown on **Figure 3** of **Appendix A,** with surveys of the extent of arsenic impacted material, capping and fencing provided in **Appendix C**. The contaminated material as summarised in **Section 2.3**, is capped under a marker layer then 1m of site won low permeability clay Virgin Excavated Natural Material (VENM), with 0.3m of topsoil. The capping has been grassed and is fenced off with warning signs.

A schematical representation of the capping layer construction is shown as **Figure 4** of **Appendix A**.

4.2 Exposure Scenarios and Exposed Populations

4.2.1 Arsenic

Arsenic is a natural component of the earth's crust and is widely distributed throughout the environment in the air, water and land. It is highly toxic in its inorganic form.

Where groundwater is not extracted and used, risks to human health are considered low and the implementation of the specific management actions proposed in this LTEMP will adequately manage these risks.

Exposure to arsenic from groundwater can occur if contaminated groundwater is brought to the surface using pumps on bores. Exposure to arsenic will occur through:

- Ingestion of the water

- Using contaminated water in food preparation and
- Irrigation of food crops

The immediate symptoms of acute arsenic poisoning include vomiting, abdominal pain and diarrhoea. These are followed by numbness and tingling of the extremities, muscle cramping and death, in extreme cases.

4.2.2 Asbestos

Asbestos impacted soils, when disturbed (excavated, drilled, transported, handled etc.), have the potential to generate and mobilise asbestos fibres into the air, creating a potential for inhalation of asbestos fibres by site workers and site users and potentially even the general public outside the site boundaries. Inhalation is the primary mode of exposure to asbestos. However, dermal contact with free asbestos fibres has also been understood to be a mode of exposure in asbestos mine workers. Dermal contact with free asbestos fibres is an unlikely exposure scenario at the site.

There are no known environmental risks posed by asbestos (i.e. risks to flora and fauna in either terrestrial or aquatic environments). However, the human health impacts due to exposure to asbestos are well documented in Safe Work Australia *Asbestos-related Disease Indicators* (August 2010) and in the NSW Department of Health Asbestos and health risks website (Accessed 12 December 2019 from https://www.health.nsw.gov.au/environment/factsheets/Pages/asbestos-and-health-risks.aspx).

Asbestos fibres can pose a risk to human health if airborne through inhalation. According to NSW Department of Health, asbestos exposure becomes a health concern when high concentrations of asbestos fibres are inhaled over a long time period. People who become ill from inhaling asbestos are often those who are exposed on a day-to-day basis in a job where they worked directly with the material. As a person's exposure to fibres increases, because of being exposed to higher concentrations of fibres and/or by being exposed for a longer time, then that person's risk of disease also increases.

5 STATUTORY REQUIREMENTS

5.1 Environmental Planning Instruments and Guidelines

The principal Environmental Planning Instrument (EPI) for the site is the Tamworth Regional Local Environmental Plan 2010 - (LEP map - Sheet LZN_0002), under the LEP 2010, the site is zoned as RU1: Primary Production.

The following EPI's and guidelines are relevant to the management of arsenic and asbestos at the site,

- Contaminated Land Management Act 1997 (CLM Act) (NSW)
- enHealth (2005), Management of asbestos in the non-occupational environment, Department of Health and Ageing, Australian Government 2005
- Namoi Unlimited (2019) Policy Managing Contaminated Land or Potentially Contaminated Land
- National Environment Protection Council, National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013
- New South Wales (NSW) Environment Protection Authority (EPA), Contaminated Land Management: Guidelines for the NSW Site Auditor Site Auditor Scheme (3rd Edition) 2017
- NSW EPA, Waste Classification Guidelines 2014 (NSW EPA 2014)
- NSW EPA, Contaminated Land Guidelines: Consultants Reporting on Contaminated Land (NSW EPA, 2020).

- NSW EPA (2020), Sampling design part 1 – application Contaminated Land Guidelines (Draft for consultation)
- Safe Work Australia (2011), How to Safely Remove Asbestos Code of Practice December of 2011
- State Regional Environmental Planning Policy No. 55 - Remediation of Land
- WA DoH (2009), Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, May 2009
- WA DOH (2009) Management of Small-Scale Low-Risk Soil Asbestos Contamination
- WA DoH (2010), Public Health and Contamination of Soil by Asbestos Cement Material
- WA DoH (2011), Guidance Note on Identification, Assessment and Management of Asbestos Contamination in Regional Public Areas, May 2011
- WA DOH (2021), asbestos – contamination of soil https://healthywa.wa.gov.au/Articles/A_E/Asbestos-contamination-of-soil
- Work Health and Safety Act 2011 (WHS ACT 2011) (NSW)
- WorkCover NSW (2014) Managing asbestos in or on soil, March 2014

6 MANAGEMENT RESPONSIBILITIES

This section details the roles and responsibilities for the management of the arsenic and asbestos impacted soils.

6.1 Site Owner

The Site Owner (ProTen) has the management responsibilities to:

- ensure all workers at the site are advised of the contents of this LTEMP during the Site Induction and pre-works toolbox talks prior to working on site.
- make users of the site aware of the contamination.
- provide a full copy of this plan to future owners in the event the site or portion of the site is sold, or ownership is transferred
- retain documents pertaining to this LTEMP in an appropriate database
- periodically review this LTEMP every 3 years
- nominate a first point of contact for either the community or regulatory authorities who may have queries about the contamination

6.2 Site Manager

The Site Manager responsible for overseeing the LTEMP is to ensure any project team and / or individual undertaking works on site understands their responsibilities to:

- ensure the management measures are implemented on a day-to-day basis
- provide access to a full copy of this plan to all employees working within the area covered by the LTEMP
- ensure adequate training of all employees and contractors during site induction
- ensure that appropriate PPE is worn during any maintenance, intrusive or asbestos/arsenic removal works

- initiate non-conformance and corrective action reports and manage corrective measures as required
- inform any external contractors, maintenance workers, utility workers, subcontractors or other parties that may access the soils of the management conditions described herein

The Site Manager may be the owner of the site, or may include a tenant or other leaseholder, regular visitor to a portion of land or other party that may be likely to use land.

6.3 Construction / Maintenance Workers

Construction and/or Maintenance Workers have the responsibilities to:

- be aware of the management measures and requirements set out in this LTEMP
- adhere to the requirements set out in this LTEMP when working on the site, unless directed by the Site Manager
- inform the Site Manager of their works and unexpected finds.

7 MANAGEMENT ACTIVITIES

7.1 Induction and Training

All personnel and contractors who intend to undertake works at the site shall be inducted in the use of this LTEMP. The site induction is to include the following items:

- General overview of the works to be undertaken at the site
- Overview of contamination issues identified at the site

If the capping is to be disturbed, then asbestos awareness training must also be undertaken.

Contractors engaged to undertake intrusive works at the site must develop worker health and safety documentation (i.e. Safe Works Method Statement [SWMS] or Job Safety Analysis [JSA]) demonstrating conformance to this LTEMP and understanding of the potential for unexpected contaminant finds at the site.

7.1.1 Asbestos Awareness Training

In accordance with clause 445 of the WHS Regulation ProTen has a duty to train workers who will be involved asbestos removal works that do not require a licence (<10m^2) in the identification, safe handling and suitable control measures for asbestos and ACM.

The training is to clarify ProTen Staff / Contractor obligations under the WHS Regulation and shall include the following topics:

- purpose of the training
- health risks associated with asbestos exposure
- types i.e. bonded or friable, and likely presence of asbestos on the site
- the roles and responsibilities of both ProTen and ProTen Staff / Contractors under this LTEMP
- how to access historical reports associated with the site
- the processes and safe work procedures to be followed to prevent exposure
- the correct use of PPE including respiratory protective equipment (RPE)

- the control measures and safe work methods to followed during collection of asbestos fragments to eliminate or minimise the risks associated with asbestos to limit the exposure to workers and other persons
- exposure standard and control levels for asbestos
- purpose of any exposure monitoring or health monitoring that may occur.

ProTen must keep records of all training while the worker is carrying out the work and for five years after the day the worker stops working for ProTen. These records must also be available for inspection by the regulator.

7.2 Management Measures

In the unlikely event that the capping is to be disturbed, this section provides the management procedures for the following excavation activities:

- small-scale disturbance/trenching such as the installation or repair of subsurface utilities.
- excavation for culverts/channels
- retaining walls

Generally, the management measures for the capping area affected/disturbed by various activities, include:

- A suitably trained individual (i.e. an individual who has completed asbestos awareness training) who has reviewed this LTEMP should be present to monitor any disturbance to the marker layers and/or capped material and to ensure that the procedures contained within this LTEMP are followed.
- Disturbance of the underlying capped material is required to be undertaken under Class B asbestos conditions. The cap will require re-instatement, as per **Section 4.1** i.e. replacement of marker layer should this be removed, and re-instatement of a minimum 1.3 m of VENM for the cap (refer to **Figure 4** in **Appendix A**).
- If imported material is required it must be accompanied by a VENM certificate and demonstration that it meets the low permeability requirement of 1 x10-^{8} or lower
- Rectification works should be undertaken as soon as practicable. Refer to **Section 4.1** of this LTEMP for capping layer specifications in the event the cap requires re-instatement.
- If the cap is inadvertently breached during intrusive works, resulting in the exposure of asbestos impacted or arsenic contaminated soils the following should be implemented:
    - all works should cease immediately.
    - An appropriately qualified environmental consultant should be consulted for advice as soon as practicable.
    - The environmental consultant will provide advice on measures to manage the risks posed by the exposed contaminated soils and a strategy to re-instate the breached capping layer.
    - The rectification of the cap will be required to ensure that the cap meets the required capping layer specifications as outlined in **Section 4.1**.
- Sediment and erosion control must be carefully implemented to ensure no contamination of surrounding clean material.

All contaminated spoil must be separated from clean material and stockpiled on impermeable plastic and covered with geo-fabric at the end of the shift. Any off-site disposal must be tracked, and material must be classified in accordance with the NSW EPA (2014) *Waste Classification Guidelines*.

- If the capping layer has been altered, the contractor is responsible for surveying and submitting a new survey to ProTen Pty Ltd.

7.3 Inspection and Maintenance

The capping layers are required to be maintained for the lifetime of this LTEMP to ensure that the low to negligible risk of exposure is maintained. It is the responsibility of the Site Owner to ensure that inspections of the capping are undertaken as follows:

- At least once every 12 months.
- Include a walkover across the surface of the site area.
- Include a written and photographic record as per **Appendix D** of the following:
    - General condition of unsealed surfaces
    - Does grass cover >75% of the cap
    - Presence of any shrubs or trees, excluding shallow rooted (<10mm) grasses - the nature, extent and location need to be recorded and removal works are required to be implemented
    - Presence of any subsidence, cracks, openings, degradation, erosion or similar in the surface coverings – the nature, extent and location need to be recorded and rectification works are required to be implemented
    - Presence of any obvious repair/maintenance works to the surface coverings– the nature, extent and location needs to be recorded
    - Presence of any excavation works into the sub-surface and the control measures being undertaken
    - Any other observations on the condition and/or integrity of the surface coverings.

Where rectification works are required to be implemented or where repair/maintenance works are being undertaken, the Site Owner must ensure that these works are undertaken in accordance with the measures set out in this LTEMP. On completion of such works, the Site Owner must conduct an inspection to ensure that the capping has been adequately re-instated/restored. The record of the required inspections is required to be kept and maintained by the Site Owner.

7.3.1 Irrigation

To assist in maintaining the integrity of the cap, it is preferable to maintain the native grass cover. This may involve light watering and re-seeding of the grass, where the grass is present on <75% of the cap.

Maintaining the soil moisture in the cap will also improve the capping integrity. However, given the extra thickness of the low permeability clay layer, no soil moisture content limits have been applied.

7.3.2 Mowing

When maintenance of the vegetation, within the perimeter of the site, is required this must be conducted in such a manner as not to damage or modify the capping material.

8 COMMUNITY LIAISON, MONITORING and REVIEW of LTEMP

8.1 LTEMP Revision

It is the responsibility of the Site Owner to ensure this LTEMP is maintained as required and reviewed in the event, that one of the following occurs at the site:

- The site's land-use scenario changes
- An unexpected find is identified at the site, indicating a change in the contamination status of the site
- The design specifications of the cap are altered and/or major earthworks are proposed at the site.

It is the responsibility of the Site Owner to engage a suitably qualified environmental consultant to amend the LTEMP for the site as required. The Site Owner must maintain and provide a current version of this LTEMP.

8.2 Record of Implementation

Records of the implementation of this LTEMP must be kept and maintained by the Site Owner, including but not limited to:

- A register of site inspections
- A register of persons inducted to this LTEMP (including the inductee and inductor names, employer, date of induction, nature of the works undertaken, the contractor (if applicable) and signatures of the inductee and inductor
- A register of environmental incidents, non-conformances, complaints and corrective actions taken.

8.3 Auditing

A suitably qualified ProTen environmental officer shall conduct audits on the implementation of the LTEMP. An audit will be conducted annually. Audits shall involve a review of all environmental documents and records to ensure compliance with the requirements of the LTEMP. The audits shall also identify whether Non-Conformance and Corrective Action Reports have been accurately and effectively implemented. If any deficiency is detected ProTen shall initiate a Non-Conformance Report and initiate the appropriate corrective action. Key environmental and procedural issues to be covered by the audit shall include, but may not be limited to:

- The environmental management procedures
- Emergency response
- General site issues
- Adherence to reporting procedures
- Complaint management
- Consents, licences, and leases, with respect to environmental management measures
- Asbestos Awareness training.

8.4 Community Liaison

Table 8-1 Community Liaison Management Strategy

Item	Narrative
Key Environmental Objectives	• Maintain a positive relationship with the community and neighbouring property owners
Description	• The community shall be informed of any activities that may impact neighbouring properties
Strategies	• Provide information to the community on issues affecting them • Respond promptly to any request for information or complaints from the public
Performance Indicators	• Complaints kept to a minimum
Monitoring / Reporting Requirements	• Maintain complaints register
Training Requirements	• N/A
Key Legislation	• N/A

Table 8-2 Community Liaison Implementation Items

Description	Responsibility	Deliverables/ Monitoring	Timing
Site management contact details shall be clearly signposted at the entrance to the site		Clearly visible sign	At all times
Complaints shall be responded to in a prompt manner		Complaints register maintained	At all times

8.4.1 Complaint Reporting

Members of the public shall be able to register a complaint in relation to activities conducted on site, by calling ProTen. The phone number is to be clearly shown at the site entrance.

All complaints regarding pollution and environmental issues relating to the site shall be referred to ProTen immediately. Details of the complaint are to be documented by ProTen on a Complaints and Environmental Incidents Register. ProTen shall respond to any complaints within 24 hours and provide (at least) an interim solution to the potential environmental issue. If it is impractical to generate a solution within 24 hours, then a second response, including a reasonable solution, is to be developed and communicated to the complainant as soon as possible. This follow-up contact should also be recorded in the register.

If a complaint identifies a non-conformance, a Non-Conformance and Corrective Action Report is to be initiated.

8.5 Non-Conformance and Corrective Action Reports

Non-Conformances noted in the Site Inspection Reports or reported to the ProTen Site Manager are to be recorded in a Non-Conformance and Corrective Action Report by ProTen. Details of the non-conformance, including any immediate corrective actions undertaken, are to be recorded by ProTen.

It is the responsibility of ProTen to immediately initiate corrective actions, if required. The Non-Conformance and Corrective Action Report must include details of the corrective action proposed and an appropriate close out date. The report should be signed, dated, and filed.

8.6 Incident Management Reports

Any incidents on site that are likely to cause pollution shall be reported immediately to ProTen. The Site Manager will meet with the notifying party as soon as practicable following an incident to commence investigations and make recommendations. Any spills or accidents, and the corrective actions undertaken, shall be documented in a Non-Conformance and Corrective Action Report.

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8.7 Quality Management

The ProTen shall maintain records of all documentation arising from implementation of the LTEMP and implementing environmental management procedures. Records will include:

- Approvals, licences and permits
- Monitoring results
- Site inspection reports
- Audit results
- Non-Conformance and Corrective Action Reports
- Training register
- Complaints and incident records
- Environmental correspondence, and
- Miscellaneous items.

All records shall be maintained in a legible state and stored by ProTen, for at least 4 years. Records shall be made available to authorised officers of the NSW Environment Protection Authority (EPA) and other agencies if required.

8.8 Environmental emergency response

In the event of any incident, the priority shall be the safety of all personnel and the community in the immediate vicinity. Following this, further environmental impact shall be prevented/ minimised by stabilising the situation and following the appropriate incident management procedures. Relevant staff shall then be contacted, and emergency procedures enacted.

Emergency procedures and contact telephone numbers shall be displayed in a prominent position within each part of the site.

Table 8-3 Emergency Contacts

ProTen	Julian Johnson	0406 484 474
NSW EPA	-	131 555

ProTen or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident. Notification must be made by telephoning the EPA Pollution Line service on 131 555.

A written report detailing the notification to the EPA should be provided within 7 days of the date on which the incident occurred.

9 REFERENCES

AS 4482.1-2005 (2005) Guide to Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile Compounds.

AS 4482.2-1999 (1999) Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances.

ASTM (2014) Standard Guide for Developing Conceptual Site Models for Contaminated Sites. ASTM E1689-95. American Society for Testing and Materials ASTM International.

CRC CARE (2017) Risk-based management and remediation guidance for benzo(a)pyrene. CRC CARE Technical Report no. 39. CRC for Contamination Assessment and Remediation of the Environment. Newcastle. Australia.

CSIRO Land & Water (2011) *Atlas of Australian Acid Sulfate Soils*. Commonwealth Scientific and Industrial Research Organisation Australia. Available at https://doi.org/10.4225/08/512E79A0BC589. Last viewed on 29 March 2018.

NEPC (1999) National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended in 2013. National Environment Protection Council. Available at https://www.legislation.gov.au/Details/F2013C00288 . Last viewed on 26 July 2018. Referred to as ASC NEPM.

National Environment Protection Council (NEPC) (1999), 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'. (NEPM 2013a)

National Environment Protection Council (NEPC) (1999), 'Schedule B(2) Guideline on Site Characterization, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'. (NEPM 2013b)

National Environment Protection Council (NEPC) (1999), 'Schedule B(5a) Ecological Risk Assessment, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'. (NEPM 2013e)

NSW EPA (2020) Contaminated Land Guidelines: Consultants Reporting on Contaminated Land.

NSW EPA (2014) Waste Classification Guidelines.

Standards Australia (2005) *Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds*. AS 4482.1-2005. Standards Australia, Homebush NSW.

SLR (2018) Preliminary Site Investigation, Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek dated July 2018 (SLR Ref No: 610.16117.00400-R01-v0.2)

SLR (2019) Detailed Site Investigation, Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek dated February 2019 (SLR Ref No: 610.18456-R01-v1.2)

SLR (2021a) Remedial Action Plan, Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek dated April 2021 (SLR Ref No: 610.30237.00000-R01-v2.1)

SLR (2021b) Incident Report: Asbestos Unexpected Find, Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek dated October 2021 (SLR Ref No: 610.30237.00000-R03-v1.0)

SLR (2021c) Site Remediation and Validation Report, Rushes Creek Poultry Production Farm, Rushes Creek Road, Rushes Creek, NSW 2346 dated November 2021*(610.30237.00000-R02-v1.0).*

10 LIMITATIONS

This report is for the exclusive use of the client and Site Auditor. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR Consulting.

This report has been prepared based on the scope of services. SLR Consulting cannot be held responsible to the Client and/or others for any matters outside the agreed scope of services. Other parties should not rely upon this report and should make their own enquiries and obtain independent advice in relation to such matters.

This report has been prepared by SLR Consulting with reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with the Client. Information reported herein is based on the interpretation of data collected (data, surveys, analyses, designs, plans and other information), which has been accepted in good faith as being accurate and valid.

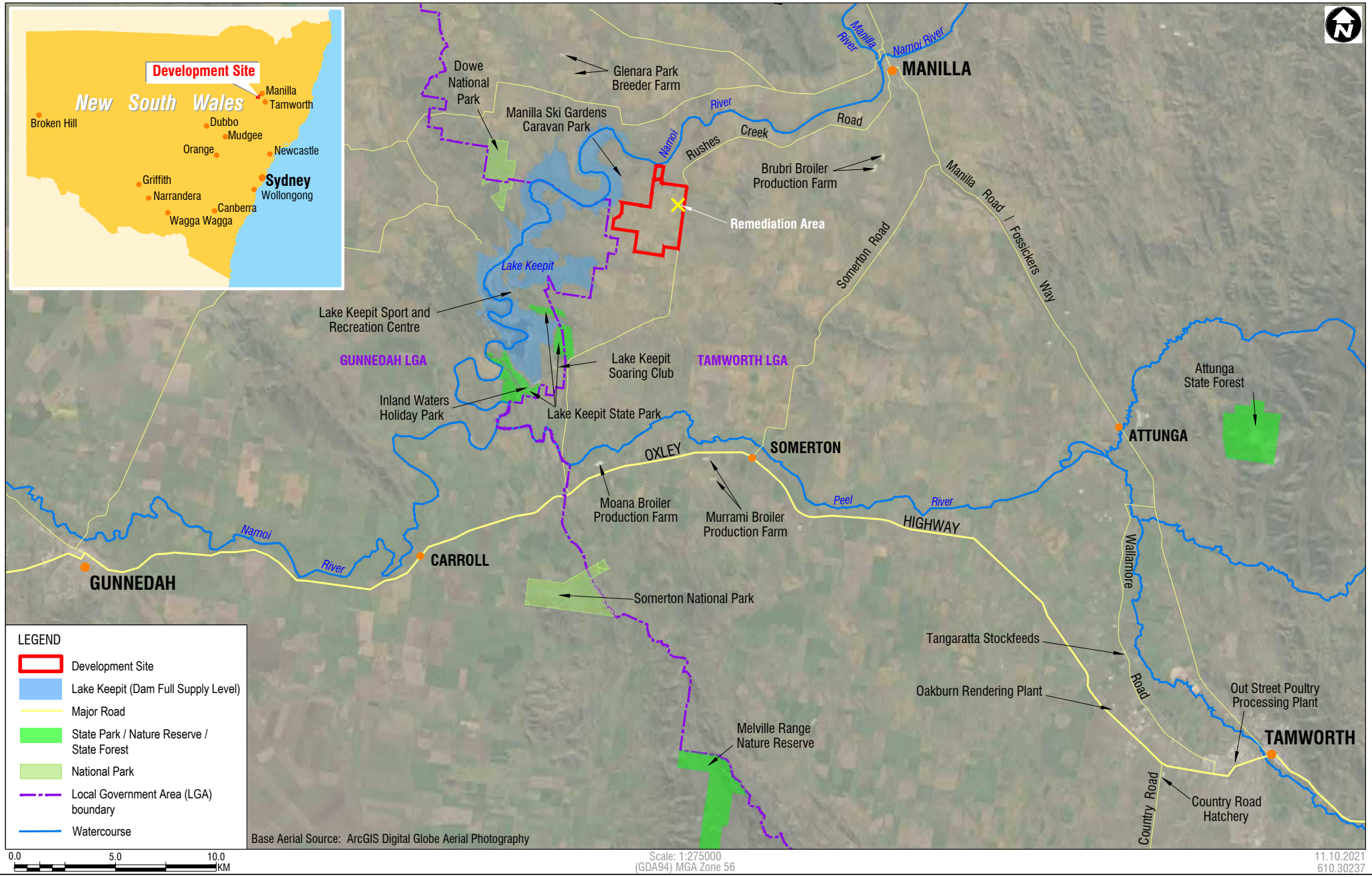
It should be noted that many investigations are based upon an assessment of potentially contaminating processes which may have occurred historically on the site. This assessment is based upon historical records associated with the site. Such records may be inaccurate, absent or contradictory. In addition, documents may exist which are not readily available for public viewing.

Except where it has been stated in this report, SLR Consulting has not verified the accuracy or completeness of the data relied upon. Statements, opinions, facts, information, conclusions and/or recommendations made in this report ("conclusions") are based in whole or part on the data obtained, those conclusions are contingent upon the accuracy and completeness of the data. SLR Consulting cannot be held liable should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to SLR Consulting leading to incorrect conclusions.

Should the report be reviewed for any reason, the report must be reviewed in its entirety and in conjunction with the associated Scope of Services. It should be understood that where a report has been developed for a specific purpose, for example a due diligence report for a property vendor, it may not be suitable for other purposes such as satisfying the needs of a purchaser or assessing contamination risks for classifying the site. The report should not be applied for any purpose other than that originally specified at the time the report was issued.
Report logs, figures, laboratory data, drawings, etc. are generated for this report by SLR consultants (unless otherwise stated) based on their individual interpretation of the site conditions at the time the site visit was undertaken. Although SLR consultants undergo training to achieve a standard of field reporting, individual interpretation still varies slightly. Information should not under any circumstances be redrawn for inclusion in other documents or separated from this report in any way.

APPENDIX A

Figures



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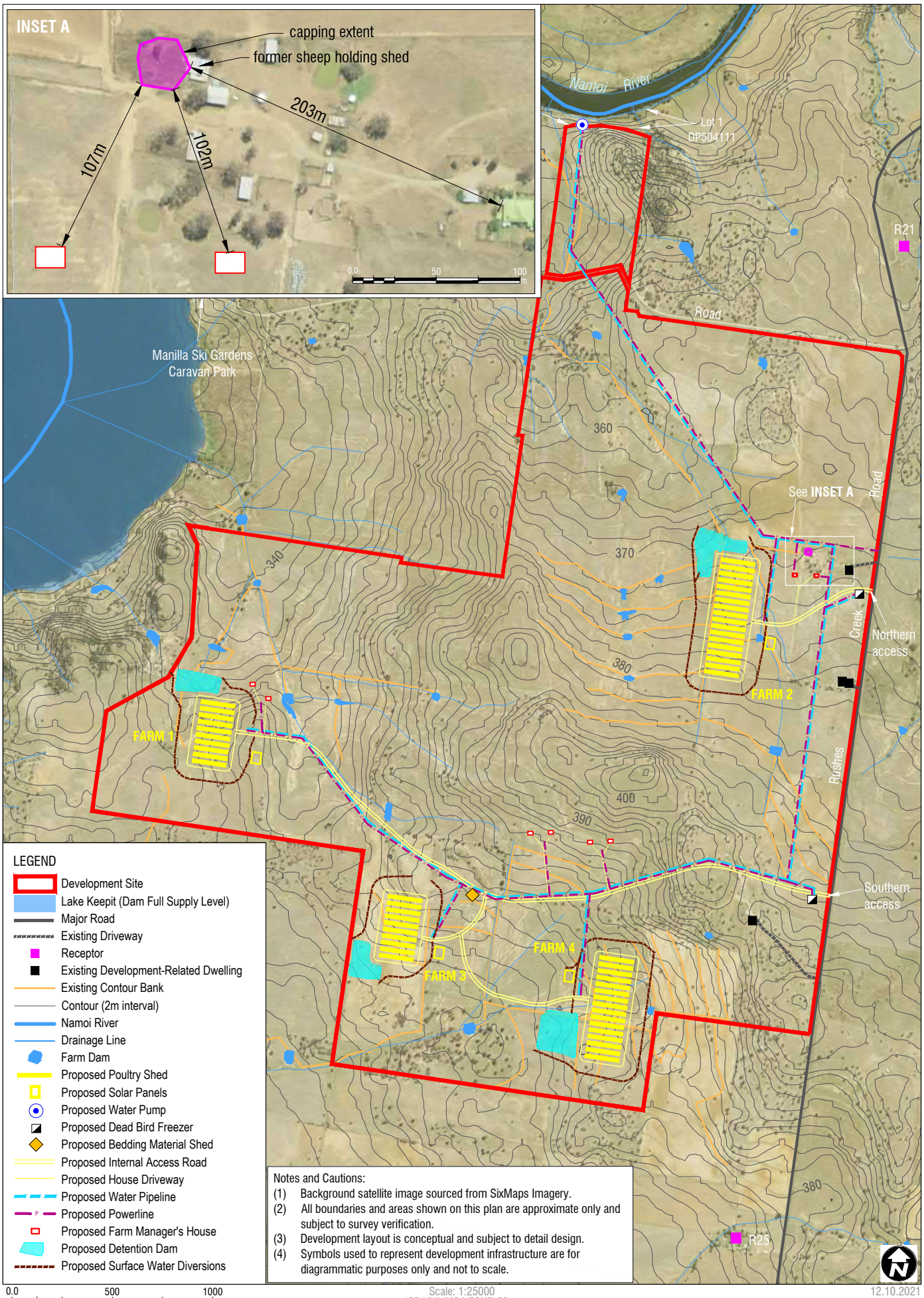
Scale: 1:275000
(GDA94) MGA Zone 56

11.10.2021
610.30237

SLR
www.slrconsultingaustralia.com.au

Site Locality

FIGURE 1



Remediation Area

FIGURE 2

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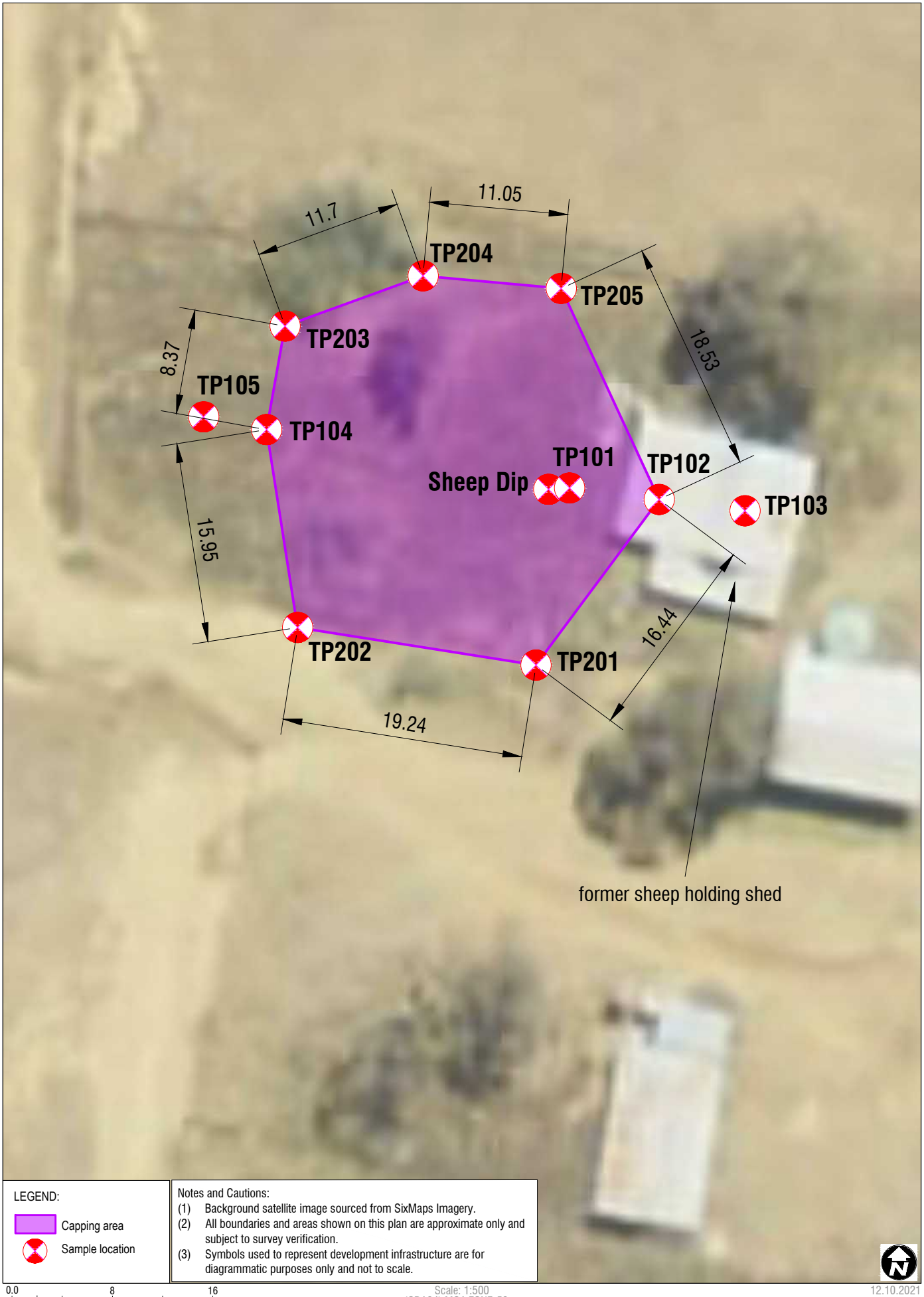

LEGEND:

Capping area

Sample location

Notes and Cautions:

(1) Background satellite image sourced from SixMaps Imagery.

(2) All boundaries and areas shown on this plan are approximate only and subject to survey verification.

(3) Symbols used to represent development infrastructure are for diagrammatic purposes only and not to scale.

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Scale: 1:500
(GDA94) MGA ZONE 56

12.10.2021
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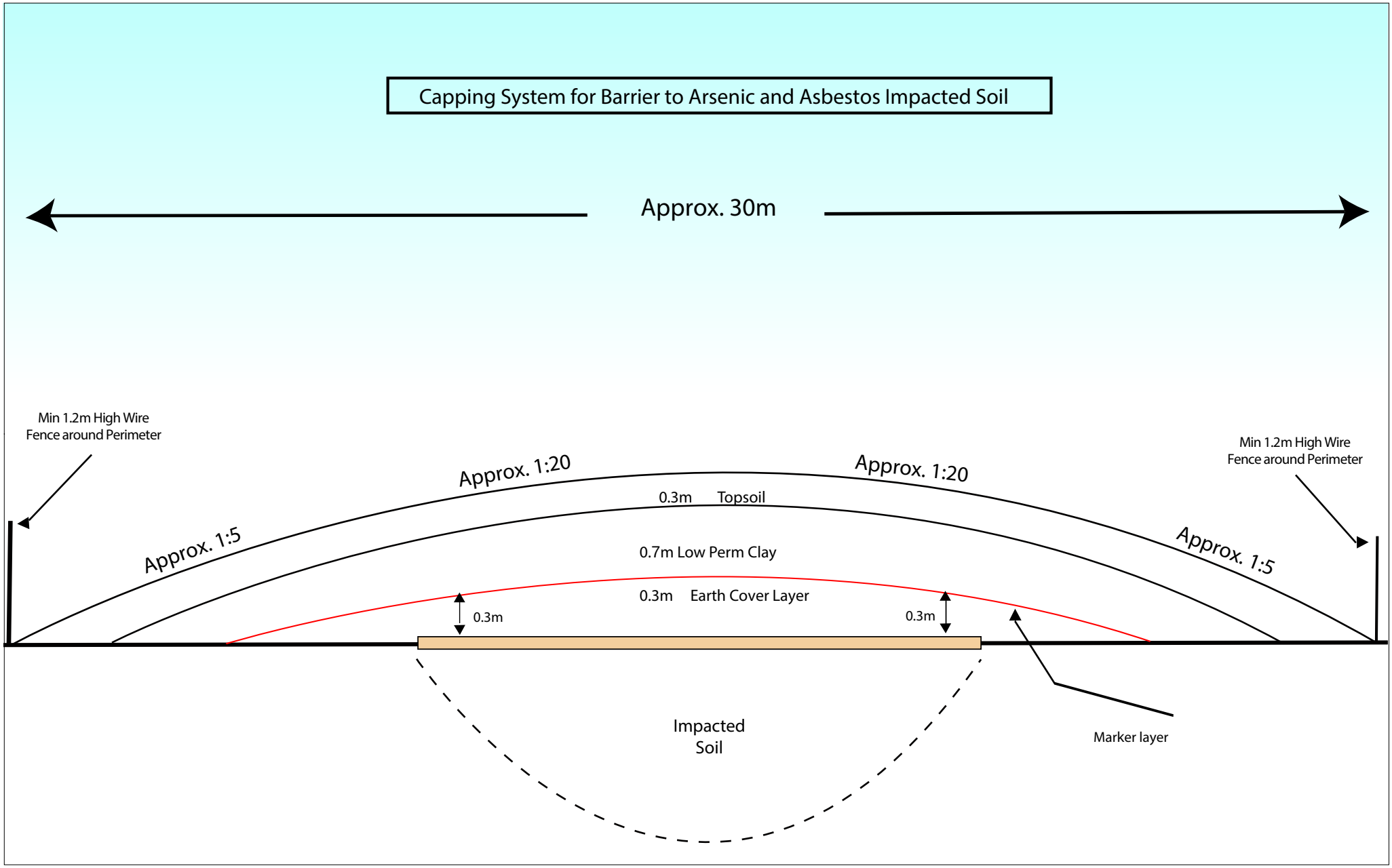
Capping Extent

FIGURE 3



SLR	202 Submarine School, Sub Base Platypus, North Sydney	T: +61 2 9428 8100 sydney@slrconsulting.com www.slrconsulting.com	**Ongoing Environmental Management Plan** **Rushes Creek Poultry Production Farm** **Rushes Creek Road, Rushes Creek, NSW** **Ref: 610.30237.00000**	Figure 4 Capping System for Barrier to Arsenic and Asbestos Impacted Soil	November 2021

APPENDIX B

Site Photographs

Photograph 1 – Remnants of former sheep dip, facing north towards TP205

Date: 21/09/2021

Photograph 3 – Capping area prior to remediation facing south from TP205, showing stockpiled timber from former sheep shed

Date: 21/09/2021

Photograph 5 Capping area prior to remediation facing west from TP103

Date: 21/09/2021

Photograph 2 – Area of former sheep holding shed, facing east from sheep dip

Date: 21/09/2021

Photograph 4 – Timber stockpile from sheep holding shed demolition, facing west from TP102

Date: 21/09/2021

Photograph 6 – The Site facing east from TP105

Date: 21/09/2021

Notes:

Site:	RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346
Project:	LONG TERM ENVIRONMENTAL MANAGEMENT PLAN
Date:	09 DECEMBER 2021
Drawing:	**PHOTOGRAPHIC LOG** — **Appendix B**

Photograph 7 – The Site facing south east from TP204

Date: 21/09/2021

Photograph 9 – The Site from TP202 facing north towards TP203

Date: 21/09/2021

Photograph 11 – Stockpiled material from unexpected finds, facing north

Date: 28/09/2021

Photograph 8 –The Site facing east from TP202

Date: 21/09/2021

Photograph 10 – Stockpiled material from unexpected finds, facing east

Date: 28/09/2021

Photograph 12 – Covered stockpile of unexpected find material, facing north from between TP201 and TP202

Date: 28/09/2021

Notes:

SLR

Site: RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346

Project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN

Date: 09 DECEMBER 2021

Drawing: **PHOTOGRAPHIC LOG**

Appendix B

Photograph 13 – TP301 facing east, pre-excavation

Date: 28/09/2021

Photograph 15 – Adjacent TP301 facing east, post excavation

Date: 28/09/2021

Photograph 17 – Example of soil profile

Date: 28/09/2021

Photograph – **14** TP303 Facing west, pre-excavation

Date: 28/09/2021

Photograph 16 – Adjacent TP303 facing west, post excavation

Date: 28/09/2021

Photograph 18 – Example of anthropogenic material including ACM

Date: 28/09/2021

Notes:

SLR

Site: RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346

Project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN

Date: 09 DECEMBER 2021

Drawing: **PHOTOGRAPHIC LOG**

Appendix B

Photograph 19 – Timber Stockpile from demolition of sheep holding shed, facing north from TP201

Date: 26/10/2021

Photograph 21 – Timber stockpile spread and compacted into surface within the remediation area, from adjacent TP 103

Date: 26/10/2021

Photograph 23 – Unexpected finds stockpile spread within the remediation area to form part of the Earth Cover Layer of capping, from TP201

Date: 26/10/2021

Photograph 20 – Timber stockpile spread and compacted into surface within the remediation area, facing north from TP 201

Date: 26/10/2021

Photograph 22 – Timber stockpile spread and compacted into surface within the remediation area, facing north from adjacent TP202

Date: 26/10/2021

Photograph 24 – Unexpected finds stockpile spread within the remediation area to form part of the Earth Cover Layer of capping, from adjacent TP103

Date: 26/10/2021

Notes:

Site:	RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346
Project:	LONG TERM ENVIRONMENTAL MANAGEMENT PLAN
Date:	09 DECEMBER 2021
Drawing:	**PHOTOGRAPHIC LOG** — **Appendix B**

Photograph 25 – Marker layer over Earth Cover Layer, facing north from adjacent TP201

Date: 26/10/2021

Photograph 27 – Marker layer over Earth Cover Layer, facing east from adjacent TP204

Date: 26/10/2021

Photograph 29 – Low permeability clay layer, facing north adjacent TP202

Date: 26/10/2021

Photograph 26 – Marker layer over Earth Cover Layer, facing west from adjacent TP102

Date: 26/10/2021

Photograph 28 – Source location of Low permeability clay

Date: 26/10/2021

Photograph 30 – Low permeability clay layer, facing west adjacent TP202

Date: 26/10/2021

Notes:

Notes:

Site: RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346

Project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN

Date: 09 DECEMBER 2021

Drawing: **PHOTOGRAPHIC LOG**

Appendix B

Photograph 31 – Low permeability clay layer, facing east adjacent TP205

Date: 26/10/2021

Photograph 33 – Topsoil layer, facing north

Date: 26/10/2021

Photograph 35 – Capping area showing fencing and revegetation

Date: 07/12/2021

Photograph 32 - Low permeability clay layer, facing east adjacent TP205

Date: 26/10/2021

Photograph 34 – Topsoil layer, facing west

Date: 26/10/2021

Photograph 36 – Capping area showing fencing with asbestos signage and revegetation

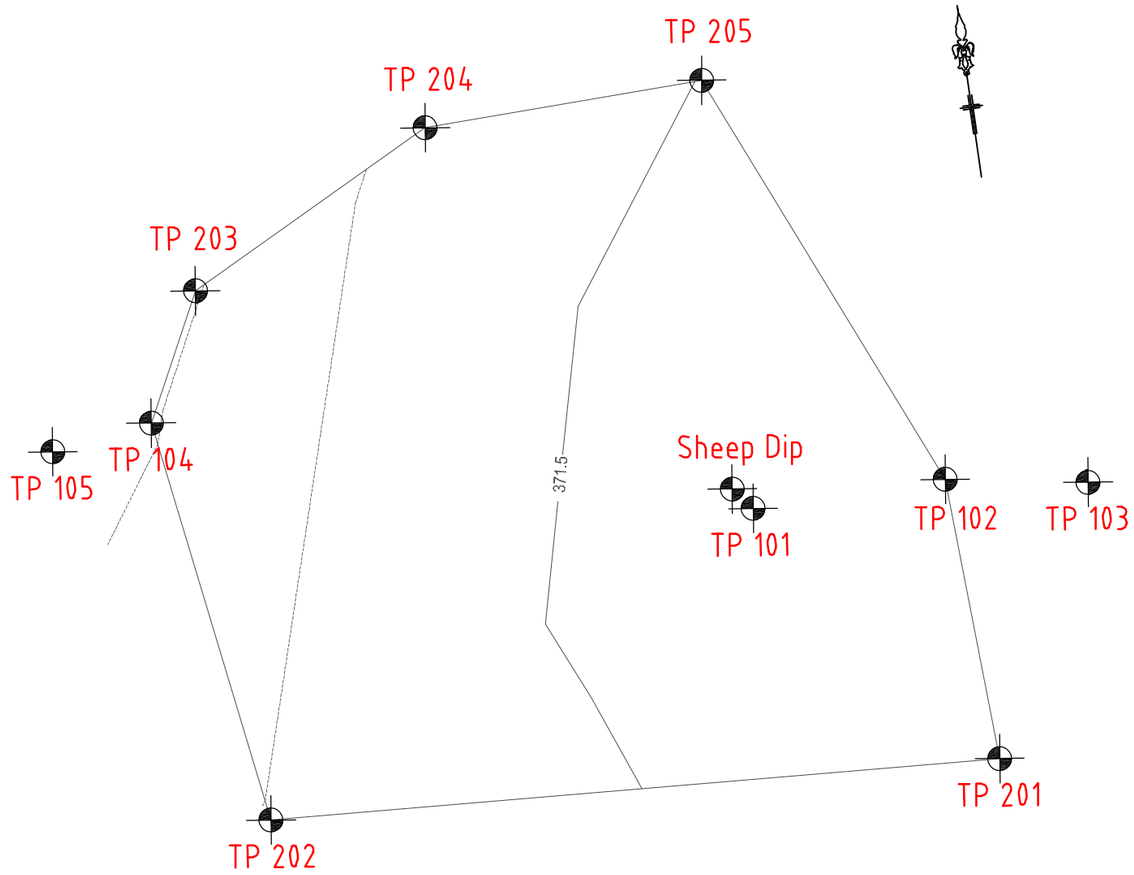
Date: 07/12/2021

Notes:

Site:	RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346
Project:	LONG TERM ENVIRONMENTAL MANAGEMENT PLAN
Date:	09 DECEMBER 2021
Drawing:	**PHOTOGRAPHIC LOG** — **Appendix B**

APPENDIX C

Survey Plans



SHEEP DIP PLAN

Scale 1:250
Contours at 0.1m Intervals

NOTE

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2. The information provided in this sketch is to assist in the construction process
3. In the event that there are ERRORS or CONFLICTING information provided you MUST contact the Office for immediate clarification
4. All dimensions are in millimeters unless stated otherwise
5. This site survey was carried out using Differential Global Navigational Satellite System technology (GNSS) on 22.10.2021
6. Test Pit reference numbers and approximate locations have been taken from SLR sketch (App A_F3_CappingExtent_01.pdf) received on 22.10.2021
7. The survey locations where on top of the disturbed (visual) areas

Location	Northing	Easting	Level
Sheep Dip	270205.61	6588558.17	371.57
TP 101	270206.25	6588557.27	371.50
TP 102	270214.17	6588557.27	371.52
TP 103	270219.99	6588556.29	371.45
TP 104	270182.50	6588564.34	371.29
TP 105	270178.36	6588563.78	371.27
TP 201	270214.68	6588545.69	371.59
TP 202	270184.93	6588547.63	371.41
TP 203	270185.08	6588569.40	371.30
TP 204	270195.33	6588574.59	371.44
TP 205	270206.77	6588574.82	371.50

Survey completed on 22.10.2021 for the existing site level

SKETCH DATA

Showing the location and level taken around the sheep dip area

DATE OF WORK: Friday 22nd October 2021

SURVEY WORK BY: Lachlan Smith & Michael Beath

www.dialbeforeyoudig.com.au
DIAL1100 BEFORE YOU DIG

LEGEND (EXISTING – LIGHT PROPOSED – DARKER)
CENTRE LINE, KERB AND GUTTER, TOP OF BATTER, SURFACE DRAINAGE, EDGE OF BITUMEN SEAL, FENCELINE, SEWERMAIN, WATERMAIN (& SIZE), STORMWATER DRAINAGE, OVERHEAD POWER, UNDERGROUND ELECTRICAL
TREE, SHRUB, SIGN, SEWER MANHOLE, INSPECTION PIT, DOWNPIPE & ROOFWATER OUTLET, POWER POLE, STREETLIGHT, GUIDE POST, WATER (HYDRANT,VALVE,METER), TELSTRA PIT AND CABLES

Rev.	DESCRIPTION	APPROVED	DATE
A	Sheep Dip co-ordinates	M.Beath	17.11.21

Cad: 21079 Rev A
Civilcad: 21079V20
Survey: L.Smith
Drawn: M.Beath
Designed: N/A
Checked: J.Herdegen

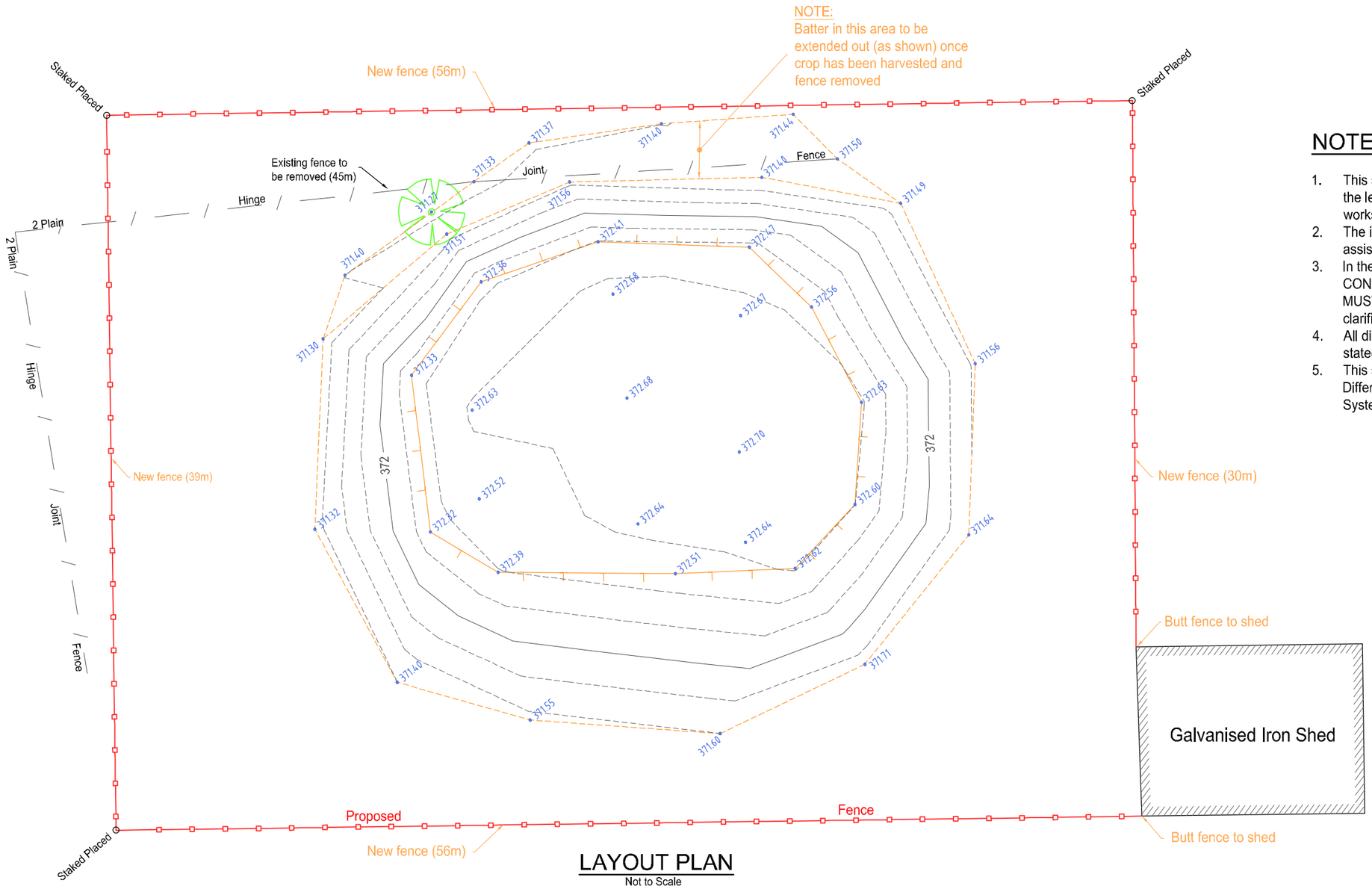
Original A3 Drawing Scale Bar: A3 Scale 1:250 (H) 2.5 0.0 2.5 5.0

Datum Description:
PM 117735 RL 349.753 GDA 2020
Located on the eastern side of Rushes Creek Rd 130m south of Rushes Creek

BATH STEWART ASSOCIATES
DEVELOPMENT CONSULTANTS
SURVEYORS – ENGINEERS – PLANNERS – PROJECT MANAGERS
239 Marius Street TAMWORTH NSW 2340
Telephone (02) 6766 5966 A.C.N. 002 745 020
office@bathstewart.com.au

PROTEN
1582 RUSHES CREEK RD RUSHES CREEK
LOT 171 DP 752169
22.10.2021 – SHEEP DIP CO-ORDINATES – ORIGINAL CONDITION

Ref. No: 21079
Sheet No : 01 of 01
Revision : A



NOTE

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2. The information provided in this sketch is to assist in the construction process
3. In the event that there are ERRORS or CONFLICTING information provided you MUST contact the Office for immediate clarification
4. All dimensions are in millimeters unless stated otherwise
5. This site survey was carried out using Differential Global Navigational Satellite System technology (GNSS) on 16.11.2021

LAYOUT PLAN

Not to Scale

LEGEND

123.45 Location & Level of finish surface

SKETCH DATA

Showing the location and level taken on the completed remediation works and associated proposed fencing for the Sheep Dip Area

DATE OF WORK: Tuesday 16th November 2021

SURVEY WORK BY: Lachlan Smith & Luke Berman

www.dialbeforeyoudig.com.au
DIAL 1100 BEFORE YOU DIG

LEGEND (EXISTING – LIGHT PROPOSED – DARKER)

CENTRE LINE
KERB AND GUTTER
TOP OF BATTER
SURFACE DRAINAGE
EDGE OF BITUMEN SEAL
FENCELINE
SEWERMAIN
WATERMAIN (& SIZE)
STORMWATER DRAINAGE
OVERHEAD POWER
UNDERGROUND ELECTRICAL

TREE, SHRUB, SIGN
SEWER MANHOLE, INSPECTION PIT
DOWNPIPE & ROOFWATER OUTLET
POWER POLE
STREETLIGHT, GUIDE POST
WATER (HYDRANT,VALVE,METER)
TELSTRA PIT AND CABLES

Rev.	DESCRIPTION	APPROVED	DATE
K	Sheep Dip Remediation Works - Final	M.Beath	17.11.21
J	Pad 7 - Shale surface levels	M.Beath	17.11.21
I	Pad 6 - Shale surface levels	M.Beath	26.10.21

Cad: 21079 Rev K
Civilcad: 21422V24
Survey: L.S. & L.B.
Drawn: M.Beath
Designed: N/A
Checked: J.Herdegen

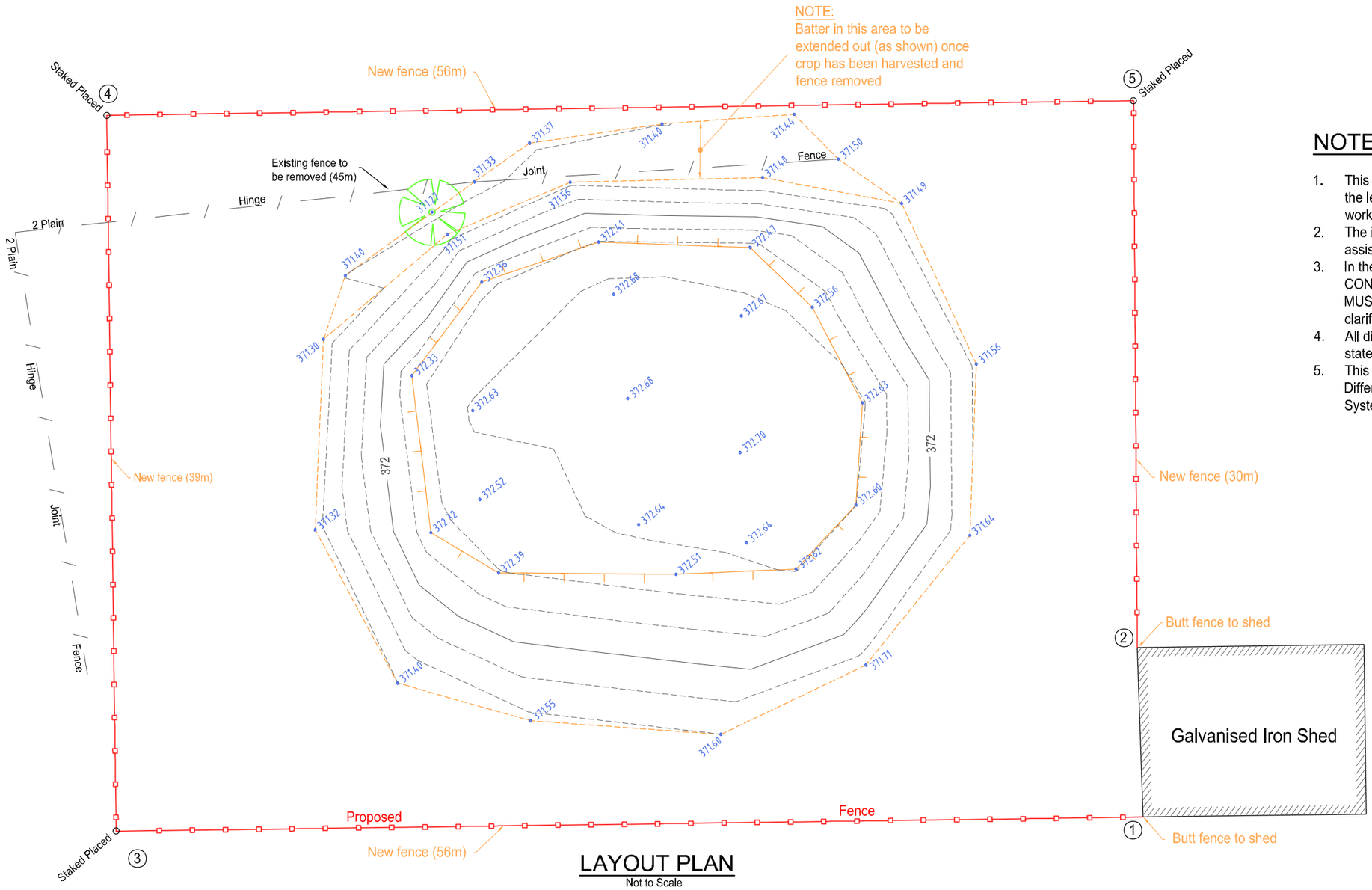
Original A3 Drawing Scale Bar:
Not to Scale

Datum Description:
PM 117735 RL 349.753 GDA 2020
Located on the eastern side of Rushes Creek Rd 130m south of Rushes Creek

BATH STEWART ASSOCIATES
DEVELOPMENT CONSULTANTS
SURVEYORS – ENGINEERS – PLANNERS – PROJECT MANAGERS
239 Marius Street TAMWORTH NSW 2340
Telephone (02) 6766 5966 A.C.N. 002 745 020
office@bathstewart.com.au

PROTEN
1582 RUSHES CREEK RD RUSHES CREEK
LOT 171 DP 752169
16.11.2021 – SHEEP DIP REMEDIATION AREA & FENCING

Ref. No: 21079
Sheet No : 01 of 01
Revision : K



LAYOUT PLAN

Not to Scale

NOTE

1. This sketch is to be read in conjunction with the letter and / or email issued for these works
2. The information provided in this sketch is to assist in the construction process
3. In the event that there are ERRORS or CONFLICTING information provided you MUST contact the Office for immediate clarification
4. All dimensions are in millimeters unless stated otherwise
5. This site survey was carried out using Differential Global Navigational Satellite System technology (GNSS) on 16.11.2021

LEGEND

123.45 Location & Level of finish surface

Location	Easting	Northing	Level
1	270219.78	6588534.51	371.69
2	270220.84	6588543.70	371.83
3	270164.29	6588542.06	371.23
4	270169.57	6588580.71	371.07
5	270225.07	6588573.19	371.77

SKETCH DATA

Showing the location and level taken on the completed remediation works and associated proposed fencing for the Sheep Dip Area

DATE OF WORK: Tuesday 16th November 2021

SURVEY WORK BY: Lachlan Smith & Luke Berman

LEGEND (EXISTING – LIGHT PROPOSED – DARKER)

CENTRE LINE, KERB AND GUTTER, TOP OF BATTER, SURFACE DRAINAGE, EDGE OF BITUMEN SEAL, FENCELINE, SEWERMAIN, WATERMAIN (& SIZE), STORMWATER DRAINAGE, OVERHEAD POWER, UNDERGROUND ELECTRICAL

TREE, SHRUB, SIGN, SEWER MANHOLE, INSPECTION PIT, DOWNPIPE & ROOFWATER OUTLET, POWER POLE, STREETLIGHT, GUIDE POST, WATER (HYDRANT,VALVE,METER), TELSTRA PIT AND CABLES

Rev.	DESCRIPTION	APPROVED	DATE
R	Rev K updated with co-ordinates added - As Requested	M.Beath	08.12.21
Q	Pads 1-8 Partial WAE	J.Herdegen	02.12.21
P	Shed 4 - Bolt Setout	J.Herdegen	01.12.21

Cad: 21079 Rev R
Civilcad: 21422V24
Survey: L.S. & L.B.
Drawn: M.Beath
Designed: N/A
Checked: J.Herdegen

Original A3 Drawing Scale Bar:
Not to Scale

Datum Description:
PM 117735 RL 349.753 GDA 2020
Located on the eastern side of Rushes Creek Rd 130m south of Rushes Creek

BATH STEWART ASSOCIATES
DEVELOPMENT CONSULTANTS
SURVEYORS – ENGINEERS – PLANNERS – PROJECT MANAGERS
239 Marius Street TAMWORTH NSW 2340
Telephone (02) 6766 5966 A.C.N. 002 745 020
office@bathstewart.com.au

PROTEN
1582 RUSHES CREEK RD RUSHES CREEK
LOT 171 DP 752169
08.12.2021 – SHEEP DIP REMEDIATION AREA FENCE CO–ORDINATES

Ref. No: 21079
Sheet No : 01 of 01
Revision : R

APPENDIX D

Site Inspection Sheet

Rushes Creek Poultry Production Farm – Arsenic and Asbestos Capping Inspection Sheet

Area Inspected						
Date and Time						
Person undertaking inspection						
Person In Charge of Site						
Description of onsite activities						
Item	Description	Satisfactory		Observation and Action Required	Close Out Date	Initials
		Yes	No			
1	Is there any Capping Erosion / Scour?					
2	Are there any Capping Cracks?					
3	Is there Ponded Water?					
4	% Grass Cover					
5	Are trees or shrubs growing on the cap?					
6	Is there evidence of disturbance of the capping?					
7	Other					

Note – Photographs to also be recorded of the capping condition

Photograph A	Photograph B
Photograph C	Photograph D

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Appendix L:

Community Consultation Plan (CCP)

Rushes Creek Poultry Production Farm
Development Consent SSD 7704

Community Consultation Plan

Prepared for:

ProTen Tamworth Pty Limited

Prepared by:

July 2021

Rushes Creek Poultry Production Farm
Development Consent SSD 7704

Community Consultation Plan

Prepared By:

EME Advisory
Web: www.emeadvisory.com
Email: eryn@emeadvisory.com

Document Control:

Status	Date	Prepared by	Checked by	Authorised by	Comments
Draft	26 May 2021	Lachlan Giles	Eryn Bath	Eryn Bath	For client review
Final v1	27 May 2021	Lachlan Giles	Eryn Bath	Eryn Bath	Approved by DPIE
Final v2	15 July 2021	Eryn Bath	Julian Johnson	Julian Johnson	Updated contact details in Tables 2 and 3 and Section 5

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ABBREVIATIONS

Abbreviation	Definition
BCD	DPIE Biodiversity Conservation Division
CCP	Community Consultation Plan
Council	Tamworth Regional Council
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EME	EME Advisory
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPA	Environment Protection Authority
EPL	Environment Protection Licence
FRNSW	Fire and Rescue NSW
HNELH	Hunter New England Local Health
LGA	Local government area
MP	Member of Parliament
NRAR	Natural Resources Access Regulator
ProTen	ProTen Tamworth Pty Limited
RAPs	Registered Aboriginal Parties
RFS	NSW Rural Fire Service
RTS	Response to Submissions
SHEQ	Safety, Health, Environment, Quality
SLR	SLR Consulting Australia
SSD	State significant development
TfNSW	Transport for NSW
TRRRA	Tamworth Regional Residents and Ratepayers Associated Inc.

1 INTRODUCTION

1.1 Background

ProTen Tamworth Pty Limited (ProTen) obtained Development Consent SSD 7704 from the Department of Planning, Industry and Environment (DPIE) (as delegate for the Minister for Planning and Public Spaces) on 16 April 2020 to construct and operate an intensive poultry broiler production farm within a rural area known as Rushes Creek in the Tamworth Regional Local Government Area (LGA). In summary, the approved Rushes Creek Poultry Production Farm development (the "Development") comprises a total of 54 poultry sheds housing a combined population of 3,051,000 broiler birds, along with various items of ancillary infrastructure.

The following should be referred to for a detailed description of the approved Development:

- *Environmental Impact Statement, Intensive Livestock Agriculture, Rushes Creek Poultry Production Farm, SSD 7704* (SLR Consulting Australia [SLR] 2018) (EIS), including all appendices;
- *Rushes Creek Poultry Production Farm, SSD 7704, Response to Submissions* (EME Advisory [EME] 2019a) (RTS), including all appendices; and
- *Rushes Creek Poultry Production Farm, SSD 7704, Supplementary Response to Submissions* (EME 2019b) (Supplementary RTS), including all appendices.

1.2 Document Purpose and Objectives

This Community Consultation Plan (CCP) establishes the approach and management of community and stakeholder consultation and engagement throughout the construction and operational phases of the Development. It will assist in fulfilling condition B55 of Development Consent SSD 7704, which states:

> *The Applicant must consult with the community regularly throughout the development, including consultation with the nearby sensitive receivers identified in Appendix 2* [of the Development Consent]*, relevant regulatory authorities, Registered Aboriginal Parties and other interested stakeholders.*

The CCP has been prepared in accordance with the requirements of condition B56, as listed in **Table 1**.

Table 1 Development Consent Condition B56

Consent Condition		CCP Section
B56	***Community Consultation Plan*** *The Applicant must prepare a Community Consultation Plan for the development, to the satisfaction of the Planning Secretary. The Plan must:*	
(a)	*be approved by the Planning Secretary prior to the commencement of site preparation works;*	
(b)	*be implemented for the life of the development, or as otherwise agreed by the Planning Secretary;*	
(c)	*assign a central contact person to keep the nearby sensitive receivers regularly informed throughout the development;*	Sections 2.1 and 2.2
(d)	*detail the mechanisms for regularly consulting with:* *(i) the local community;* *(ii) nearby sensitive receivers identified in Appendix 2;* *(iii) relevant regulatory authorities;* *(iv) Registered Aboriginal Parties; and* *(v) other interested stakeholders,* *throughout the development, such as holding regular meetings to inform the community of the progress of the development and report on environmental monitoring results;*	Section 4

Consent Condition		CCP Section
(e)	*include contact details for key community groups, relevant regulatory authorities, Registered Aboriginal Parties and other interested stakeholders; and*	Section 4.1 and Appendices A, B and C
(f)	*include a complaints procedure for recording, responding to and managing complaints, including:* *(i) email, toll-free telephone number and postal address for receiving complaints;* *(ii) advertising the contact details for complaints prior to and during operation, via the local newspaper and through on-site signage;* *(iii) a complaints register to record the date, time and nature of the complaint, details of the complainant and any actions taken to address the complaint; and* *(iv) procedures to resolve any disputes that may arise during the course of the development.*	Section 5

The key objectives of the CCP are:

- Provide a coordinated approach to community and stakeholder consultation and engagement;
- Provide timely and accurate information about the Development, including both construction and operational activities;
- Ensure the responsibilities for community and stakeholder consultation and engagement are nominated;
- Promote good relationships between ProTen and the surrounding local community and additional stakeholders;
- Minimise development-related complaints through consultation and awareness; and
- Ensure any development-related complaints are promptly and effectively received, handled and addressed.

The CCP will be implemented for the duration of the Development (unless otherwise agreed by the Planning Secretary).

2 PROTEN'S PROJECT TEAM

2.1 Site Contact Details

Tables 2 and **3** list the key site contacts during the construction and operational phases of the Development, respectively**.**

Table 2 ProTen Contacts - Construction Phase

Role	Name	Contact Details
ProTen Regional Operations Manager - nominated "**central contact person**"	Julian Johnson	Ph: 0406 484 474 Email: julianj@proten.com.au
Construction Site Supervisor	TBC	TBC
ProTen National Construction Manager (NCM)	Adrian McKinnon	Ph: 0427 208 971 Email: adrianm@proten.com.au
ProTen Safety, Health, Environment & Quality (SHEQ) Advisor	Kathryn Singh	Ph: 02 6962 1770 / 0434 550789 Email: kates@proten.com.au
ProTen Safety, Health, Environment & Quality (SHEQ) Officer - Tamworth	Nathalia Garcia Castro	Ph: 0450 409395 Email: nathaliac@proten.com.au
ProTen Risk Manager	Jim Rimmer	Ph: 02 6962 1770 / 0438 750974 Email: jrimmer@proten.com.au
ProTen environmental hotline (toll-free)	-	Ph: 1800 776 994
ProTen Development webpage	-	www.proten.com.au

Table 3 ProTen Contacts - Operational Phase

Role	Name	Contact Details
ProTen Regional Operations Manager - nominated "**central contact person**"	Julian Johnson	Ph: 0406 484 474 Email: julianj@proten.com.au
ProTen Safety, Health, Environment & Quality (SHEQ) Advisor	Kathryn Singh	Ph: 02 6962 1770 / 0434 550789 Email: kates@proten.com.au
ProTen Safety, Health, Environment & Quality (SHEQ) Officer - Tamworth	Nathalia Garcia Castro	Ph: 0450 409395 Email: nathaliac@proten.com.au
ProTen Risk Manager	Jim Rimmer	Ph: 02 6962 1770 / 0438 750974 Email: jrimmer@proten.com.au
ProTen environmental hotline (toll-free)	-	Ph: 1800 776 994
ProTen Development webpage	-	www.proten.com.au
Farm 1 Manager	TBC	TBC
Farm 1 Assistant Manager	TBC	TBC
Farm 2 Manager	TBC	TBC

Role	Name	Contact Details
Farm 2 Assistant Manager	TBC	TBC
Farm 3 Manager	TBC	TBC
Farm 3 Assistant Manager	TBC	TBC
Farm 4 Manager	TBC	TBC
Farm 4 Assistant Manager	TBC	TBC

2.2 Roles and Responsibilities

The key personnel responsible for community and stakeholder consultation and engagement are listed in **Table 4** along with their respective key responsibilities.

Table 4 Roles and Responsibilities

Development Role	Key Responsibilities
ProTen Regional Operations Manager (ROM) - nominated "**central contact person**"	• Overall responsibility for community and stakeholder consultation and engagement in compliance with the development consent and this CCP. • Oversee the implementation of this CCP and provide adequate resources to enable its implementation. • Be the central contact person to keep the surrounding community regularly informed throughout the construction and operational phases of the Development. • Coordinate community information sessions, community newsletters, etc. • Record, notify, investigate and respond to any enquiries and/or complaints and, where necessary, develop and implement corrective actions. • Ensure the site inductions/training for employees and contractors includes the requirements under this CCP. • Approve/reject minor amendments to this CCP (see **Section 6**).
ProTen SHEQ Advisor / Officer	• Assist the Regional Operations Manager (as required) with community and stakeholder consultation and engagement in compliance with the development consent and this CCP. • Assist the Regional Operations Manager (as required) to record, notify, investigate and respond to any enquiries and/or complaints. • Help facilitate appropriate site inductions/training for employees and contractors, including their specific requirements under this CCP.
All employees and contractors	• Ensure familiarity, implementation and compliance with this CCP. • Support ProTen's commitment to fostering good relationships with the surrounding community and additional stakeholders. • Work in a manner that minimises the potential for adverse impact on the surrounding community; • Report all complaints and environmental incidents to ProTen Regional Operations Manager without delay; and • Report any inappropriate construction, operational and/or environmental management practices to ProTen's Regional Operations Manager without delay.

2.3 Inductions and Training

ProTen's Regional Operations Manager will ensure that all employees and contractors involved in the construction and/or operation of the Development are suitable inducted and trained prior to commencing any work on site. Training in relation to community and stakeholder consultation and implementation of this CCP will take place initially through the site induction and then on an on-going basis through "toolbox talks" (or similar).

The topics to be covered during the induction and toolbox talks in relation to community and stakeholder consultation include:

- Appropriate behaviour when interacting with the local community and other stakeholders;
- The key messages when communication with the local community and other stakeholders, as listed in **Section 2.4**;
- Referring community contact to ProTen's Regional Operations Manager; and
- Appropriate response and management of complaints received from the public, regulatory authorities and/or other stakeholders in accordance with the Complaints Management Strategy in **Section 5**.

2.4 Key Messages

The following key messages will be the focus of communications with the community and other stakeholders:

- ProTen is a leading poultry broiler farm developer and operator and is 100% Australian-owned.
- ProTen is committed to open communications and fostering good relationships with the surrounding community and other stakeholders.
- ProTen is committed to current industry best practice environmental management and bird welfare.
- ProTen has committed to a suite of development design features and best practice environmental management and mitigation measures to be implemented during the construction and operational phases to avoid/minimise the potential for adverse impacts on the surrounding environment and community.
- The development consent and environmental protection licence impose strict requirements for environmental management and mitigation measures during the construction and operational phases to avoid/minimise the potential for adverse impacts on the surrounding environment and community.
- The Development will be a catalyst for significant and sustained economic activity within the local and regional economies through employment during both the construction and operational phases, significant expenditure on products and services, and additional flow-on benefits.

  The EIS and RTS should be referred to for a detailed description of the Development, predicted environmental, social and economic impacts, and the suite of environmental management and mitigation commitments.

3 IDENTIFIED STAKEHOLDERS

The stakeholders identified for consultation and engagement throughout the Development include:

- The local community, including surrounding residents and recreational facilities;
- Relevant local and State regulatory authorities;
- Registered Aboriginal Parties (RAPs); and
- Other interested stakeholders.

3.1 Local Community

As listed in **Table 5** and identified on **Figure 1**, the local community comprises a low density of privately-owned residences associated with the surrounding farming enterprises and various recreational facilities.

Table 5 Surrounding Residences and Recreational Facilities

Receptor	Location
Existing Surrounding Residences	
R1	Residence, Rushes Creek Road
R2	Residence, Rushes Creek Road
R3	Residence, Rushes Creek Road
R4	Residence, Rushes Creek Road
R5	Residence, Rushes Creek Road
R6	Residence, Rushes Creek Road
R7	Residence, Moys Lane
R8	Residence, Moys Lane
R9	Residence, Corella Road
R10	Residence, Corella Road
R11	Residence, Rushes Creek Road
R12	Residence, Rushes Creek Road
R13	Residence and small piggery, Rushes Creek Road
R14	Residence, Rushes Creek Road
R15	Residence, Ski Gardens Road
R18	Residence, Ski Gardens Road
R19	Residence, Moys Lane
R21	Residence, Rushes Creek Road
R22	Residence, Moys Lane
R23	Residence, Moys Lane
R24	Residence, Rushes Creek Road
R25	Residence, Rushes Creek Road
R26	Residence, Perrings Road
R27	Residence, Perrings Road
R28	Residence, Rushes Creek Road

Receptor	Location
R29	Residence, Boundary Road
R30	Residence, Boundary Road
R31	Residence, Glenbrook Road
R33	Residence, National Fitness Road
R34	Residence, Rushes Creek Road
R36	Residence, Glenbrook Road
Potential Future Surrounding Residences	
R16	Potential future residence, Rushes Creek Road
R35	Potential future residence, Bidford Access
Existing Surrounding Recreational Facilities	
R17	Manilla Fishing Club, Ski Gardens Road
R20	Manilla Ski Gardens Caravan Park, Ski Gardens Road
R32	Lake Keepit Sport and Recreation Centre, National Fitness Road
R37	Lake Keepit Soaring Club, Keepit Dam Road
R38	Reflections Lake Keepit Holiday Park, Keepit Dam Road

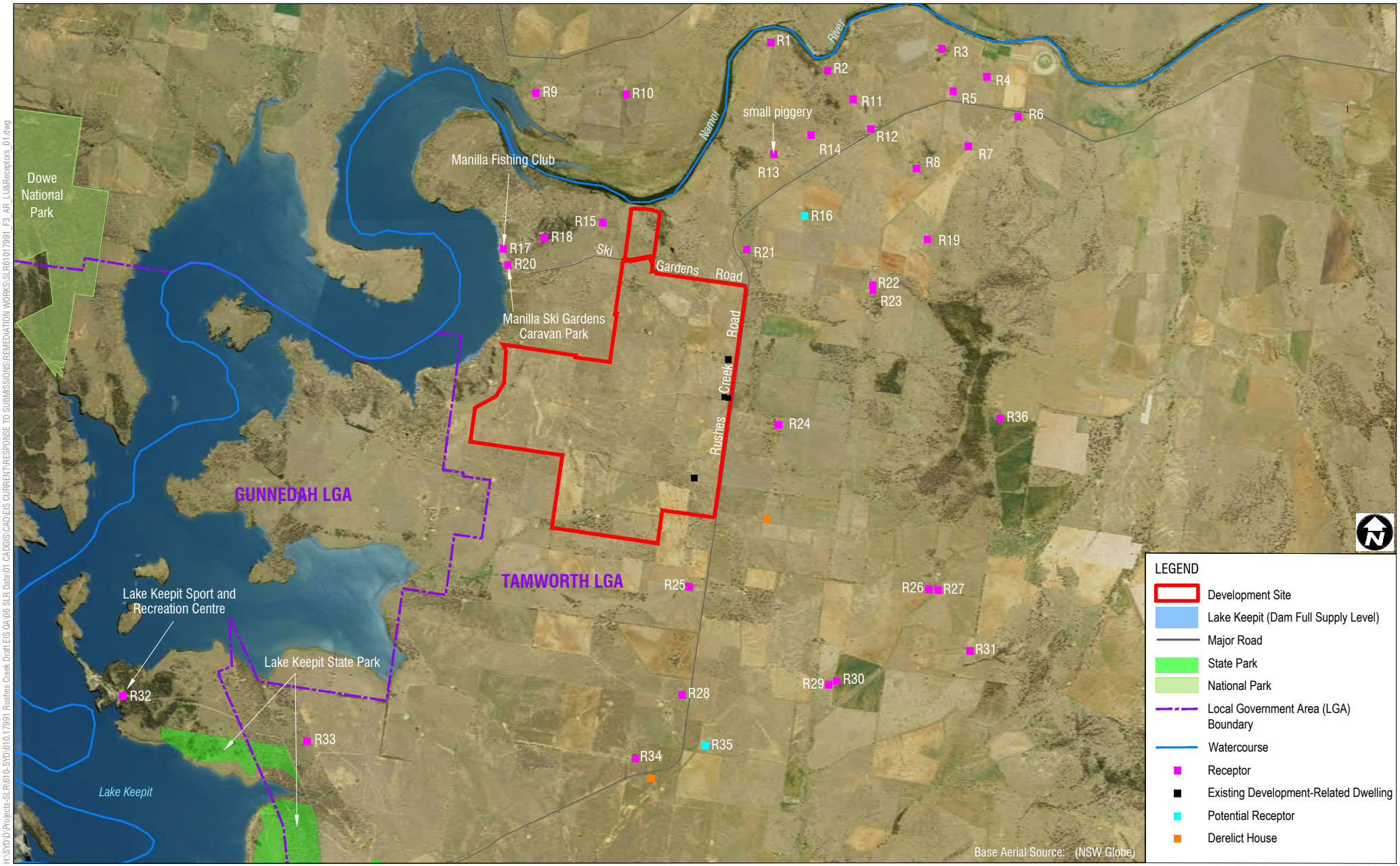
ProTen maintains a register of postal and/or letterbox drop contact details for these community stakeholders.

3.2 Regulatory Authorities

The regulatory authorities that have an interest in the construction phase and/or operational phase of the Development are:

- DPIE - Industry Assessment team, Compliance team and Biodiversity Conservation Division (BCD);
- Environment Protection Authority (EPA)
- Transport for NSW (TfNSW);
- Heritage NSW;
- Natural Resources Access Regulator (NRAR);
- WaterNSW;
- Department of Primary Industries (DPI);
- NSW Health / Hunter New England Local Health (HNELH);
- NSW Rural Fire Service (RFS);
- Fire and Rescues NSW (FRNSW);
- Tamworth Regional Council (Council);
- Gunnedah Shire Council; and
- SafeWork NSW.

Contact details for each of these authorities are provided in **Appendix A**.



H:\SYD\Projects-SLR\610-SYD\610.17991 Rushes Creek Draft EIS QA\06 SLR Data\01 CADGIS\CAD\EIS CURRENT\RESPONSE TO SUBMISSIONS\REMEDIATION WORKS\SLR610.17991_F3_AR_LU&Receptors_01.dwg

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610.17991

SLR
www.slrconsultingaustralia.com.au PH: 61 2 4037 3200

EME advisory

Surrounding Residences and Recreational Facilities

FIGURE 1

3.3 Registered Aboriginal Parties

The following 11 RAPs were identified in the approved *Aboriginal Cultural Heritage Management Plan* (OzArk Environment and Heritage 2021) for the Development:

- Tamworth Local Aboriginal Land Council;
- T&G Culture Consultants;
- Richard Slater;
- DFTV Enterprises;
- Gomery Cultural Consultant;
- Brian Draper;
- White Cockatoo Aboriginal Corporation;
- Gomeroi People NC2011/006, C/- NTSCORP;
- Natasha Rodgers;
- AT Gomilaroi Cultural Consultancy; and
- Veronica Talbott.

Contact details for each of these RAPS are provided in **Appendix B**.

3.4 Other Interested Stakeholders

The following other stakeholders have been identified as potentially having an interest in the Development:

- Tamworth Regional Residents and Ratepayers Associated Inc. (TRRRA);
- Animal Liberation;
- Reticulated service providers – Essential Energy, Telstra, NBN Co; and
- Local members of Parliament (MPs).

Contact details for each of these stakeholders are provided in **Appendix C**.

4 CONSULTATION IMPLEMENTATION

4.1 Stakeholder Key Areas of Interest

ProTen recognises the diverse interests and information needs of the community and additional stakeholders listed above in **Sections 3.1** to **3.4**. **Table 6** lists the identified stakeholders, key areas of interest and the key communication tools available to inform and engage with these stakeholders.

Table 6 Stakeholder Key Areas of Interest

Stakeholder	Key Areas of Interests	Key Communication Tools
Local community	• Regulatory compliance • All environmental and social aspects, including: - Odour - Dust - Traffic - Noise - Water resources - Waste management - Biosecurity, disease and mass mortality - Visual amenity - Weeds and pests - Biodiversity - Heritage (Aboriginal and non-Aboriginal) - Hazards and risk	• Development webpage • Community information sessions • Community newsletters • Site signage • Emails/phone calls • ProTen environmental hotline • Complaints management strategy • Compliance reports • Independent audits
DPIE - Industry Assessment and Compliance teams	• Regulatory compliance • All environmental and social aspects	• Development webpage • Emails/phone calls • Briefings/meetings • Commencement notifications • Compliance reports • Independent audits • Management plan revisions • Incident notifications • Non-compliance notifications
EPA	• Regulatory compliance • Odour • Dust • Noise • Water resources • Waste management • Biosecurity, disease and mass mortality • Hazards and risk • Contamination	• Development webpage • Emails/phone calls • Briefings/meetings • EPL Annual Returns • Independent audits • Management plan revisions • Odour monitoring reports • Incident notifications
TfNSW	Traffic and transport (predominately highway-related)	• Development webpage • Emails/phone calls • Management plan revisions
Heritage NSW	Heritage – Aboriginal and non-Aboriginal	• Development webpage • Emails/phone calls • Unexpected finds protocol • Management plan revisions

Stakeholder	Key Areas of Interests	Key Communication Tools
DPIE BCD	Biodiversity	• Development webpage • Emails/phone calls
NRAR WaterNSW	• Water licensing compliance • Water resources	• Development webpage • Water metering • Emails/phone calls • Management plan revisions • Groundwater monitoring reports
DPI	Biosecurity, disease and mass mortality	• Development webpage • Emails/phone calls • Management plan revisions
NSW Health / HNELH	• Odour • Dust • Potable/drinking water • Biosecurity, disease and mass mortality	• Development webpage • Emails/phone calls • Incident notifications
RFS FRNSW	Fire hazards and risk	• Development webpage • Emails/phone calls • Management plan revisions • Incident notifications
Tamworth Council Gunnedah Council	• Regulatory compliance • All environmental and social aspects	• Development webpage • Emails/phone calls • Briefings/meetings • Management plan revisions • Incident notifications
Safework NSW	Workplace health and safety	• Development webpage • Emails/phone calls • Incident notifications
RAPs	Aboriginal heritage	• Development webpage • Unexpected finds protocol • Management plan revisions
TRRRA	Water resources	• Development webpage • Community newsletters • Emails/phone calls
Animal Liberation	Bird health and welfare	• Development webpage • Emails/phone calls
Reticulated service providers	Electricity and telecommunications servicing	• Development webpage • Dial Before You Dig • Emails/phone calls
MPs	• Impacts on local constituents • Tamworth poultry industry	• Development webpage • Emails/phone calls • Briefings/meetings

4.2 Communication Tools

Table 7 provides an overview of the various communication tools available to inform and engage with the community and other stakeholders, including the target audience and frequency/timing.

Table 7 Communication Tools

Tool	Description	Primary Audience	Frequency / Timing
Development webpage	Dedicated webpage on ProTen's website (www.proten.com.au) where the information specified under consent condition C18 will be made publicly available, along with the community newsletters.	All stakeholders	On-going
Community information sessions	Information sessions to inform the local community about planned construction/operational works, key dates, staging and hours, and provide contact details for feedback, queries and/or complaints. These sessions will be held in a location readily accessible to the local community, such as one of the nearby recreational facilities, and will be attended by relevant ProTen personnel.	Local community	Two sessions: • Minimum 3 weeks prior to commencing the first stage of construction; and • Minimum 3 weeks prior to commencing the first stage of operation.
Community newsletters	Development updates in the form of newsletters to keep the local community informed and up-to-date with construction/operational progress, key dates, staging and hours, and provide contact details for feedback, queries and/or complaints. Community newsletter will be distributed by mail and/or letterbox drop, and will also be uploaded on the Development webpage.	• Local community • TRRRA • MPs	As required, but at a minimum: • Minimum 2 weeks prior to commencing each construction stage; and • Minimum 2 weeks prior to commencing each operational stage.
Site signage	Clearly visible signs adjacent to the construction/operational site accesses off Rushes Creek Road providing relevant site information and contact details.	Local community	• Prior to commencing the first stage of construction and maintained until all construction works are complete. • Prior to commencing the first stage of operation and maintained throughout the life of the Development.
Emails/phones	Consult and engage stakeholders as needed in relation to construction/operational works, management plans, non-compliances, incidents, complaints, monitoring, reporting, etc.	All stakeholders	As required
ProTen environmental hotline 1800 776 994	A toll-free number (listed on ProTen's website) where stakeholders can provide feedback and submit queries and/or complaints for follow-up.	Local community	On-going

Tool	Description	Primary Audience	Frequency / Timing
Complaints management strategy	System to ensure that all complaints regarding the construction or operation of the Development are promptly and effectively received, handled and addressed. See **Section 5**.	Local community	Upon receipt of a complaint
Commencement notifications	Notify the date of commencement of each of stage of construction and operation in accordance with consent conditions A9 and A10.	DPIE	A minimum of 1 month prior to commencing each stage of construction and operation
Compliance reports	Monitor and report on the compliance status of the Development in accordance with consent conditions C11 to C13 and the NSW Government's *Compliance Reporting, Post Approval Requirements* (2020a). Reports will be submitted to DPIE and uploaded on the Development webpage.	• DPIE • All stakeholders	• Pre-operation compliance report - single report - minimum 6 weeks prior to commencing operation. • Operation compliance reports - annually - at intervals no greater than 52 weeks from commencing operation.
Briefings/meetings	Consult and engage with regulatory authorities as needed in relation to construction/operational works, management plans, non-compliances, incidents, complaints, monitoring, reporting, etc.	Regulatory authorities	As required
Independent audits	Obtain an independent and objective assessment of the environmental performance and compliance status of the Development in accordance with consent conditions C14 to C16 and the NSW Government's *Independent Audit, Post Approval Requirements* (2020b). Audits reports will be submitted to DPIE and uploaded on the Development webpage.	• DPIE • All stakeholders	• Initial audit - within 26 weeks of commencing operation. • On-going audits - at intervals no greater than 3 years or as otherwise agreed by the Planning Secretary.
EPL Annual Returns	Report on the compliance status of the Development against the EPL conditions and provide a summary of monitoring and complaints data. Returns will be submitted to the EPA and uploaded to the EPA's public register.	• EPA • All stakeholders	Annually, within 60 days after the end of the 12 month EPL reporting period
Management plan revisions	Engage and seek feedback in relation to management plan reviews/revisions.	• Regulatory authorities • RAPs	As required
Odour monitoring reports	Report on the performance of the poultry sheds in relation to odour emissions in accordance with the *Air Quality Management Plan* under consent conditions B4 to B7	EPA	• Monitoring - minimum once per cycle for a minimum of 2 years during (a) 1 Feb to 30 May; and (b) 1 Sep to 30 Nov. • Results - submitted to the EPA within 2 weeks of each monitoring event.

Tool	Description	Primary Audience	Frequency / Timing
Groundwater monitoring reports	Report on the performance of the Development in relation to any groundwater impacts in accordance with the *Water Management Plan* under consent condition B22.	• NRAR • WaterNSW	TBC
Incident notifications	Notification and subsequent reporting of any incident that has caused or threatens to cause material harm to the environment in accordance with consent condition C9 and the *Protection of the Environment Operations Act 1997*.	• DPIE • EPA • NSW Health • SafeWork NSW • FRNSW	• Initial notification – immediately after becoming aware of the incident. • Written notification – within 7 days of becoming aware of the incident. • Incident report – within 30 days of the incident occurring or as otherwise agreed to by the Planning Secretary.
Non-compliance notifications	Notification of any non-compliance with the development consent	DPIE	Within 7 days of becoming aware of the non-compliance
Dial Before you Dig	Obtaining information from electricity and telecommunications asset owners to ensure planned land disturbance activities do not impact/disturb network infrastructure.	Service providers	As required prior to land disturbance activities

5 COMPLAINTS MANAGEMENT STRATEGY

5.1 Performance Objective

To ensure that all complaints throughout the construction and operational phases of the Development are promptly and effectively received, handled and addressed.

5.2 Responsibility

ProTen's Regional Operations Manager is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of a complaint.

All employees and contractors who take receipt of a complaint, either verbal or written, are to immediately notify ProTen's Regional Operations Management.

ProTen Regional Operations Manager - nominated "central contact person"	Julian Johnson	Ph: 0406 484 474 Email: julianj@proten.com.au

5.3 Contact Details for Complaints

Complaints in relation to the Development activities may be received via a number of ways, including:

- In writing - via PO Box 1746, North Sydney NSW 2059;
- Phone - via ProTen's toll-free environmental hotline 1800 776 994;
- Email - via headoffice@proten.com.au; or
- Through a regulatory authority (for example - EPA, Council).

The contact details for complaints will be advertised to the general public in the following ways:

Site Signage

Clearly visible signs will be erected adjacent to the construction/operational site accesses off Rushes Creek Road prior to commencing construction and operation. The signs will advise relevant site information and contact details for feedback, enquiries and complaints. These signs will remain throughout the construction and operational phases.

Local Newspaper

An advert will be published in the local newspaper prior to commencing construction and again prior to commencing operation to advise contact details for feedback, enquiries and complaints.

5.4 Handling Procedure

Upon becoming aware of a complaint, ProTen's Regional Operations Manager is to undertake the following:

Receive

In the normal course of events, the first contact for complaints will usually be made in person or by telephone. While this should instigate investigative action, a formal written complaint should be requested.

Where the initial contact reaches an employee or contractor who is not a representative of ProTen's management team, the call should be directed to ProTen's Regional Operations Manager. If unavailable, the complainant's details should be taken with a view to returning the contact once the Regional Operations Manager is available and in a position to discuss the matter.

The complainant's name, address and contact details, along with the nature of the complaint, must be requested. If the complainant refuses to supply the requested information, a note should be made on the form and complainant advised of same.

Assistance

Where assistance is required handling the situation, ProTen's SHEQ Advisor and/or Risk Manager should be contacted.

ProTen Safety, Health, Environment & Quality (SHEQ) Advisor	Kathryn Singh	Ph: 02 6962 1770 / 0434 550789 Email: kates@proten.com.au
ProTen Risk Manager	Jim Rimmer	Ph: 02 6962 1770 / 0438 750974 Email: jrimmer@proten.com.au

Where the complaint is reported via a regulatory authority (for example - EPA, Council), ProTen's CEO should be notified immediately.

Investigate

A field investigation should be initiated in an attempt to establish the legitimacy of the complaint and the cause of the problem. ProTen's site management should be consulted to identify any abnormality or incident that may have resulted in the complaint. Details may include heavy vehicle traffic, equipment and machinery activities during the construction phase, and bird ages and stocking densities, fan operations, internal shed conditions and heavy vehicle traffic during the operational phase.

If the complaint is due to an environmental incident, the Environmental Incident Management Strategy contained in the *Construction Environmental Management Plan* or the *Operational Environmental Management Plan* should be followed. If the incident has caused or threatens to cause material harm to the environment, the DPIE or other relevant regulatory authorities must be immediately notified and reports prepared in accordance with condition C9 of the development consent. See "incident notifications" in **Table 7** above.

If the complaint is in relation to odour or dust, meteorological conditions at and around the time of the complaint, particularly wind direction and speed, must be obtained from the on-site meteorological station.

Remedial Action

Once the legitimacy and cause of the complaint has been established, every possible effort must be made to undertake appropriate remedial action(s) to fix the cause of the complaint and mitigate any further impact.

Inform

The investigative work and remedial action should be reported back to the complainant and, if necessary, the relevant regulatory authorities.

Complaints Register

It is imperative that an honest assessment of the situation is carried out and documented. Every complaint received is to be recorded on ProTen's standard *Complaint Report Form* contained in **Appendix D** and a copy of the complete form is to be maintained in the Development's *Complaints Register* for a minimum of 4 years.

5.5 Preventative Action

Once the complaint has been suitably handled, appropriate preventative measures should be identified and implemented to negate the possibility of re-occurrence.

5.6 Dispute Resolution

If the complaints management strategy has been followed and a particular issue cannot be resolved, the complaint will be referred to ProTen's CEO for further review and the Planning Secretary will be notified. The escalated review process will include an assessment of the details of the complaint received, any findings of the investigation undertaken in response to the complaint, and any further matters raised by the complainant. It may also include ProTen's CEO seeking the advice of relevant regulatory authorities and/or specialist consultants.

If required, a third-party independent mediator may be engaged to help resolve the dispute.

6 CCP REVIEW AND UPDATE

ProTen will evaluate the performance and effectiveness of the communication tools in this CCP on a regular basis. Key elements of the evaluation will include reviewing whether the objectives of the CCP have been achieved as evidenced by:

- The availability, quality and distribution of information about the Development to the local community and stakeholders;
- The nature and number of enquires and complaints and the subsequent level of responsiveness and appropriateness of action taken by ProTen;
- The relationships between ProTen and the surrounding local community; and
- Feedback received on the value of information provided about the Development, attendance at the community information sessions, and responsiveness of ProTen to feedback, enquires and complaints.

This CCP will be reviewed and, if necessary, updated if the performance evaluation demonstrates that the objectives are not being adequately met and/or at the request of DPIE.

As listed in **Table 4**, ProTen's Regional Operations Manager has the authority to approve minor amendments to the CPP. For the purpose of this CPP a "minor" amendment is defined as:

- An amendment involving a minor error or misdescription;
- An amendment that maintains compliance with the EIS, RTS, Supplementary RTS and Development Consent SSD 7704;
- An amendment that is necessary to maintain consistency and/or compliance with changing legislative requirements (for example, an amendment to an Act);
- An amendment to the ProTen contact details listed in **Tables 2** and **3** when roles change;
- An amendment to the ProTen roles and responsibilities listed in **Table 4** that does not involve deleting any responsibilities; and
- An amendment to the stakeholder contact details in **Appendices A** to **C** when roles change.

All employees and contractors will be informed of any updates to the CCP during a toolbox talk.

7 REFERENCES

EME Advisory (2019a) *Rushes Creek Poultry Production Farm, SSD 7704, Response to Submissions*

EME Advisory (2019b) *Rushes Creek Poultry Production Farm, SSD 7704, Supplementary Response to Submissions*

NSW Government (2020a) *Compliance Reporting, Post Approval Requirements*

NSW Government (2020b) *Independent Audit, Post Approval Requirements*

SLR Consulting Australia (2018) *Environmental Impact Statement, Intensive Livestock Agriculture, Rushes Creek Poultry Production Farm, SSD 7704*

Rushes Creek Poultry Production Farm
Development Consent SSD 7704

Community Consultation Plan

Appendix A

Contact Details - Regulatory Authorities

Rushes Creek Poultry Production Farm, SSD 7704

Community Consultation Plan

Contact Details – Regulatory Authorities

Regulatory Authority	Contact Details
Department of Planning Industry and Environment (DPIE)	
Industry Assessments	Sally Munk (Principal Planning Officer) Locked Bag 5022, Parramatta NSW 2124 Ph: 02 9274 6431 Email: sally.munk@planning.nsw.gov.au / information@planning.nsw.gov.au
Compliance	Locked Bag 5022, Parramatta NSW 2124 Email: compliance@planning.nsw.gov.au
Biodiversity Conservation Division (BCD) – North West Office	Liz Mazzer (Conservation Planning Officer) PO Box 2111, Dubbo NSW 2830 Ph: 02 6883 5330 Email: liz.mazzer@environment.nsw.gov.au / info@environment.nsw.gov.au
Environment Protection Authority (EPA)	
Armidale Regional Officer	Rebecca Scrivener (Head, Regional Operations Unit) PO Box 494, Armidale NSW 2350 Ph: 02 6773 7000 Email: Rebecca.Scrivener@epa.nsw.gov.au Email: info@epa.nsw.gov.au
Environment Line	Ph: 131 555 for pollution and environmental incidents Ph: 02 9995 5555 for other enquiries Email: info@epa.nsw.gov.au
Transport for NSW (TfNSW)	
Northern Region Development Services	Leisa Sedger (Development Assessment Officer) PO Box 576, Grafton NSW 2460 Ph: 02 6640 1362 Email: development.northern@transport.nsw.gov.au
NSW Heritage	
Aboriginal Cultural Heritage Regulation	Locked Bag 5020, Parramatta NSW 2124 Ph: 9876 8500 Email: heritagemailbox@environment.nsw.gov.au
Natural Resources Access Regulator (NRAR)	
Water Regulation	Tim Baker (Senior Water Regulation Officer) Locked Bag 5123 Parramatta NSW 2124 Ph: 1800 353 104 Email: tim.baker@dpie.nsw.gov.au / nrar.servicedesk@dpie.nsw.gov.au Email: water.enquiries@dpie.nsw.gov.au

WaterNSW	
Water Regulation	David Thomas (Water Regulation Officer) 33-35 Gunnedah Road, Tamworth NSW 2340 Ph: 02 6763 3903 / 1300 662 077 Email: david.thomas@waternsw.com.au Email: customer.helpdesk@waternsw.com.au
Department of Primary Industries (DPI)	
Agriculture	Byron Stein (Development Officer, Intensive Livestock) Locked Bag 21, Orange NSW 2800 Ph: 02 4824 3734 Email: byron.stein@dpi.nsw.gov.au Email: nsw.agriculture@dpi.nsw.gov.au
Biosecurity	Ph: 1800 680 244 Email: quarantine@dpi.nsw.gov.au
Emergency Animal Disease Hotline	Ph: 1800 084 881 Email: biosecurity@dpi.nsw.gov.au
NSW Health / Hunter New England Local Health (HNELH)	
Population Health	Locked Bag 10, Wallsend NSW 2287 Ph: 02 4924 6477 / 02 6764 8000 Email: phenquiries@hnehealth.nsw.gov.au
NSW Rural Fire Service (RFS)	
Headquarters	Locked Bag 17, Granville NSW 2142 Ph: 02 8741 5555 Ph: 1800 679 737 bushfire information line Email: records@rfs.nsw.gov.au
Tamworth office	PO Box 7131, New England MSC 2348 Ph: 02 6762 7641
Fire and Rescue NSW (FRNSW)	
Infrastructure Liaison Unit Fire Safety Branch	Locked Bag 12, Greenacre NSW 2190 Ph: 02 9742 7434 Email: firesafety@fire.nsw.gov.au
Tamworth Regional Council	
Development Planning and Compliance	Mitch Gillogly (Team Leader, Development Assessment) PO Box 555, Tamworth NSW 2340 Ph: 02 6767 5462 / 02 6767 5555 Email: m.gillogly@tamworth.nsw.gov.au / trc@tamworth.nsw.gov.au
Gunnedah Shire Council	
Planning and Environmental Services	PO Box 63, Gunnedah NSW 2380 Ph: 02 6740 2100 Email: council@infogunnedah.com.au

SafeWork NSW	
SafeWorkNSW	Locked Bag 2906, Lisarow NSW 2252 Ph: 13 10 50

Rushes Creek Poultry Production Farm
Development Consent SSD 7704

Community Consultation Plan

Appendix B

Contact Details - Registered Aboriginal Parties

Rushes Creek Poultry Production Farm, SSD 7704

Community Consultation Plan

Contact Details – Registered Aboriginal Parties (RAPs)

RAP	Contact Details
Tamworth Local Aboriginal Lands Council (LALC)	PO Box 57, Tamworth NSW 2340 Ph: 02 6766 9028 Email: admin@tamworthlalc.com.au
T&G Culture Consultants	Tony Griffiths 4 Wattle Street, Gunnedah NSW 2380 Ph: 0403 035 398
Richard Slater	121 Roberts Street, Tamworth NSW 2304 Ph: 0474 665036 Email: richard.slater@hotmail.com
DFTV Enterprises	Derrick Vale 5 Mountbatten Close, Rutherford NSW 2320 Email: deckavale@hotmail.com
Gomery Cultural Consultants	David Horton 10 Scott Street, Muswellbrook NSW 2333 Ph: 0458 532707 Email: davehorton@hotmail.com.au
Brian Draper	Unit 2, 135 Bloomfield Street, Gunnedah NSW 2380 Ph: 0438 757562 Email: briandraper0013@gmail.com
White Cockatoo Aboriginal Corporation	Michael Long 17 Albion Street, Gunnedah NSW 2380 Ph: 0447 867745 Email: whitecockatoo1@hotmail.com
Gomeroi People NC2011/006 C/- NTSCORP	NTSCORP c/- James MacLeod, Level 1, 44-70 Rosehill Street, Redfern NSW 2016 Ph: 02 9310 3188 Email: jmacLeod@ntscorp.com.au Email: mparker@ntscorp.com.au Email: information@ntscorp.com.au
Natasha Rodgers	7 Toy Court, Wodonga VIC 3690 Ph: 0432 535904 Email: natasharodgers06@gmail.com
AT Gomilaroi Cultural Consultancy	C/- Aaron Talbott 13 Hunter Street, Gunnedah NSW 2380 Ph: 0457 601685 Email: aaron@atgomilaroi.onmicrosoft.com
Veronica Talbott	12 Creek Reserve Road, Boolaroo NSW 2284 Ph: 0413 131983 Email: nanagoanna@yahoo.com.au

Rushes Creek Poultry Production Farm
Development Consent SSD 7704

Community Consultation Plan

Appendix C

Contact Details – Other Stakeholders

Rushes Creek Poultry Production Farm, SSD 7704

Community Consultation Plan

Contact Details – Other Stakeholders

Stakeholder	Contact Details
Tamworth Regional Residents and Ratepayers Associated Inc. (TRRRA)	PO Box 1953, Tamworth NSW 2340 Web enquiry: https://trrra.org.au/contact-trrra/
Animal Liberation	301/49 York Street, Sydney NSW 2000 Email: sydneyhq@animal-lib.org.au
Essential Energy	PO Box 5730, Port Macquarie NSW 2444 Ph: 6773 4741 Email: planning.nth@essentialenergy.com.au
Dial Before you Dig	Ph: 9648 1100 (Help Desk) Email: admin@beforeyoudignsw.com.au Web enquiry: www.1100.com.au
Hon. Kevin Anderson MP Member for Tamworth Minister for Better Regulation and Innovation	Ground Floor, 13 Fitzroy Street, Tamworth NSW 2340 Ph: 02 6766 1422 Email: tamworth@parliament.nsw.gov.au
Hon. Adam Marshall MP Minister for Agriculture and Western NSW	Suite 1, Ground Floor, 175 Rusden Street, Armidale NSW 2350 Ph: 6772 5552 Email: northerntablelands@parliament.nsw.gov.au
Hon. John Barilaro MP Minister for Regional NSW, Industry and Trade	GPO Box 5341, Sydney NSW 2001 Ph: 02 8574 5150 Email: monaro@parliament.nsw.gov.au
Hon. Melinda Pavey MP Minister for Water, Property and Housing	GPO Boxc 5341, Sydney NSW 200 Ph: 02 8574 7300 Email: oxley@parliament.nsw.gov.au

Rushes Creek Poultry Production Farm
Development Consent SSD 7704

Community Consultation Plan

Appendix D

Complaint Report Form

Rushes Creek Poultry Production Farm

COMPLAINT REPORT FORM

Person Who Received the Complaint

Name: …… Position: ……

Date: …… Time: …… am/pm

Site Management notified: Yes / No (if no, provide reason)

Person Who Made the Complaint

Name: ……

Address: ……

Contact Details: ……

Complaint Details (when and what was the complaint in relation to?)

Date: …… Time (approx.): …… am/pm

Description: ……

……

……

……

……

Field Investigation

Field investigation undertaken: Yes / No (if no, provide reason)

Description: ……

……

……

……

……

Is the complaint in relation to an environmental incident: Yes / No

If yes, follow the Environmental Incident Management Strategy - see CEMP / OEMP.

Remedial Actions

Remedial action undertaken: Yes / No (if no, provide reason)

Description: ……

……

……

……

……

Any further correction action required: Yes / No

Description: ……

……

……

……

……

Complainant Informed

Complainant informed of findings and outcomes: Yes / No (if no, provide reason)

Via: Phone / Email / Letter / In person

Staff Name: …… Position: ……

Date: …… Time: …… am/pm

Sign Off

Name: …… Position: ……

Signature: …… Date: ……

Appendix M:

Site Remediation & Validation Report (SR & VR)

SITE REMEDIATION AND VALIDATION REPORT

Rushes Creek Poultry Production Farm,
Rushes Creek Road,
Rushes Creek, NSW 2346

Prepared for:

ProTen Pty Ltd
North Sydney, NSW, 2060

SLR Ref: 610.30237.00000-R02
Version No: v1.0
December 2021

PREPARED BY

SLR Consulting Australia Pty Ltd
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T: +61 2 9427 8100
E: sydney@slrconsulting.com www.slrconsulting.com

BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with ProTen Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
610.30237.0000-R02-v1.1	8 December 2021	Jason Roesler	Hugh Selby	Hugh Selby (CEnvP-SC)
610.30237.0000-R02-v0.1	20 October 2021	Jason Roesler	Hugh Selby	Hugh Selby (CEnvP-SC)

EXECUTIVE SUMMARY

SLR Consulting Australia Pty Ltd (SLR) was engaged by ProTen Tamworth Pty Limited (ProTen) to prepare a site remediation and validation report following the remediation of soil impacted by arsenic near a former sheep dip at the proposed poultry production farm located at Rushes Creek Road, Rushes Creek, NSW (the site). The Site forms a small portion (approximately 700m^2) of the larger Rushes Creek Poultry Production Farm (the Property), which was granted was granted Development Consent SSD 7704 by the Department of Planning Industry and Environment (DPIE) (as delegate for the Minister) on 16 April 2020. A Consolidated Consent was then issued on 15 June 2021, following modifications to the proposed approach to remediation of the soil impacted by arsenic. The site locality and site layout have been identified in **Figure 1** and **Figure 2** in **Appendix A** respectively.

Previous contamination investigations at the site identified arsenic impacted soils in surface and shallow soils (to approximately 0.7 metres below ground level) around a former Sheep Dip. The lateral extent of the arsenic impacted soils was approximately 700m^2. A Remedial Action Plan (RAP) was developed and revised in 2021 (SLR, 2021a) which involved using low permeability soils from the Property to cap the area with the arsenic impacted soils.

During earthworks in a nearby portion of the Property in September 2021, a small amount of Asbestos Containing Material (ACM) was encountered. This ACM impacted material and timber from a sheep holding shed adjoining the arsenic impacted soils were placed on top of the arsenic impacted soil remediation area.

The remediation works were undertaken between 20 September 2021 and 29 October 2021 by TPE Civil (the Principal Contractor). The works included the following general steps:

1. Excavation of test pits to confirm the delineation of the arsenic impacted soils and capping extent.
2. Establishment of environmental controls around the remedial area.
3. Removal of vegetation to the extent practical without disturbing the impacted soil
4. Excavation of Virgin Excavated Natural Material (VENM) in the form of low permeability clay sourced from within the Property for use in the capping layers
5. The utilisation of stockpiled material (timber from the former sheep shed and ACM impacted soils) placed within the remediation area as the earth cover layer, as per **Section 9.6.6**
6. Placement and compaction of the VENM to form a cap over the arsenic impacted soils (as well as the timber and PACM impacted soils) in accordance the RAP (SLR, 2021a) as detailed in **Section 9.6.6**
7. Grassing of the capping and installation of a fence around the cap.
8. Survey of the capping and fencing.
9. Inspections of the capping works by an Environmental Consultant and the Site Auditor.

SLR considers that the arsenic impacted soils have been remediated and validated in accordance with the RAP (SLR, 2021a). SLR concludes that the site is suitable from a contamination perspective for use as a Poultry Production Farm, subject to the maintenance and monitoring of the capping as per the Long Term Environmental Management Plan (LTEMP) for the site.

LIST OF ABBREVIATIONS

AHD	Australian Height Datum
AS	Australian Standard
ASC NEPM	National Environment Protection Council (1999, 2013 revision), National Environment Protection (Assessment of Site Contamination) Measure
BTEXN	Benzene, toluene, ethyl-benzene, xylene and naphthalene
COC	Chain of custody
CoPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EIL	Ecological Investigation Levels
ENM	Excavated Natural Material
EPA	Environment Protection Authority
EQL	Estimated Quantitation Limit
GSW	General Solid Waste
ha	hectare
HIL	Health Investigation Limits
HSL	Health Screening Levels
Ils	Investigation Levels
LOR	Limit of Reporting
mbgl	metres below ground level
mg/kg	Milligrams per kilogram
NATA	National Association of Testing Authorities
NEPM	National Environment Protection Measure
NSW	New South Wales
PAH	Polycyclic Aromatic Hydrocarbons
PID	Photo-ionisation Detector
ppm	Parts per million
QA/QC	Quality Assurance / Quality Control
RPD	Relative Percentage Difference
SLR	SLR Consulting Australia Pty Ltd
SOP	Standard Operating Procedures
SPR	Source-Pathway-Receptor
VENM	Virgin Excavated Natural Material

CONTENTS

TABLES

APPENDICES

1 Introduction

SLR Consulting Australia Pty Ltd (SLR) was engaged by ProTen Tamworth Pty Limited (ProTen) to prepare a site remediation and validation report following the remediation of soil impacted by arsenic near a former sheep dip at the proposed poultry production farm located at Rushes Creek Road, Rushes Creek, NSW (the Site). The Site forms a small portion (approximately 700m^2) of the larger Rushes Creek Poultry Production Farm (the Project), which was granted Development Consent SSD 7704 by the Department of Planning, Industry and Environment (DPIE) (as delegate for the Minister) on 16 April 2020. A Consolidated Consent was then issued on 15 June 2021, following modifications to the proposed approach to remediation of the soil impacted by arsenic.

The site locality and site layout have been identified in **Figure 1** and **Figure 2** in **Appendix A** respectively. Photographs of the site before and after remediation have been presented in **Appendix B**.

2 Background Information

As part of the State Significant Development (SSD) approval process for four poultry farms (including individual poultry sheds), a Preliminary Site (contamination) Investigation (PSI) was prepared in 2018. The PSI identified the potential for contamination around a Sheep Dip within Poultry Farm 2 (refer to **Figure 2** in **Appendix A**). A Detailed Site (contamination) Investigation (DSI) undertaken around the Sheep Dip (the Site) in 2019, found concentrations of arsenic in shallow soils above the adopted site assessment criteria. A Remedial Action Plan (RAP) was prepared in 2019 which proposed offsite disposal of the arsenic impacted soils as the preferred remedial approach. The RAP was revised in 2021 to change the preferred remediation approach to capping, which was approved by DPIE as part of a Consolidated Consent issued on 15 June 2021. Further details on the previous investigations are provided in **Section 4.2**.

The following sections outline the objectives of the remediation and scope of works undertaken.

2.1 Objectives

The purpose of the works was to manage arsenic impacted soils at the Site, so that the arsenic impacted soils do not pose a risk to human health or the environment as part of a poultry production farm. Specifically, the objectives were to:

- remediate arsenic in soil at the Site
- validate the remediation and confirm the suitability of the Site for the proposed land use as part of a poultry production farm.

2.2 Scope of Works

The scope of works undertaken to meet the objectives included the following tasks:

- Review the PSI, DSI and RAP reports.
- Site Visits including:
  - Arsenic and capping delineation testing pitting with soil sampling

  - Observation of an Unexpected find on the Property and placement of the asbestos impacted material on the Site
  - Observation of the remediation works.
- Review of analytical results and comparison against adopted criteria for the Site.
- Preparation of this Site Remediation and Validation Report in general accordance with the NSW EPA (2020) *Contaminated Land Guidelines: Consultants reporting on contaminated land*.

Table 10-3 in **Section** 10 provides a timeline of events for the remediation works.

3 Site Identification

The Project comprises the following land parcels:

- Lot 1 in Deposited Plan (DP) 44215
- Part Lot 1 in DP 1108119
- Lot 1 in DP 1132298
- Lots 26, 85, 86, 101, 118, 165, 166 and 171 in DP 752169
  - The Site covers approximately 700 m^2, occupying a small portion of Lot 62 of DP 1276824. The Site is unsealed and adjacent to the former sheep dip. An old, abandoned sheep holding shed which was been demolished as part of the remediation works adjoins the Site.
- Part Lot 143 in DP 752189
- Lot 1 in DP 1132078
- Lot 1 in DP 1141148
- A section of unformed Council public road traversing through Lot 171 DP 752169.

The Project and Site locality are identified in **Figure 1** in **Appendix A,** with the location of the Site within the Project area is shown on **Figure 2 in Appendix A.** A summary of the site identification information is detailed below in **Table 3-1**.

Table 3-1 Summary of site information

Site Information	Details	
Site Address	• Rushes Creek Road, Rushes Creek, NSW (the Site)	
Parcel Reference	• Part Lot 62 DP1276824 (the Site)	
Site Area	• 0.01 hectares (Ha) (the Site) • 1016 Ha total Property area	
Current Land Use	RU1: Primary Production	
Proposed Future Land Use	Ongoing use as an RU1: Primary Production Poultry production farm	
Local Government	Tamworth Regional Council (TRC)	
Approximate Site – GPS Coordinates (Geocentric Datum of Australia 1994)	Latitude: 30°48'49.91"S Longitude: 150°35'52.46"	Zone: 56 J Easting: 270205.783 E Northing: 6588558.235 S

4 Site History

4.1 Summary of Site History

For the purposes of this Validation Report, information on site history is focussed on the Site including the area of the former sheep dip adjacent to the sheep holding yard which is subject to remediation for arsenic in soil (refer to **Figure 2** in **Appendix A**).

As detailed in the PSI for the Property (SLR 2018), prior to purchase of the Property by ProTen, Ray Doyle owned the "Bundah" property since 1965, including Lot 62 of DP1276824in which the Site is located. Farmer and grazier Theodore George Tomlinson owned Property prior to 1965. The Property has been used for raising sheep and cattle, and growing wheat. A small number of free-range pigs were kept on the Property, but not to the extent or practice of a piggery.

Anecdotal evidence suggests that the sheep dip has not been in use since at least 1965, however, it is likely that it was used by a previous owner.

5 Site Condition and Surrounding Environment

Further to the site inspections undertaken as part of the PSI and DSI, an inspection of the Site was undertaken prior to and during the remediation works, with observations and photographs from these inspections summarised in **Table 5-1** below and **Appendix B,** respectively.

Table 5-1 Site Inspection Observations

Features	Description
Features	• The Site is vacant land predominantly covered in low level grasses, shrubs and Trees (Refer to **Photographs 3 to 7** in **Appendix B**).
Site Drainage	• Site surface water from rainfall is expected to infiltrate into site soils with intense inundation exceeding infiltration capacity, excess water is expected to drain westerly with the slope of the surrounding area toward the Namoi River, located approximately 3.7km to the west of the site.
Fill and Waste Materials	• Fill was not observed on the site • Evidence of waste materials being stored on the site was not observed prior to remediation. However, during remediation timber from the demolished shed (refer to **Photograph 4** in **Appendix B**) and asbestos impacted soils from an Unexpected Find (refer to **Photograph 10** in **Appendix B**) on the Property were stockpiled with the capping area. Refer to **Section 7** for further details.
Underground and Above Ground Storage tanks	• No evidence of UST's for petroleum such as filling caps, vent pipes or bowser islands were observed. • No ASTs were observed on site.
Chemical and Other Hazardous Material Storage	• The storage of chemical and other hazardous materials was not observed during the site inspection.
Phyto-toxicity	• Evidence of phytotoxic impact was not observed on site during the site inspection.
Staining and Odours	• Staining and odours were not observed on site at time of site inspection
Incidents and Complaints	• Not applicable

5.1 Site Setting

Surrounding site uses are summarised in **Table 5-2** below.

Table 5-2 Summary of Surrounding Environment

Site Aspects	Description
Summary of surrounding land uses	• North: Agricultural • South: Agricultural • East: Agricultural • West: Agricultural
Topography	• The site and adjacent land are predominantly flat, situated at approximately 373 metres Australian Height Datum (AHD) • There is a slight downward slope towards the west of the site.
Nearest ecological receptor	• Rushes Creek, located approximately 614m to the east • Namoi River, located approximately 3.7km to the west and 2.3km to the north, and • Lake Keepit, located approximately 3.1km to the west (dam full supply level).

5.2 Hydrogeological Setting

The hydrogeological setting is summarised in **Table 5-3** below.

Table 5-3 Summary of Surrounding Environment and the Regional Hydrogeological Setting

Site Aspects	Description
Regional geology	• The NSW Government Manilla 1: 100,000 Geological Sheet 9036, First edition, 2013, indicates that the site is likely to be underlain primarily by Upper Devonian Mandowa Mudstone, comprising thinly bedded laminated and massive mudstone with subordinate, thin siltstone and fine-grained sandstone beds.
Aquifer Geological Unit	• The site is located within the New England Fold Belt. The New England Fold Belt groundwater system is characterised as a fractured rock system, with groundwater dominantly stored and transmitted within fractures rather than the rock mass itself.
Groundwater depth	• Groundwater standing water levels (mbgl) is expected to be greater than nine metres across the site. The closest GW bore approximately 150m from remediation area, GW011498 indicated a SWL of 9.05mbgl
Groundwater flow and seepage velocity	• Assumed to be towards the west based on site topography and nearby surface water receptors (Namoi River, located 3.7km west of the site).
Surface water runoff	• Site surface water is expected to infiltrate with intense inundation draining east to west with the slope of the surrounding area toward the Namoi River, located approximately 3.7km to the west of the site.
Groundwater Quality	• Unknown
Registered Groundwater Bore Information	• A search of the NSW Government's online groundwater works database as part of the DSI (SLR 2019) identified five registered groundwater bores within 1000m of the former sheep dip location. • Note: Unregistered groundwater bores may be present in the area that do not appear on relevant databases (https://realtimedata.waternsw.com.au/;)
Acid Sulfate Soils (ASS)	• A review of the Australia Soil Resource Information System (ASRIS) indicated that there was no known occurrence of acid sulfate soils at or within the immediate vicinity of the site.

6 Previous Investigations

6.1 Preliminary Site Investigation

The PSI undertaken by SLR titled 'Stage 1 Preliminary Site Investigation Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek' dated July 2018 (SLR 2018) involved a desktop review (including land titles and aerial photographs) and site inspection of the Property. The PSI concluded that:

- An area of environmental concern (AEC) was identified for the Property (the former sheep dip on the Site)
- that the Development Site could be made suitable for the proposed redevelopment, subject to the undertaking of a targeted soil investigation addressing the AEC
- Based on the nature of the COPC identified for the AEC, there are well established means of remediation and/or management that could be implemented to allow the Development to proceed, regardless of the findings of a targeted soil investigation.

Following exhibition of the Environmental Impact Statement (EIS), DPIE and the Environment Protection Authority (EPA) requested that a DSI be undertaken to assess the identified AEC prior to determination of the Development Application (DA).

6.2 Detailed Site Investigation

The DSI undertaken by SLR titled 'Detailed Site Investigation Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek NSW' dated February 2019 (SLR 2019) involved a desktop review of previous reports, site inspection and intrusive works at the site, undertaken over two separate mobilisations consisting a total of 21 test pits. The DSI concluded that:

- Analytical results indicate that arsenic concentrations in soil ranged from below the HIL-A guideline value (100 mg/kg) to exceedances as high as 2,600 mg/kg , and is likely to be associated with the former sheep dip, is elevated above the relevant soil health investigation level (HIL) for standard residential with garden/accessible soil (HIL-A) guideline value in the National Environmental Protection Council's National Environmental Protection (Assessment of Site Contamination) Measure, as amended in 2013 (NEPM 2013)
- Soil sampling undertaken as part of the DSI has delineated the arsenic contamination to the north and south of the sheep dip, with low concentrations still exceeding the HIL-A guideline extending beyond the limit of the assessment to the east (assessment limited by the site shed) and to the west (with concentrations not expected to extend more than 10 metres west given the reducing concentrations from the source)
- Based on the guidance provided in NEPM 2013, SLR considers that the arsenic in soils contamination at the site presents an unacceptable risk to present and future site users, particularly during the proposed site redevelopment. Therefore, the arsenic identified in soils at the site is considered to warrant remedial action.

A groundwater assessment was not undertaken as part of the DSI due to the limited leaching potential of the identified arsenic (confirmed with toxicity characteristic leaching procedure analysis), the observed reduction in arsenic concentrations in soil with depth, and the anticipated depth of groundwater

6.3 Remedial Action Plan

A RAP titled 'Remedial Action Plan Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek, NSW' (SLR 2019) was prepared and approved as part of the development consent for the poultry farm. The remedial strategy detailed in the 2019 RAP was to excavate the arsenic contaminated soil and dispose of this material off-site at a facility licensed to receive the waste.

It was identified that the landfill at Kemps Creek on the western fringes of Sydney is the only landfill licensed in NSW to take this type of contaminated soil. Given the time elapsed between preparation of the RAP and the proposed construction, review of Contractor pricing for the transport and disposal of the arsenic contaminated soil at Kemps Creek was deemed not feasible.

As such, an alternative remediation approach was proposed in the revised RAP (SLR 2021a). Based on the discussions with the client, consultation with the EPA, the risks posed to potential receptors including humans at the site and groundwater, and in consideration of the proposed development, the preferred alternative remedial strategy is on-site containment of arsenic contaminated soil. This involves placement of capping (4 layers, with a total thickness of approximately 1.3m) across the arsenic impacted soils (approximately 700m^2). The extent of the capping is shown on **Figure 3** in **Appendix A**.

7 Conceptual Site Model

Based on the above characterisation of the site, a conceptual site model (CSM) has been developed to identify exposure pathways linking the source of contamination and the exposed receptors. The CSM for the site is summarised in **Table 7-1** below.

Table 7-1 Conceptual Site Model

Human Health Exposure Pathways

PRIMARY SOURCES

- (X) Contaminated Soil
- ( ) Operational Spills, Leaks
- ( ) Off-site (Up Gradient Contamination)

SECONDARY SOURCES

- (X) Affected Surface Soils (<1m depth)
- ( ) Affected Subsurface Soils (>1m depth)
- ( ) Dissolved Groundwater Plume
- ( ) Phase Separated Groundwater Plume

TRANSPORT MECHANISMS

- (X) Wind Erosion & Atmospheric Dispersion
- ( ) Volatilisation & Enclosed space Accumulation
- ( ) Extraction of groundwater for use
- ( ) Volatilisation & Enclosed space Accumulation

Exposure Route	Exposed Groups								
	Resident		Rec. User	Com/Ind Worker		Maintenance Worker		Intrusive Worker	
	On-site	Off-site	On-site	On-site	Off-site	On-site	Off-site	On-site	Off-site
Inhalation of Vapours									
Inhalation of dust									
Oral Ingestion									
Dermal Contact									
Uptake via Plants									
Inhalation of Vapours									
Inhalation of Vapour									
Oral Ingestion									
Dermal Contact									
Inhalation of Vapours									

Rec. User = Recreational User
Com/Ind = Commercial/Industrial Worker

	Complete or major pathway
	Potentially complete or minor pathway
	Incomplete or insignificant pathway

Client:	Proten Pty Ltd	**Date completed:**	21-Oct-21	**Project No.:**	610.30237.00000
Site Location:	Rushes Creek Road, Rushes Creek, NSW 2346	**Completed by:**	JR		

9 Implementation of Remediation Action Plan

Table 8-1 provides a summary of the remedial activities implemented, with the activities detailed in the following sections.

Table 9-1 Summary of Remedial Activities

Date	Activity	Detailed in Section
25 August 2021	Revised RAP endorsed by Site Auditor	n/a
17 September 2021	Demolition of Sheep Holding Shed	n/a
20 September 2021	Arsenic Delineation test pits and sampling	**9.2**
20 September 2021	Capping Delineation test pits and sampling	**9.3**
20 September 2021	Management of Asbestos Unexpected Find	**9.5**
21 October	Issue of Interim Site Remediation and Validation Report	n/a
25 October 2021 to 26 October 2021	Capping Placement	**9.6**
16 November 2021	Site Survey	**9.6.7**
08 December 2021	Issue of Site Remediation and Validation Report	n/a

9.1 Remediation Goal

The primary remedial goal for this site is to reduce the risk posed to human and environmental receptors from the identified arsenic impacted soil and unexpected find of asbestos containing material.

9.1.1 Remediation Criteria

The National Environmental Protection Council's *National Environmental Protection (Assessment of Site Contamination) Measure*, as amended in 2013 (NEPM 2013) 'Schedule B1 – *Guideline on Investigation Levels for Soil and Groundwater*', provides a framework for the use of investigation and screening levels based on human health and ecological risks. Given the proximity of the site to low density residential housing, the criteria applied to the remediation is:

- The soil health investigation levels (HILs) detailed in the NEPM (2013) - HIL-A includes standard residential with garden/accessible soil. The criteria is included in **Table 8-2**

Table 9-2 Remediation Assessment Criteria

Contaminant of Potential Concern	Criteria (mg/kg)
Arsenic	100
Cadmium	20
Chromium (III+VI)	100

Contaminant of Potential Concern	Criteria (mg/kg)
Copper	6,000
Lead	300
Mercury	40
Nickel	400
Zinc	7,400
PAHs (Sum of total)	300
Benzo(a)pyrene TEQ (LOR)	3
Asbestos from ACM in Soil	0.01 %w/w
Asbestos from FA & AF in Soil	0.001 %w/w

9.2 Arsenic Delineation Sampling – September 2021

A data gap was identified during the DSI in relation to the lateral extent of arsenic impacts, as sampling was restricted due to the presence of a sheep holding shed. To address this data gap, subsequent to demolition of the shed (refer to **Photographs 1** to **5** in **Appendix B** showing the demolished shed) the following was undertaken on 20 September 2021:

- Excavation and sampling of test pits:
  - three (3) test pits (TP101-TP103) east former sheep dip in the footprint of the shed
  - two (2) test pits (TP104-TP105) extending west from DSI sampling locations.
- The test pits were advanced using an excavator to a maximum depth of 0.7mbgl. The sampling locations are presented in **Figure 3, Appendix A**. Materials encountered during sampling logged were in accordance with the Unified Soil Classification System (USCS) and GPS location of test pits were recorded. All test pit logs, and GPS data are presented in **Appendix C**
- Fifteen (15) soil samples were submitted to a (NATA) certified laboratory for analysis of arsenic. Refer to **Table 1** of **Appendix E** for the tabulated analytical results. Refer to **Appendix F** for a copy of the Certified Laboratory Reports. Discussion of the results is provided in **Section 10**.

Discussion of the results of the arsenic delineation sampling is included in **Section 11.1,** with the sampling confirming that arsenic did not extend further under the demolished shed. As shown in **Photographs 3** and **4** in **Appendix B**, a stockpile (approximately 30m^3) of timber from the shed was placed within the extent of the proposed cap.

9.3 Capping Delineation – September 2021

To confirm the extent of the proposed cap, the following works were undertaken:

- Excavation of five (5) test pits (TP201-TP205) at the outer edge of the capping as identified in the RAP. The sampling locations are presented in **Figure 3**, **Appendix A**.

- The test pits were advanced using an excavator to a maximum depth of 0.7mbgl. The sampling locations are presented in **Figure 3, Appendix A**. Materials encountered during sampling logged were in accordance with the Unified Soil Classification System (USCS) and GPS location of test pits were recorded. All test pit logs, and GPS data are presented in **Appendix C**
- Fifteen (15) soil samples were submitted to a (NATA) certified laboratory for analysis of arsenic. Refer to **Table 1** of **Appendix E** for the tabulated analytical results. Refer to **Appendix F** for a copy of the Certified Laboratory Reports. Discussion of the results is provided in **Section 10.**

Discussion of the results of the capping delineation sampling is included in **Section 11.2,** with the capping delineation sampling not identifying additional arsenic contamination that required capping. However, the capping extent was extended slightly to the locations of capping delineation test pits (TP201 to TP205) to demonstrate that the capping covered the arsenic impacted soils, extended to known locations without arsenic impacted soils and reduced the grade of the cap (refer to **Figure 3**, **Appendix A**).

9.4 Permeability Testing – September 2021

To confirm that the permeability of the material proposed to be used in the cap, TPE collected two samples from material sourced onsite and submitted them for permeability tests. The results of the permeability testing are discussed in **Section 10** and presented in **Appendix G**.

9.5 Unexpected Finds Material – September 2021

On 24 September 2021, during earthworks for the installation of a Detention Dam Farm 2 on the Property (refer **Figure 2** in **Appendix A**), some household rubbish including a small amount of Potential Asbestos Containing Material (PACM) was unearthed at the location shown on **Figure 4** in **Appendix A**. This triggered implementation of the Unexpected Finds Protocol as follows:

- Works were stopped and an SLR representative experienced in assessing land contamination attended the Property on 28 September 2021.
- Following inspection of the Unexpected Find, four (4) test pits (TP301-TP304) were excavated beyond the outer edge of the identified unexpected find (refer to **Photographs 13-18** of **Appendix B**).
- Material identified as containing PACM was excavated, transported and stockpiled to within the proposed capping area at the Site (refer to **photographs 10-12** of **Appendix B**).
- Six (6) samples were collected from the stockpiled material of approximately 130m^3. The sampling locations are presented in **Figure 5**, **Appendix A**. The samples were submitted for analysis at a NATA accredited laboratory on Total Recoverable Hydrocarbons (TRH) / Benzene, Toluene, Ethyl-benzene, Xylenes (BTEXN), Polycyclic Aromatic Hydrocarbons (PAHs), Metals 8, Organochlorine and Organophosphate (OPP). Refer to **Table 3** of **Appendix E** for the tabulated analytical results. Refer to **Appendix F** for a copy of the Certified Laboratory Reports. The results are discussed in **Section 11**.

9.6 Capping Works

The capping works were undertaken at the site between 25 October 2021 and 26 October 2021 and included the following steps.

9.6.1 Site Survey

A survey of the Site was undertaken before the capping works (Drawing 21079 Revision A), after the capping works (Drawing 21079 Revision K) and after the fencing was installed (Drawing 21079 Revision R) as presented in **Appendix H**.

9.6.2 Site Establishment

Site establishment included the setup of appropriate fencing, barriers and signage to delineate the Site from other work areas.

9.6.3 Underground and Overhead Services

Prior to remediation works commencing on the 25 October 2021, underground and overhead services were identified by TPE Civil.

9.6.4 Vegetation Removal

Prior to the placement of any material for the cap, vegetation in the remedial area was removed to the extent practical without disturbing the impacted soil. This included:

- mowing the area as close to ground level as possible
- flattening vegetation including removal of one tree near TP104 and TP203.

9.6.5 Capping Area Preparation

Prior to placement of the capping material, the timber stockpile from the former sheep holding shed was mechanically crushed down and pressed into the soil surface to remove voids (refer to **Photographs 19** to **22** in **Appendix B**). The soils stockpiled within the capping extent from the Unexpected Find were then spread within the capping area to form part of the Earth Cover Layer (refer to **Photographs 23** and **24** in **Appendix B**).

9.6.6 Capping Construction

Consistent with the RAP, the cap was constructed of the layers listed in **Table 9-3** and has an approximate grade of 10%, which enables surface runoff without erosion (refer Drawing 21079 Revision R in **Appendix H**).

Table 9-3 Remedial Area Capping Summary (from bottom to top)

Capping Layer No.	Description	Thickness (m)
Layer 1 – Earthen Cover Layer	The earth cover layer included site won clay rich soils (Virgin Excavated Natural Material [VENM]), plus excavated material stockpiled from an on-site unexpected finds containing ACM from the excavation of the Proposed Detention Dam at Farm 2 (refer to **Figure 2** in **Appendix A**). No material was greater than 150 mm, and no more than 20% of the material had dimensions greater than 40 mm. As this material contained ACM a marker layer was installed prior to the introduction of low permeability clay layer (refer **Photographs 25** to **27** in **Appendix B**).	0.3

Capping Layer No.	Description	Thickness (m)
Layer 2 – Low Permeability Compacted Clay	The low permeability compacted clay layer (VENM) was placed over the earth cover layer to and will act to reduce surface water infiltration into the remedial area. The layer consisted of site won clay rich soils, with a permeability of 1 x10^{-8} or lower as discussed in **Sections 9.4** and **11.4**. The clay was free of material greater than 40 mm. The layer was a minimum of 0.3 m in thickness. The layer was compacted in maximum 200 mm (compacted) layer thickness. The soil was moisture conditioned during placement to make it workable into a uniform layer. The layer was compacted using a Caterpillar 815f soil compactor, and each layer scarified prior to placement of the overlying layers. In a deviation from the RAP, given the low permeability soils available onsite, Layers 2 (Low Permeability Clay) and Layer 3 (Upper Subsoil) were combined. This is not considered to alter the performance of the cap, as Layer 3 was to act a protection layer over the compacted clay and to add thickness of the cap.	0.7
Layer 3 – Topsoil Layer	The topsoil layer was placed over the Low Permeability Compacted Clay. The topsoil was sourced from onsite and will accommodate shallow rooted vegetation (refer to grasses as shown in **Photographs 37** and **38** in **Appendix B**). It was free of material greater than 150 mm. It will be capable of supporting vegetation. The topsoil layer is a minimum of 0.2 m thick and loosely placed and not compacted.	0.3
Total	-	**1.3**

9.6.7 Vegetation Establishment

Following completion of the cap, the topsoil layer was seeded with grasses similar to existing grasses at the Site (refer to **Photograph 38** in **Appendix B**).

9.6.8 Site Fencing and Final Survey

Between 03 and 07 December 2021, fencing was installed around the capping area including Danger Asbestos signs (refer to **Photographs 37 and 38** in **Appendix B** . The fencing was then surveyed (Refer to Drawing 21079 Revision R in **Appendix H**).

10 Sampling Analysis and Quality Plan, and Sampling Methodology

10.1 Data Quality Objectives

The Data Quality Objectives (DQOs) for the RAP are summarised in **Table 10-1** below.

Table 10-1 Data Quality Objectives

DQO Step	Description
Step 1: State the Problem	Elevated concentrations of arsenic in shallow soils within the Site require management to make the Site suitable for the proposed land use.
Step 2: Identify the decision / goal of the study	To validate that the remedial works have reduced the risk to human health and the environment, so that the Site is suitable for the proposed land use.
Step 3: Identify the information inputs	The decision inputs include: 1. Assessment of samples advanced across the Site as part of the DSI and delineation soil sampling 2. Assessment of analytical results against the adopted remediation criteria, based on the ongoing land use 3. Survey of the Site before and after capping 4. The type of capping material. 5. Site inspections before, during and after capping.
Step 4: Define the boundaries of the study	The boundaries of the study are: 1. Lateral - the samples of soil are limited to the lateral extent of the remediation capping as illustrated in **Figure 3, Appendix A**. 2. Vertical – the sampling of soil was limited to 0.7mbgl as per the RAP (SLR 2021). 3. Temporal – the previous arsenic soils sampling (DSI, 2019) prior to the remediation works, and the validation sampling program undertaken during the remediation works between September and October 2021.
Step 5: Develop the analytical approach	The decision rules for the project will be as follows: 1. If the site inspections confirm that the capping layer has been installed as per the RAP, then the site will be considered suitable for the proposed land use. - Note if there is insufficient information to confirm the nature of the capping layer installed, further assessments may be required to confirm the suitability of the site for the proposed land use. 2. Where laboratory analysis is required: - If the results of the laboratory analytical data and QAQC samples are acceptable, the data will be considered suitable for the purposes of the project. Data will be assessed for completeness, comparability, representativeness, precision and accuracy - If the results of the laboratory analytical data are below the RAC, then the level of contamination in the media assessed will be considered an acceptable exposure risk - If the results of laboratory analytical data exceed the RAC, then the level of contamination in the media assessed may require further assessment, management or remediation.

DQO Step	Description
Step 6: Specify performance or acceptance criteria	This step also examines the certainty of conclusive statements based on the available new site data collected and includes the following points to quantify tolerable limits: 1. A decision can be made based on a certainty assumption of 95% confidence in any given data set. A limit on the decision error will be 5% that a conclusive statement may be a false positive or false negative. A decision error in the context of the decision rule presented above would lead to either underestimation or overestimation of the risk level associated with a particular sampling area. The investigation program in **Section 8.2** and **8.3** has been implemented to minimise the following potential decision errors: 1. Sampling errors may occur when the sampling program does not adequately detect the variability of a contaminant from point to point across the site. 2. Limitations in ability to acquire useful and representative information from the data collected. 3. Measurement errors can occur during sample collection, handling, preparation, analysis and data reduction.
Step 7: Develop the plan for obtaining data.	The work plan was designed to meet the project objectives in **Section 2.1** and the DQOs outlined above. The work plan will be optimised based on the ground conditions encountered during the field program.

10.2 Data Quality Indicators

Table 10-2 below provides the following Data Quality Indicators (DQIs) based on the DQOs.

Table 10-2 Data Quality Indicators

Field Considerations	Laboratory Considerations	Data Acceptance Criteria
Precision		
Sampling Analysis and Quality Plan and SLR's Standard Operating Procedures (SOPs) complied with	Analysis of: • Blind duplicates (intra-laboratory duplicates) • Split duplicates (inter-laboratory duplicates) • Laboratory duplicates	Field duplicates (both blind and split collected 1 per 20 samples. Relative Percentage Difference (RPD) calculations: • 30% RPD, with RPDs>30% reviewed in relation to sample heterogeneity and the LOR (<5*LOR) • Laboratory duplicates and RPDs as per the laboratory procedures
Accuracy		

Field Considerations	Laboratory Considerations	Data Acceptance Criteria
Appropriate work instructions have been developed for the works and that these are complied with to avoid bias introduced: • By chemicals during handling or transport • From contaminated equipment • From contaminated reagent • During laboratory analysis • During laboratory preparation and analysis (may be increased or reduced) • Precision of preparation of analytical method • During collection/transport (may be increased or reduced	Analysis of: • Rinsate blanks • Field blanks • Reagent blanks • Method blanks • Matrix spikes • Surrogate spikes • Reference material • Laboratory control samples • Laboratory prepared spikes	• Rinsate blanks - CoPC <LOR • Field blanks – CoPC <LOR • Method blanks – CoPC <LOR • Matrix spikes – 70% - 130% • Surrogate spikes – 50% - 150% • Laboratory control samples - 70% - 130%
Representativeness		
Appropriate media sampled in accordance with this scope of works, including: • Samples must be collected to reflect the characteristics of each medium. • Sample analysis must reflect properties of field samples. • Homogeneity of the samples. • Appropriate collection handling, storage and preservation. • Detection of laboratory artefacts (i.e. contamination blanks)	Samples analysed according to this scope of works	All samples
Comparability		
• SOP implemented during sampling • Experienced sampler • Climatic conditions (temperature, rainfall, wind) recorded to quantify the influence (if any) • Same types of samples collected (size fractions and sample containers) and handled in the same manner	Sample analytical methods: • Laboratory analytical holding times met • Laboratory practical quantification limits (PQLs) (justify/quantify if different) • Same laboratories (justify/quantify if different) • Same units (justify/quantify if different)	All samples
Completeness		
• Critical locations sampled • Work instructions appropriate and complied with • Experienced sampler • Documentation recording and keeping appropriate	• Critical samples analysed in accordance with the scope response • Analytes sampled in accordance with scope of works • Appropriate methods and practical quantitation limit (PQLs) • Sampling documentation recorded and kept in an appropriate manner • Sample holding times are complied with	• Critical locations sampled as per **Section 11** • All field records complete • Sampling undertaken by experienced samplers

10.3 Validation Methodology

Works undertaken as part of this investigation were completed in general accordance with the following guidelines and standards.

- National Environment Protection Council (1999, 2013 revision), National Environment Protection (Assessment of Site Contamination) Measure (NEPM 2013).
- AS 4482.1-2005, Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds.

In addition, SLR's SOPs were followed to ensure integrity was maintained and sampling procedures were completed in accordance with the relevant guidelines and standards. Samples were collected in accordance with the following methodology outlined below in Table 10-3.

Table 10-3 Summary of validation sampling program

Activity	Detail / Comment
Dates of Field Activity	20 September 2021 – arsenic and capping delineation works. 28 September 2021 – Asbestos unexpected find excavation. 25 October 2021 to 29 October 2021 – inspection of capping layers 02 November 2021 – Auditor site inspection
Service Location	An underground services locator was contracted by TPE Civil on 20 September 2021 to locate and clear services in the proposed remediation area to avoid damage.

Remediation Capping	• Arsenic Delineation. Samples were collected as follows:
	  • 5 Test Pits (TP101 to TP105) to 0.7mbgl from the extent of the remediation capping. Soil samples at
	  - Surface (0-0.1m hand tools before excavation), 0.1-0.2m 0.6m-0.7m
	• Capping Delineation. Samples were collected as follows:
	  • 5 Test Pits (TP201 to TP205) to 0.7mbgl from the extent of the remediation capping. Soil samples at
	  - Surface (0-0.1m hand tools before excavation), 0.1-0.2m 0.6m-0.7m
	• Capping Placement and Inspections - 25 October 2021 to 26 October 2021

Offsite Disposal of Excavated Soils	No materials were disposed of offsite as part of the remediation works.
Validation of Imported Soils	No soils were imported to the Site for the capping. Soils from the Property were used in the capping.
Soil Logging	Soils encountered were described and logged in general accordance with the Unified Soil Classification System. Test pit logs are presented in **Appendix C**, which describe lithology encountered and additional soil sampling undertaken to address identified data gaps from the DSI (SLR 2019). Photograph's representative of typical ground conditions are presented in **Appendix B**.
Sample collection	Sample collection was undertaken in general accordance with AS4482.1-2005 and SLR SOPs. Dedicated disposable nitrile gloves and laboratory supplied sample containers were used for soil sample collection. Soil samples were placed in laboratory provided glass and plastic jars and plastic sample bags and appropriately sealed.
Sample preservation	Samples were placed in laboratory supplied jars and were stored as close to 4°C as practicable, in insulated chilled containers while on site and in transit to the laboratory.
Sample submission	Chain of custody (COC) documentation was completed at the time of sample collection and accompanied the samples to the laboratory.

Sample analysis	All samples were submitted to NATA accredited laboratories for selected analysis. Eurofins Environment Testing Australia Pty Ltd (Eurofins) were used as the primary laboratory whilst Australian Laboratory Services Pty Ltd (ALS) was the nominated secondary laboratory. The selected samples were submitted to the aforementioned laboratories for analysis of Arsenic, as summarised below: • 30 primary soil samples as part of the additional soil sampling program (undertaken on 20 September 32021). • Two (2) intra-laboratory duplicate soil samples as part of the validation soil sampling program. • Two (2) inter-laboratory duplicate soil samples as part of the validation soil sampling program. • Two (2) rinsate samples as part of the validation soil sampling program.
Decontamination Procedure	Non dedicated soil sampling equipment were decontaminated using a triple wash physical method. The equipment was scrubbed using a brush in a bucket of tap water containing Alconox liquid detergent, rinsed in a second bucket containing tap water, and subsequently rinsed using laboratory supplied deionised water prior to the collection of each sample.

11 Validation Results and Discussion

The following subsections provide a discussion of the validation results.

11.1 Arsenic Delineation

The geology observed during the advancement and sampling of the test pit locations generally consisted of material described as

- Topsoil to maximum depth of 0.1mbgl: Silty Clay, Dark brown, Low plasticity, Dry. Organic content
- Clay, Low plasticity, Brown, Dry extending to a maximum depth of 0.5mbgl overlaying
- Gravelly Clay, Grey, Low plasticity, Grey, Dry (clay shale)

Except for samples TP101_0.1 (160mg/kg) and TP101_0.2 (480mg/kg), concentrations of arsenic in the delineation samples were less than the adopted remediation criteria (100mg/kg).

As shown on **Figure 3, Appendix A,** based on the field observations and analytical results, the boundary of the capping encompasses TP101.

11.2 Capping Delineation

The geology observed during the advancement and sampling of the test pit locations generally consisted of material described as

- Topsoil to maximum depth of 0.1mbgl: Silty Clay, Dark brown, Low plasticity, Dry. Organic content
- Clay, Low plasticity, Brown, Dry extending to a maximum depth of 0.5mbgl overlaying
- Gravelly Clay, Grey, Low plasticity, Grey, Dry (clay shale)

Except for sample TP203_0.2 (160mg/kg), concentrations of arsenic in the capping delineation samples were less than the adopted remediation criteria (100mg/kg). Calculation of the 95% Upper Confidence Level (95% UCL) for arsenic was 68.51mg/kg (Refer to **Table 3** of **Appendix E).** This validates the capping extent as shown on **Figure 3**, **Appendix A**, as the boundary of the capping layer encompasses the extent of arsenic impacted soils and extends over TP203.

11.3 Unexpected Find - PACM

Following an Unexpected Find of Potential Asbestos Containing Material (PACM) on 23 / 24 September 2021. SLR attended Site on 28 September 2021 to assess the material. SLR delineated the extent of the impacted soil via excavation of four test pits on the edges of the unexpected find and supervised the excavation of potentially asbestos impacted soil. Approximately 130m^3 of material was excavated and transported to the Site (arsenic remediation area) approximately 300m east of the unexpected find, stockpiled and temporarily covered with HDPE within the designated capping perimeter of the arsenic remediation. The Unexpected Find, areas remaining soils were validated with a visual inspection and collection of 5 soil validation samples from the base and walls of the excavation area.

Six (6) soil samples were collected from the stockpiled material and submitted for analysis at a NATA accredited laboratory on Total Recoverable Hydrocarbons (TRH) / Benzene, Toluene, Ethyl-benzene, Xylenes (BTEXN), Polycyclic Aromatic Hydrocarbons (PAHs), Metals 8, Organochlorine and Organophosphate (OPP).

- All results were below the adopted criteria for Health based Investigation criteria (HIL A) in all samples analysed

Two (2) PACM samples were collected from the stockpiled material and submitted for asbestos (absence / presence) analysis, with the results as follows:.

- Positive results of Chrysotile asbestos were detected in both material samples submitted for analysis.

11.4 Permeability Testing

TPE collected two (2) soil samples (Shed 12-2 and Shed 18-1) from material sourced onsite and submitted them for analysis at a NATA accredited laboratory (Trilab) for permeability tests (permeability by falling head) on 17 September 2021.

On 28 September 2021 Trilab reported the permeability of these samples as:

- Shed 12-2: $k_{(20)} = 4.7 \times 10^{-10}$ (m/sec)
- Shed 18-1: $k_{(20)} = 2.0 \times 10^{-10}$ (m/sec)

The permeability test on both materials achieved the permeability of 1 x10-^{8} or lower as specified in the RAP (SLR, 2021) required for the low permeability compacted clay layer in the capping construction.

Permeability laboratory reports are presented in **Appendix G**

11.5 Site Inspection

Site Inspections undertaken on 26 October 2021 during the capping works observed:

- The timber stockpile created from the demolition of the sheep holding shed was spread, crushed and compressed into the surface layer soil of the remediation area by the use of Caterpillar 815f soil compactor, no material was greater than 150 mm, and no more than 20% of the material having dimensions greater than 40 mm. Refer to photographs **19-22** of **Appendix B**.
- Removal of one tree within the designated capping area. The tree was removed from the remediation area and stockpiled within the Property.
- Soil stockpiled from the Unexpected Find - PACM was spread across the compacted timber and within the remediation area
- Additional material sourced from site won clay rich soils (Refer **Photograph 28** of **Appendix B**) was deposited to build up the Earth Cover Layer to obtain the required height
- A marker layer was installed across the entire Earth Cover Layer, prior to the introduction of low permeability clay layer. Refer to photographs **25** to **27** of **Appendix B**.
- Low permeability soil forming the compacted clay layer was placed over the marker layer, this soil was compacted in 200mm increments. Refer to photographs **31** and **32** of **Appendix B**
- A topsoil layer was placed over the low permeability clay, to an approximate thickness of 300mm. Refer to **Photograph 34** of **Appendix B**.

SLR considers that the works have been undertaken in accordance with the RAP (SLR, 2021a), with the capping to be maintained and monitored in accordance with a Long-Term Environmental Management Plan (LTEMP).

12 Quality Assurance and Quality Control Evaluation

Established quality assurance (QA) / quality control (QC) procedures to assess data quality were maintained throughout the project. The QA / QC program undertaken as part of the assessment by SLR is presented in **Table 12-1**.

Table 12-1 Summary of QA/QC

QA/QC Aspect	Implemented (Y/N) and Reference
Use of appropriately qualified and trained staff	Y – the validation was undertaken by suitably qualified and experienced personnel
Decontamination of non-disposable sampling equipment before and between sampling events	Y - Non dedicated soil sampling equipment were decontaminated using a triple wash physical method
Samples were identified using a unique sampling location identifier and sample depth intervals (e.g. AEC01_VB01)	Y - refer to results are presented in Table 1 and Table 2 of **Appendix E**
Preservation of samples with ice during transport from the field to the laboratory	Y – refer to sample receipt notification in **Appendix F**
Transportation of samples with accompanying COC documentation	Y – refer to sample receipt notification in **Appendix F**
Compliance with sample holding times	Y – refer to sample receipt notification in **Appendix F**
Review of results of blind (inter-laboratory) duplicate sample	Y – refer to results presented in Table 1 of **Appendix E,** and discussed in Section 11.1.1 below.
Review of results of split (intra-laboratory) duplicate sample	Y – refer to results presented in Table 1 of **Appendix E,** and discussed in Section 11.1.1 below.

QA/QC Aspect	Implemented (Y/N) and Reference
Collection of rinsate and review of analytical results	Y – refer to results presented in Table 2 of **Appendix E, and discussed in Section 12.1.2 below.**
Review of internal analysis of laboratory duplicates, spikes and blanks; and	Y – refer to discussion in Table 11-2 with laboratory reports presented in of **Appendix F**
Comparison of field and analytical data.	Review of the survey information to be updated.

12.1 QA/QC Program

The QC program employed during the investigation was in accordance with the general requirements set out in the Australian Standard (AS) 4482.1-2005 *Guide to the investigation and sampling of soils with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*. QC samples provide information that discounts or potentially identifies errors due to possible sources of cross contamination, and inconsistencies in sampling and analytical techniques used.

The QC program completed included the collection and analysis of duplicate samples. The duplicate samples collected included blind duplicate and split duplicate samples, as described below:

- **Split duplicate samples** are also known as “intra-laboratory duplicate” samples split in the field, with one sample being sent to a secondary laboratory for check analysis. Intra-laboratory field duplicates were collected on an average frequency of one sample per twenty samples collected (5%), with a minimum of one per batch (exclude samples collected for asbestos analysis).
- **Blind duplicate samples** are also known as “inter-laboratory duplicate” samples and are coded duplicate samples submitted to the primary laboratory, for analysis as individual samples without any indication to the laboratory that they have been duplicated. Inter-laboratory field duplicates were collected on an average frequency of one sample per twenty samples collected (5%) with a minimum of one per batch (exclude samples collected for asbestos analysis).

12.1.1 Relative Percentage Difference Results

A quantitative measure of the accuracy of the check analyses results obtained was made using calculated relative percentage difference (RPD) values of the following:

- Dup 101 (inter-Lab) and 102 (intra_Lab)
- Dup 201 (inter-Lab) and 202(intra_Lab)
  - Dup 101 and TP102_0.1
  - Dup 102 and TP102_0.1
  - Dup 201 and TP204_0.2
  - Dup 202 and TP204_0.2

The results of the QC program and calculated RPD values are presented in **Table 1** of **Appendix E**. Calculated RPDs were generally within the acceptable range of 0 and 30%, with the exception of

- Dup 202 and TP204_0.2
- Dup 101 and TP102_0.1

- Dup 102 and TP102_0.1
- Dup 202 and Dup 201

This is attributed to the difference in the detection limits between the primary and secondary laboratories. A comparison between RPD values across primary, inter-lab, and intra-lab samples is presented in **Table 4, Appendix E**. The comparison demonstrates that comparable values were obtained samples (e.g., between inter-laboratory and intra-laboratory, or primary and inter/intra-laboratory).

Overall, the results of the QC program demonstrate that the data is suitable to support the findings of the assessment.

12.2 Laboratory Quality Control

The laboratory data quality was reviewed and is summarised in Table 11-2.

Table 12-2 Summary of Laboratory QA/QC

QA/QC Aspect	Implemented (Y/N) and Reference
Method Blank	Y - Analytical Results < Estimated Quantification Limit (EQL)
Surrogate % Recovery	Y - 50% - 150%
Lab Control Sample % Recovery	Y - 70% - 130%
Spike % Recovery	Y - (70%-130% inorganics) and (60%-140% organics)
RPD	• No limit when Analytical Results < 10 times EQL • 50% when Analytical Results = 10-20 times EQL • 30% when Analytical Results > 20 times EQL
Internal Duplicates	Y 0 – 30%
Matrix Spikes	Y 70% - 130%

The results of the laboratory QC program are considered to provide confidence in the analytical program, with the analytical data set considered to be valid and acceptable to base conclusions on the contamination status of the site.

13 Conclusions

SLR Consulting Australia Pty Ltd (SLR) was engaged by Proten Pty Ltd to prepare a Site Remediation and Validation Report following the remediation of arsenic impacted soils at the Site within the Property located at Rushes Creek Rd, Rushes Creek NSW (the "site"), (**Figure 1** and **2, Appendix A**). The need for remediation was based on preliminary and detailed site investigations which identified arsenic impacted shallow soils around a former sheep dip at the Site.

The remediation works were undertaken between 20 September 2021 and 29 October 2021 by TPE Civil (the Principal Contractor). The works included the following general steps:

1. Excavation of test pits to confirm the delineation of the arsenic impacted soils and capping extent.
2. Establishment of environmental controls around the remedial area.

3. Removal of vegetation to the extent practical without disturbing the impacted soil

4. Excavation of Virgin Excavated Natural Material (VENM) in the form of low permeability clay sourced from within the Property for use in the capping layers

5. The utilisation of stockpiled material (timber from the former sheep shed and ACM impacted soils) placed within the remediation area as the earth cover layer, as per **Section 9.6.6**

6. Placement and compaction of the VENM to form a cap over the arsenic impacted soils (as well as the timber and PACM impacted soils) in accordance the RAP (SLR, 2021a) as detailed in **Section 9.6.6**

7. Grassing of the capping and installation of a fence around the cap.

8. Survey of the capping and fencing.

9. Inspections of the capping works by an Environmental Consultant and the Site Auditor.

SLR considers that the arsenic impacted soils have been remediated and validated in accordance with the RAP (SLR, 2021a). SLR concludes that the site is suitable from a contamination perspective for use as a Poultry Production Farm, subject to the maintenance and monitoring of the capping as per the Long Term Environmental Management Plan (LTEMP) for the site.

The conclusions presented above should be read in conjunction with the report in its entirety and the limitations provided in **Section 15**.

14 References

AS 4482.1-2005 (2005) Guide to Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile Compounds.

AS 4482.2-1999 (1999) Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances.

ASTM (2014) Standard Guide for Developing Conceptual Site Models for Contaminated Sites. ASTM E1689-95. American Society for Testing and Materials ASTM International.

CRC CARE (2017) Risk-based management and remediation guidance for benzo(a)pyrene. CRC CARE Technical Report no. 39. CRC for Contamination Assessment and Remediation of the Environment. Newcastle. Australia.

CSIRO Land & Water (2011) *Atlas of Australian Acid Sulfate Soils*. Commonwealth Scientific and Industrial Research Organisation Australia. Available at https://doi.org/10.4225/08/512E79A0BC589. Last viewed on 29 March 2018.

NEPC (1999) National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended in 2013. National Environment Protection Council. Available at https://www.legislation.gov.au/Details/F2013C00288 . Last viewed on 26 July 2018. Referred to as ASC NEPM.

National Environment Protection Council (NEPC) (1999), 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'. (NEPM 2013a)

National Environment Protection Council (NEPC) (1999), 'Schedule B(2) Guideline on Site Characterization, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'. (NEPM 2013b)

National Environment Protection Council (NEPC) (1999), 'Schedule B(5a) Ecological Risk Assessment, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013'. (NEPM 2013e)

NSW EPA (2020) Contaminated Land Guidelines: Consultants Reporting on Contaminated Land.

NSW EPA (2014) Waste Classification Guidelines.

Standards Australia (2005) *Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and semi-volatile compounds*. AS 4482.1-2005. Standards Australia, Homebush NSW.

SLR (2018) Preliminary Site Investigation, Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek dated July 2018 (SLR Ref No: 610.16117.00400-R01-v0.2)

SLR (2019) Detailed Site Investigation, Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek dated February 2019 (SLR Ref No: 610.18456-R01-v1.2)

SLR (2021a) Remedial Action Plan, Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek dated April 2021 (SLR Ref No: 610.30237.00000-R01-v2.1)

SLR (2021b) Incident Report: Asbestos Unexpected Find, Proposed Poultry Production Farm Rushes Creek Road, Rushes Creek dated October 2021 (SLR Ref No: 610.30237.00000-R03-v1.0)

15 Limitations

The following information will assist in understanding the uncertainties relating to the interpretation of the data obtained during this investigation and the recommendations presented in the report and help with assessment and interpretation of the report.

SLR assumes no responsibility for the quality or accuracy of data obtained from external sources, or for occurrences outside the scope of works defined in this report.

All work conducted, and reports produced by SLR are prepared for a particular Client's objective including use by a Site Auditor and are based on a specific scope, conditions and limitations, as agreed upon between SLR and the Client. Information and/or report(s) prepared by SLR may therefore not be suitable for any use other than the intended objective.

Before passing on to a third party any information and/or report(s) prepared by SLR, the Client is to inform fully the third party of the objective and scope, and all limitations and conditions, including any other relevant information which applies to the information and/or report(s) prepared by SLR.

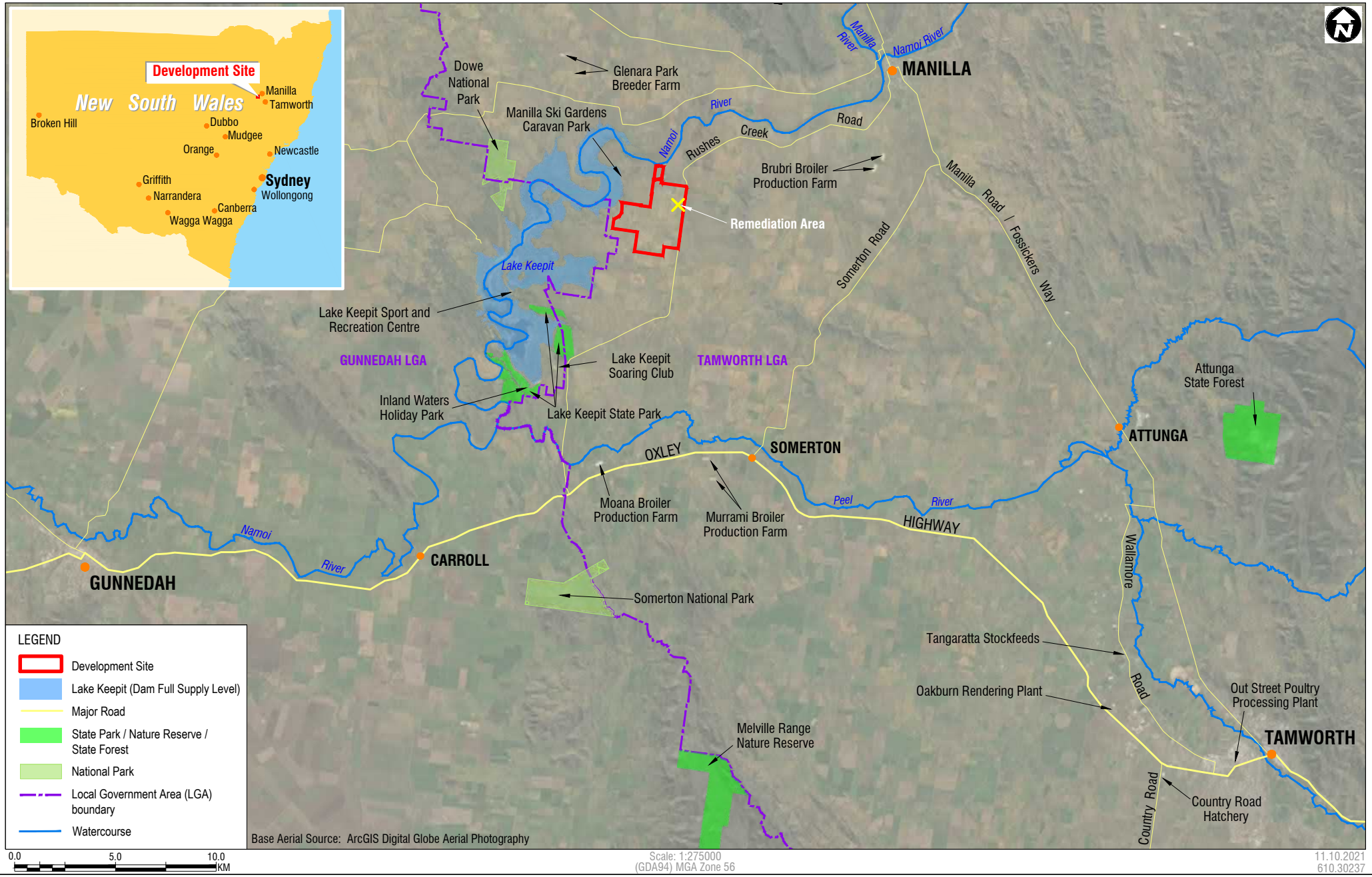
It is the responsibility of third parties to investigate fully to their satisfaction if any information and/or report(s) prepared by SLR, is suitable for a specific objective.

Services were conducted in a conscientious and professional manner. The nature of the task, however, and the likely disproportion between any damage or loss which might arise from the work and any report prepared as a result and the cost of our services is such that SLR cannot guarantee that all issues of concern/contamination have been identified.

The report(s) and/or information produced by SLR should not be reproduced and/or presented/reviewed except in full.

Appendix A

Figures



\\au.slr.local\corporate\Projects-SLR\610-SnySYD\610-SYD\610.30237.00000 ProTen Implementation of RAP Rush Creek\06 SLR Data\01 CADGIS\Output\PDF\SLR610302237_F1_SiteLoc_01.dwg

Scale: 1:275000
(GDA94) MGA Zone 56

11.10.2021
610.30237

SLR
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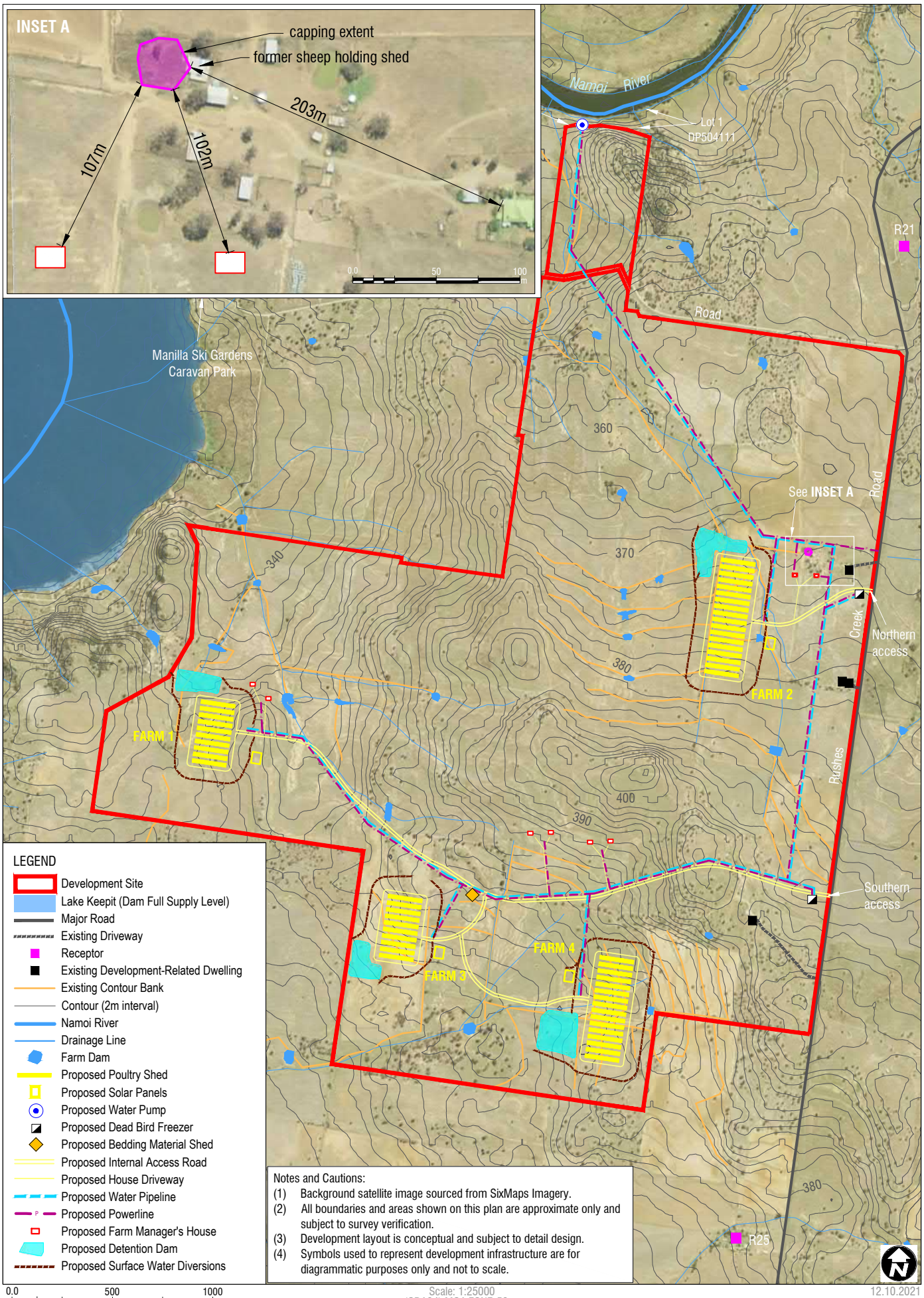
Site Locality

FIGURE 1



Remediation Area

FIGURE 2

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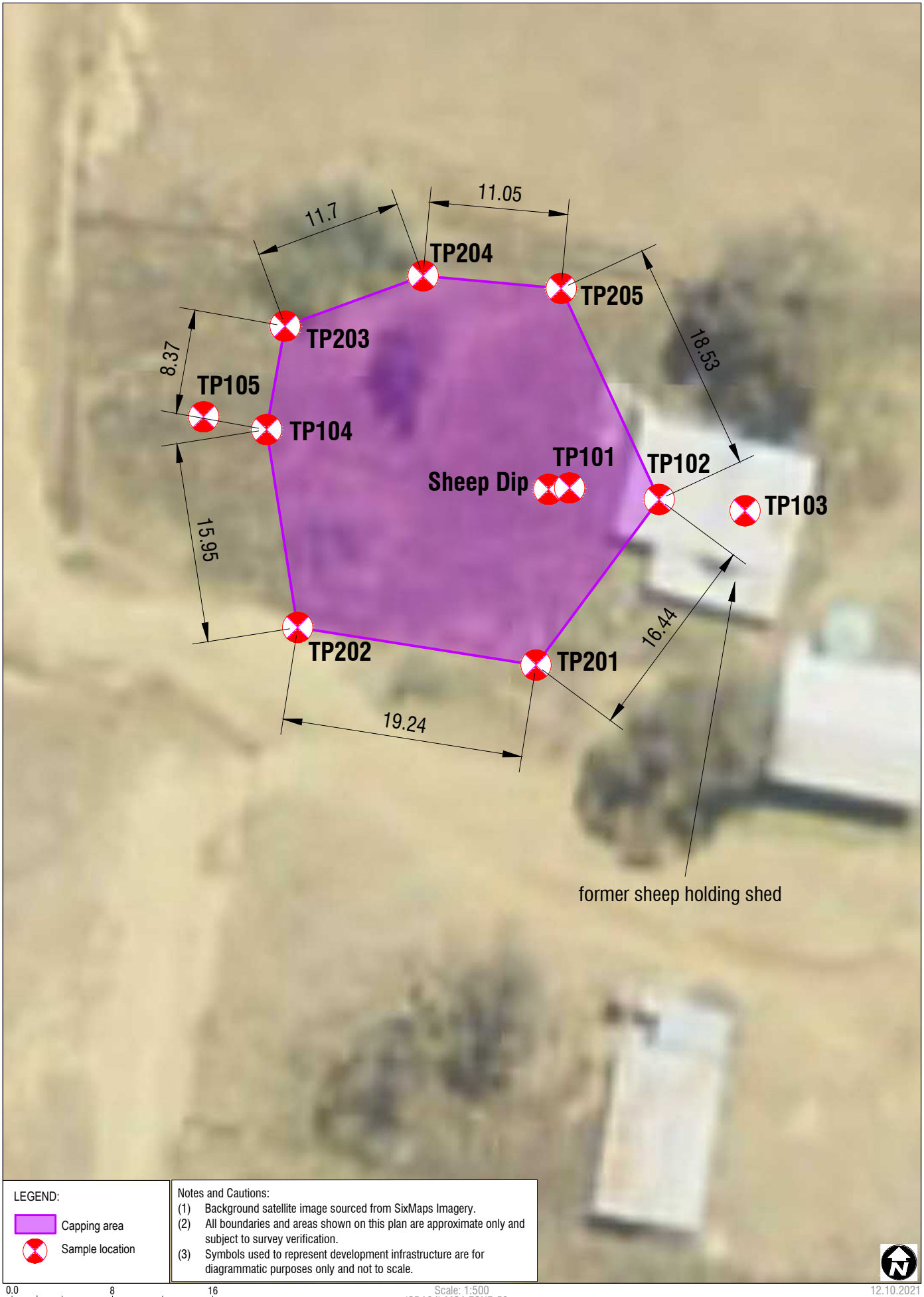

LEGEND:

Capping area

Sample location

Notes and Cautions:

(1) Background satellite image sourced from SixMaps Imagery.

(2) All boundaries and areas shown on this plan are approximate only and subject to survey verification.

(3) Symbols used to represent development infrastructure are for diagrammatic purposes only and not to scale.

0.0 8 16 m

Scale: 1:500
(GDA94) MGA ZONE 56

12.10.2021
610.30237

H:\Projects-SLR\610-SrvSYD\610-SYD\610.30237.00000 ProTen Implementation of RAP Rush Creek\06 SLR Data\01 CADGIS\CAD\SLR610302237_F3_CappingExtent_01.dwg

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Capping Extent

FIGURE 3

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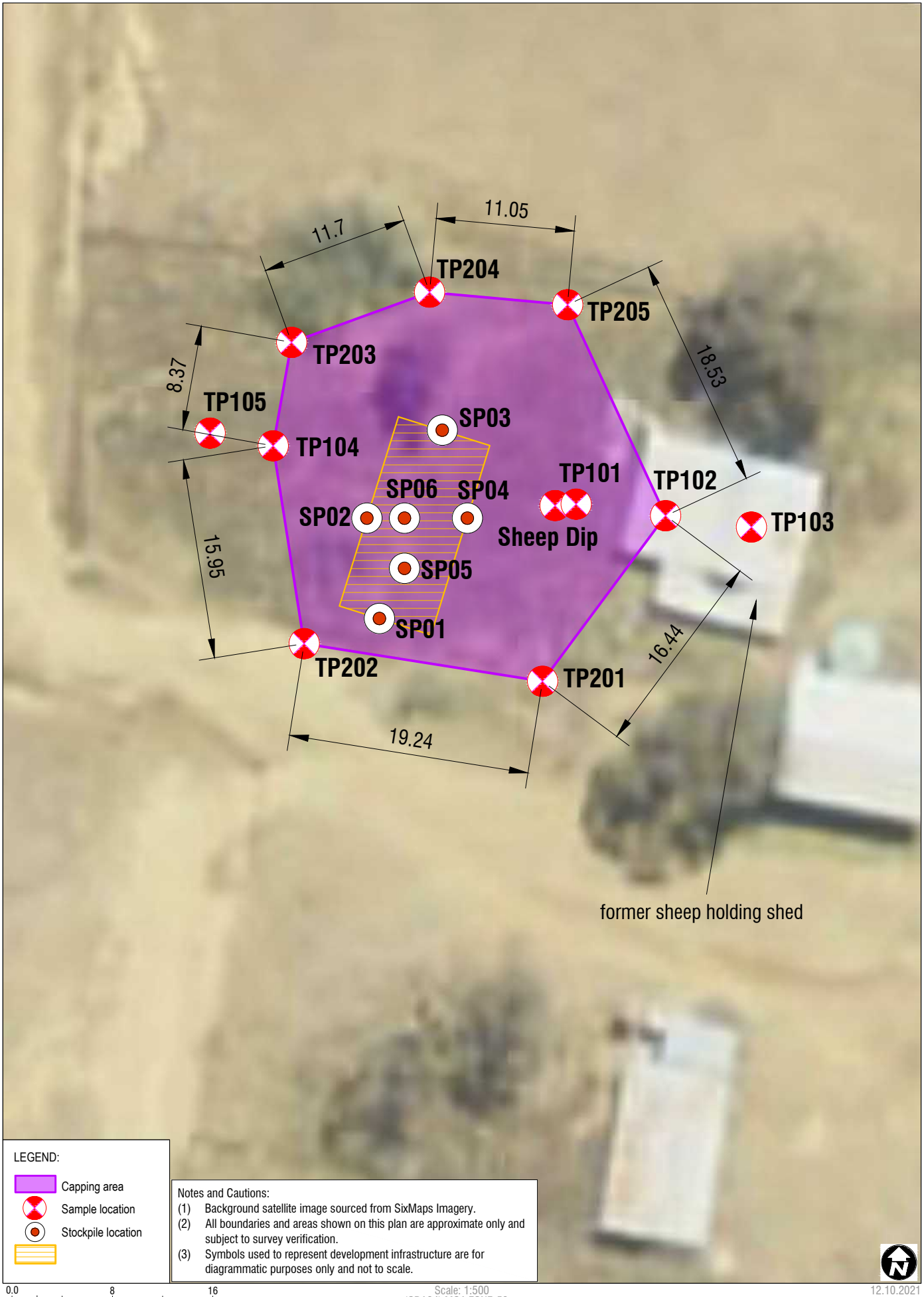
Unexpected Find

FIGURE 4



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Stockpile Location

FIGURE 5

Appendix B

Site Photographs

Photograph 1 – Remnants of former sheep dip, facing north towards TP205

Date: 21/09/2021

Photograph 3 – Capping area prior to remediation facing south from TP205, showing stockpiled timber from former sheep shed

Date: 21/09/2021

Photograph 5 Capping area prior to remediation facing west from TP103

Date: 21/09/2021

Photograph 2 – Area of former sheep holding shed, facing east from sheep dip

Date: 21/09/2021

Photograph 4 – Timber stockpile from sheep holding shed demolition, facing west from TP102

Date: 21/09/2021

Photograph 6 – The Site facing east from TP105

Date: 21/09/2021

Notes:

Site:	RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346
Project:	REMEDIATION AND SITE VALIDATION REPORT
Date:	03RD NOVEMBER 2021
Drawing:	**PHOTOGRAPHIC LOG** — **Appendix B**

Photograph 7 – The Site facing south east from TP204

Date: 21/09/2021

Photograph 9 – The Site from TP202 facing north towards TP203

Date: 21/09/2021

Photograph 11 – Stockpiled material from unexpected finds, facing north

Date: 28/09/2021

Photograph 8 –The Site facing east from TP202

Date: 21/09/2021

Photograph 10 – Stockpiled material from unexpected finds, facing east

Date: 28/09/2021

Photograph 12 – Covered stockpile of unexpected find material, facing north from between TP201 and TP202

Date: 28/09/2021

Notes:

Site:	RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346
Project:	REMEDIATION AND SITE VALIDATION REPORT
Date:	03RD NOVEMBER 2021
Drawing:	**PHOTOGRAPHIC LOG** — **Appendix B**

Photograph 13 – TP301 facing east, pre-excavation

Date: 28/09/2021

Photograph 15 – Adjacent TP301 facing east, post excavation

Date: 28/09/2021

Photograph 17 – Example of soil profile

Date: 28/09/2021

Photograph – **14** TP303 Facing west, pre-excavation

Date: 28/09/2021

Photograph 16 – Adjacent TP303 facing west, post excavation

Date: 28/09/2021

Photograph 18 – Example of anthropogenic material including ACM

Date: 28/09/2021

Notes:

SLR

Site: RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346

Project: REMEDIATION AND SITE VALIDATION REPORT

Date: 03RD NOVEMBER 2021

Drawing: **PHOTOGRAPHIC LOG**

Appendix B

Photograph 19 – Timber Stockpile from demolition of sheep holding shed, facing north from TP201

Date: 26/10/2021

Photograph 21 – Timber stockpile spread and compacted into surface within the remediation area, from adjacent TP 103

Date: 26/10/2021

Photograph 23 – Unexpected finds stockpile spread within the remediation area to form part of the Earth Cover Layer of capping, from TP201

Date: 26/10/2021

Photograph 20 – Timber stockpile spread and compacted into surface within the remediation area, facing north from TP 201

Date: 26/10/2021

Photograph 22 – Timber stockpile spread and compacted into surface within the remediation area, facing north from adjacent TP202

Date: 26/10/2021

Photograph 24 – Unexpected finds stockpile spread within the remediation area to form part of the Earth Cover Layer of capping, from adjacent TP103

Date: 26/10/2021

Notes:

SLR

Site: RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346

Project: REMEDIATION AND SITE VALIDATION REPORT

Date: 03RD NOVEMBER 2021

Drawing: **PHOTOGRAPHIC LOG**

Appendix B

Photograph 25 – Marker layer over Earth Cover Layer, facing north from adjacent TP201

Date: 26/10/2021

Photograph 27 – Marker layer over Earth Cover Layer, facing east from adjacent TP204

Date: 26/10/2021

Photograph 29 – Low permeability clay layer, facing north adjacent TP202

Date: 26/10/2021

Photograph 26 – Marker layer over Earth Cover Layer, facing west from adjacent TP102

Date: 26/10/2021

Photograph 28 – Source location of Low permeability clay

Date: 26/10/2021

Photograph 30 – Low permeability clay layer, facing west adjacent TP202

Date: 26/10/2021

Notes:

Notes:

Site:	RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346
Project:	REMEDIATION AND SITE VALIDATION REPORT
Date:	03RD NOVEMBER 2021
Drawing:	**PHOTOGRAPHIC LOG** — **Appendix B**

Photograph 31 – Low permeability clay layer, facing east adjacent TP205

Date: 26/10/2021

Photograph 33 – Topsoil layer, facing north

Date: 26/10/2021

Photograph 35 – Topsoil layer, facing south

Date: 26/10/2021

Photograph 32 - Low permeability clay layer, facing east adjacent TP205

Date: 26/10/2021

Photograph 34 – Topsoil layer, facing west

Date: 26/10/2021

Photograph 36 – Topsoil layer, facing east

Date: 26/10/2021

Notes:

SLR

Site: RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346

Project: REMEDIATION AND SITE VALIDATION REPORT

Date: 03RD NOVEMBER 2021

Drawing: **PHOTOGRAPHIC LOG**

Appendix B

Photograph 37 – Capping area showing fencing and revegetation

Date: 07/12/2021

Photograph 38 - Capping area showing fencing with asbestos signage and revegetation

Date: 07/12/2021

Notes:

SLR

Site: RUSHES CREEK ROAD, RUSHES CREEK, NSW 2346

Project: REMEDIATION AND SITE VALIDATION REPORT

Date: 08 DECEMBER 2021

Drawing: **PHOTOGRAPHIC LOG**

Appendix B

Appendix C

Borehole Logs

ENVIRONMENTAL TESTPIT TP101

PROJECT NUMBER 610.30237.00000	**Excavation DATE** 21/09/2021	
PROJECT NAME Rushes Creek	**COMPANY** TPE Civil	
CLIENT ProTen Pty Ltd	**DRILLER** RH	
ADDRESS Rushes Creek Rd, Rushes Creek	**DRILLING METHOD** Excavator	**LOGGED BY** JR
	TOTAL DEPTH 0.7	**CHECKED BY** HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP101_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP101_0.2		Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP101_0.7			
			Termination Depth at: 0.7m	

ENVIRONMENTAL TESTPIT TP102

PROJECT NUMBER 610.30237.00000
PROJECT NAME Rushes Creek
CLIENT ProTen Pty Ltd
ADDRESS Rushes Creek Rd, Rushes Creek

Excavation DATE 21/09/2021
COMPANY TPE Civil
DRILLER RH
DRILLING METHOD Excavator
TOTAL DEPTH 0.7

LOGGED BY JR
CHECKED BY HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP102_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	Dup101 & DUP102
	TP102_0.2		Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP102_0.7			
			Termination Depth at: 0.7m	

ENVIRONMENTAL TESTPIT TP103

PROJECT NUMBER 610.30237.00000
PROJECT NAME Rushes Creek
CLIENT ProTen Pty Ltd
ADDRESS Rushes Creek Rd, Rushes Creek

Excavation DATE 21/09/2021
COMPANY TPE Civil
DRILLER RH
DRILLING METHOD Excavator
TOTAL DEPTH 0.7

LOGGED BY JR
CHECKED BY HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP103_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP103_0.2		Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP103_0.7			
			Termination Depth at: 0.7m	

ENVIRONMENTAL TESTPIT TP104

PROJECT NUMBER 610.30237.00000
PROJECT NAME Rushes Creek
CLIENT ProTen Pty Ltd
ADDRESS Rushes Creek Rd, Rushes Creek

Excavation DATE 21/09/2021
COMPANY TPE Civil
DRILLER RH
DRILLING METHOD Excavator
TOTAL DEPTH 0.7

LOGGED BY JR
CHECKED BY HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP104_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP104_0.2		Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP104_0.7			
			Termination Depth at: 0.7m	

ENVIRONMENTAL TESTPIT TP105

PROJECT NUMBER 610.30237.00000	**Excavation DATE** 21/09/2021	
PROJECT NAME Rushes Creek	**COMPANY** TPE Civil	
CLIENT ProTen Pty Ltd	**DRILLER** RH	
ADDRESS Rushes Creek Rd, Rushes Creek	**DRILLING METHOD** Excavator	**LOGGED BY** JR
	TOTAL DEPTH 0.7	**CHECKED BY** HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP105_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP105_0.2		Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP105_0.7			
			Termination Depth at: 0.7m	

ENVIRONMENTAL TESTPIT TP201

PROJECT NUMBER 610.30237.00000	**Excavation DATE** 21/09/2021		
PROJECT NAME Rushes Creek	**COMPANY** TPE Civil		
CLIENT ProTen Pty Ltd	**DRILLER** RH		
ADDRESS Rushes Creek Rd, Rushes Creek	**DRILLING METHOD** Excavator	**LOGGED BY** JR	
	TOTAL DEPTH 0.7	**CHECKED BY** HS	

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP202_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP202_0.2		Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP202_0.7			
			Termination Depth at: 0.7m	

ENVIRONMENTAL TESTPIT TP202

PROJECT NUMBER 610.30237.00000
PROJECT NAME Rushes Creek
CLIENT ProTen Pty Ltd
ADDRESS Rushes Creek Rd, Rushes Creek

Excavation DATE 21/09/2021
COMPANY TPE Civil
DRILLER RH
DRILLING METHOD Excavator
TOTAL DEPTH 0.7

LOGGED BY JR
CHECKED BY HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP202_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP202_0.2		Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP202_0.7			
			Termination Depth at: 0.7m	

produced by ESlog.ESdat.net on 27 Sep 2021

ENVIRONMENTAL TESTPIT TP203

PROJECT NUMBER 610.30237.00000
PROJECT NAME Rushes Creek
CLIENT ProTen Pty Ltd
ADDRESS Rushes Creek Rd, Rushes Creek

Excavation DATE 21/09/2021
COMPANY TPE Civil
DRILLER RH
DRILLING METHOD Excavator
TOTAL DEPTH 0.7

LOGGED BY JR
CHECKED BY HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP203_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP203_0.2		Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP203_0.7			
			Termination Depth at: 0.7m	

produced by ESlog.ESdat.net on 27 Sep 2021

ENVIRONMENTAL TESTPIT TP204

PROJECT NUMBER 610.30237.00000
PROJECT NAME Rushes Creek
CLIENT ProTen Pty Ltd
ADDRESS Rushes Creek Rd, Rushes Creek

Excavation DATE 21/09/2021
COMPANY TPE Civil
DRILLER RH
DRILLING METHOD Excavator
TOTAL DEPTH 0.7

LOGGED BY JR
CHECKED BY HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP204_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP204_0.2		Silty Clay, Low plasticity, Brown, Dry	Dup201 & 202
0.5	TP204_0.7		Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
			Termination Depth at: 0.7m	

produced by ESlog.ESdat.net on 27 Sep 2021

ENVIRONMENTAL TESTPIT TP205

PROJECT NUMBER 610.30237.00000
PROJECT NAME Rushes Creek
CLIENT ProTen Pty Ltd
ADDRESS Rushes Creek Rd, Rushes Creek

Excavation DATE 21/09/2021
COMPANY TPE Civil
DRILLER RH
DRILLING METHOD Excavator
TOTAL DEPTH 0.7

LOGGED BY JR
CHECKED BY HS

COMMENTS

Depth (m)	Samples	Graphic Log	Material Description	Additional Observations
	TP205_0.1		TOPSOIL: Silty Clay, Dark brown, Low plasticity, Dry. Organic content	
	TP205_0.2		Silty Clay, Low plasticity, Brown, Dry	
0.5			Gravelly Clay, Low plasticity, Grey, Dry (clay shale)	
	TP205_0.7			
			Termination Depth at: 0.7m	

Test pit and Stockpile GPS data

Location ID	Northing	Easting	elevation
Arsenic and Capping Delineation			
Sheep Dip	6588558.235	270205.783	372.086
TP101	6588558.127	270206.672	372.021
TP102	6588557.207	270213.805	371.988
TP103	6588556.307	270220.643	372.049
TP104	6588562.775	270182.525	371.846
TP105	6588563.788	270177.499	371.678
TP201	6588544.828	270204.244	372.411
TP202	6588547.080	270185.381	371.89
TP203	6588571.220	270184.844	371.871
TP204	6588575.917	270195.234	371.939
TP205	6588574.108	270206.794	371.989
Location ID	Northing	Easting	elevation
Unexpected finds Test Pits and Stockpile			
TP301	6588600.060	269791.590	367.346
TP302	6588606.353	269806.245	366.916
TP303	6588599.866	269814.567	368.547
TP304	6588593.918	269807.918	369.235
SP01	6588549.365	270191.210	372.272
SP02	6588557.493	270190.453	372.267
SP03	6588564.268	270196.142	371.878
SP04	6588557.311	270198.287	371.997
SP05	6588553.137	270193.635	373.147
SP06	6588557.947	270193.813	373.248

Appendix D

Analytical Results Summary

Table 1
Analtycal Summary
Arsenic Delineation

		Arsenic	
		mg/kg	µg/L
EQL		2	1
NEPM 2013 Table 1A(1) HILs Res A Soil		100	
Field ID	Date		
TP101_0.1	21-09-2021	160	-
TP101_0.2	21-09-2021	480	-
TP101_0.7	21-09-2021	40	-
TP102_0.1	21-09-2021	75	-
TP102_0.2	21-09-2021	17	-
TP102_0.7	21-09-2021	7.8	-
TP103_0.1	21-09-2021	41	-
TP103_0.2	21-09-2021	10	-
TP103_0.7	21-09-2021	5.8	-
TP104_0.1	21-09-2021	53	-
TP104_0.2	21-09-2021	10	-
TP104_0.7	21-09-2021	6.1	-
TP105_0.1	21-09-2021	32	-
TP105_0.2	21-09-2021	14	-
TP105_0.7	21-09-2021	5.9	-
DUP101 of TP102_0.1	21-09-2021	57	-
DUP102 of TP102_0.1	21-09-2021	77	-
RB101	21-09-2021	-	<1

Table 2
Analtycal Summary
Capping Delineation

		Arsenic	
		mg/kg	µg/L
EQL		2	1
NEPM 2013 Table 1A(1) HILs Res A Soil		100	
Field ID	Date		
TP201_0.1	21-09-2021	17	-
TP201_0.2	21-09-2021	11	-
TP201_0.7	21-09-2021	7.2	-
TP202_0.1	21-09-2021	14	-
TP202_0.2	21-09-2021	8.6	-
TP202_0.7	21-09-2021	7.8	-
TP203_0.1	21-09-2021	37	-
TP203_0.2	21-09-2021	160	-
TP203_0.7	21-09-2021	4.7	-
TP204_0.1	21-09-2021	8.4	-
TP204_0.2	21-09-2021	9.3	-
TP204_0.7	21-09-2021	6.9	-
TP205_0.1	21-09-2021	11	-
TP205_0.2	21-09-2021	17	-
TP205_0.7	21-09-2021	7.5	-
DUP201 of TP204_0.2	21-09-2021	7.5	-
DUP202 of TP204_0.2	21-09-2021	5	-
RB102	21-09-2021	-	<1

Table 3
95% Upper Confidence Level Statistics

UCL Statistics for Uncensored Full Data Sets			
User Selected Options			
Date/Time of Computation	ProUCL 5.107-Oct-2021 10:38:44 AM		
From File	WorkSheet.xls		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		
Ar			
General Statistics			
Total Number of Observations	18	Number of Distinct Observations	13
		Number of Missing Observations	0
Minimum	8.4	Mean	30.29
Maximum	160	Median	15.5
SD	37.2	Std. Error of Mean	8.767
Coefficient of Variation	1.228	Skewness	2.839
Normal GOF Test			
Shapiro Wilk Test Statistic	0.618	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.897	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.306	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.202	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	45.55	95% Adjusted-CLT UCL (Chen-1995)	50.98
		95% Modified-t UCL (Johnson-1978)	46.52
Gamma GOF Test			
A-D Test Statistic	1.326	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.76	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.287	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.208	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Table 3
95% Upper Confidence Level Statistics

Gamma Statistics			
k hat (MLE)	1.333	k star (bias corrected MLE)	1.148
Theta hat (MLE)	22.72	Theta star (bias corrected MLE)	26.39
nu hat (MLE)	48	nu star (bias corrected)	41.33
MLE Mean (bias corrected)	30.29	MLE Sd (bias corrected)	28.27
		Approximate Chi Square Value (0.05)	27.6
Adjusted Level of Significance	0.0357	Adjusted Chi Square Value	26.52
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	45.37	95% Adjusted Gamma UCL (use when n<50)	47.21
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.871	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.897	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.241	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.202	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	2.128	Mean of logged Data	2.991
Maximum of Logged Data	5.075	SD of logged Data	0.847
Assuming Lognormal Distribution			
95% H-UCL	46.89	90% Chebyshev (MVUE) UCL	45.83
95% Chebyshev (MVUE) UCL	54.01	97.5% Chebyshev (MVUE) UCL	65.37
99% Chebyshev (MVUE) UCL	87.67		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	44.72	95% Jackknife UCL	45.55
95% Standard Bootstrap UCL	44.26	95% Bootstrap-t UCL	64.91
95% Hall's Bootstrap UCL	101.4	95% Percentile Bootstrap UCL	46.23
95% BCA Bootstrap UCL	51.38		
90% Chebyshev(Mean, Sd) UCL	56.6	95% Chebyshev(Mean, Sd) UCL	68.51
97.5% Chebyshev(Mean, Sd) UCL	85.05	99% Chebyshev(Mean, Sd) UCL	117.5
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	68.51		
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
Recommendations are based upon data size, data distribution, and skewness.			
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).			
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.			

Table 4
Analytical Summary
Unexpected Find

		Arsenic	Cadmium	Chromium (III+VI)	Lead	Mercury	Nickel	Benzene	Ethylbenzene	Toluene	Xylene Total	Naphthalene	C6-C9	TRH C10-C36 (Total)	PAHs (Sum of total)	Benzo(a) pyrene	Chlorpyrifos	Scheduled chemicals	Moderately harmful pesticides	Asbestos In Building Material	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Pos/Neg	%w/w	%w/w
EQL		2	0.4	5	5	0.1	5	0.1	0.1	0.1	0.3	0.5	20	50	0.5	0.5	0.2	(Total)	(Total)			
NSW 2014 General Solid Waste CT1 (No Leaching)		100	20	100[A]	100	4	40	10	600	288	1,000		650	10,000	200	0.8	4	<50	250			
NSW 2014 Restricted Solid Waste CT2 (No Leaching)		400	80	400[A]	400	16	160	40	2,400	1,152	4,000		2,600	40,000	800	3.2	16	<50	1000			
Field ID	**Date**																					
SP_ACM01	**9-9-2021**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	positive	-	-
SP_ACM02	**9-9-2021**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	positive	-	-
SPO1	**9-9-2021**	8.1	<0.4	18	13	<0.1	16	<0.1	<0.1	<0.1	<0.3	<0.5	<20	<50	<0.5	<0.5	<0.2	<0.2	<0.2	-	-	-
SPO2	**9-9-2021**	7.0	<0.4	15	11	<0.1	13	<0.1	<0.1	<0.1	<0.3	<0.5	<20	<50	<0.5	<0.5	<0.2	<0.2	<0.2	-	-	-
SPO3	**9-9-2021**	9.0	<0.4	20	19	<0.1	17	<0.1	<0.1	<0.1	<0.3	<0.5	<20	56	<0.5	<0.5	<0.2	<0.2	<0.2	-	-	-
SPO4	**9-9-2021**	8.7	<0.4	16	12	<0.1	15	<0.1	<0.1	<0.1	<0.3	<0.5	<20	<50	<0.5	<0.5	<0.2	<0.2	<0.2	-	-	-
SPO5	**9-9-2021**	8.0	<0.4	19	13	<0.1	15	<0.1	<0.1	<0.1	<0.3	<0.5	<20	<50	<0.5	<0.5	<0.2	<0.2	<0.2	-	-	-
SPO6	**9-9-2021**	7.4	<0.4	15	12	<0.1	12	<0.1	<0.1	<0.1	<0.3	<0.5	<20	<50	<0.5	<0.5	<0.2	<0.2	<0.2	-	-	-
TP301	**9-9-2021**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0000	0.0000
TP302	**9-9-2021**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0000	0.0000
TP303	**9-9-2021**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0000	0.0000
TP304	**9-9-2021**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0000	0.0000
TP305	**9-9-2021**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0000	0.0000

Note: A. Chromium (VI)

Appendix E

QA-QC Results

Table 4
Interlab and Intralab
Relative Pecentive Difference

Field or Interlab Duplicates				
				Arsenic
				mg/kg
EQL				2
Lab Report Number	**Field ID**	**Matrix Type**	**Date**	
826821	**TP102_0.1**	**soil**	**21-09-2021**	75
826821	**DUP101**	**soil**	**21-09-2021**	57
RPD				27%
826821	**TP102_0.1**	**soil**	**21-09-2021**	75
ES2134685	**DUP102**	**soil**	**21-09-2021**	77
RPD				3%
826821	**TP204_0.2**	**soil**	**21-09-2021**	9.3
826821	**DUP201**	**soil**	**21-09-2021**	7.5
RPD				21%
826821	**TP204_0.2**	**soil**	**21-09-2021**	9.3
ES2134685	**DUP202**	**soil**	**21-09-2021**	5
RPD				60%
826821	**DUP101**	**soil**	**21-09-2021**	57
ES2134685	**DUP102**	**soil**	**21-09-2021**	77
RPD				30%
826821	**DUP201**	**soil**	**21-09-2021**	7.5
ES2134685	**DUP202**	**soil**	**21-09-2021**	5
RPD				40%

***RPDs have only been considered where a concentration is greater than 1 times the EQL.**

****Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))**

*****Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory**

Table 2
QAQC Rinsate

Field Rinsate				
				Metals
				Arsenic
				µg/L
EQL				1
Lab Report Number	Field ID	Matrix Type	Date	
826821	RB101	water	21-09-2021	<1
826821	RB102	water	21-09-2021	<1

QA / QC

The QC program employed during the investigation was in accordance with the general requirements set out in the Australian Standard (AS) 4482.1-2005 *Guide to the investigation and sampling of soils with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*. QC samples provide information that discounts or potentially identifies errors due to possible sources of cross contamination, and inconsistencies in sampling and analytical techniques used.

A quality review of the data was conducted. In summary, the data quality review did not identify significant systematic errors in the data collection process. Therefore, the data set is considered to be valid, complete and can be relied upon for the purposes of this assessment.

Established quality assurance (QA) / quality control (QC) procedures to assess data quality were maintained throughout the project. The QA/QC program undertaken as part of the assessment by SLR is presented in **Table E1**, with a review of the laboratory controls presented in **Table E2**.

Table E1 Summary of Data Quality Indicators, Acceptance and Comment

Data Quality Indicator	Acceptance Criteria	Comment
Precision		
Field Sampling		
• RAP methodology (SLR 2021a) complied with. • Investigation by suitably qualified and experienced personnel • Collection of duplicate (blind and split) samples	• The RAP (SLR 2021a) was generally complied with. • Fieldwork was undertaken by staff trained in environmental sampling • Field duplicates (both blind and split) were collected at a rate of 1 per 20 samples as shown in **Appendix D**.	• N/A.
Laboratory		
• Analysis of the following at NATA accredited laboratories: • Blind duplicates (intra-laboratory duplicates) • Split duplicates (inter-laboratory duplicates) • Laboratory internal duplicates	• As shown in the laboratory reports in **Appendix F**, NATA accredited laboratories Eurofins (primary) and ALS (secondary) undertook the analysis. • As shown in Tables D2 in **Appendix D**, RPD calculations between primary and duplicate samples generally met the 30% RPD criteria, with the exception of majority of the metals and TRH fractions. This was attributed to the heterogeneity of the samples (Table E3**, Appendix E**). • Laboratory duplicates and RPDs as per the laboratory procedures.	• Where RPDs were >30%, for blind and split samples, soil concentrations reported for Arsenic were below the laboratory EQL for one or both analytes in the duplicate pairs. • As discussed in **Section 12.1.1**, all of the primary lab reports had an exceedance of the internal laboratory duplicate RPD. However, these were noted to pass Eurofins' QC Acceptance Criteria. In some instances, exceedance of the internal laboratory duplicate RPD was noted to be due to sample heterogeneity, and is not considered to impact the validity of the results, as the results are generally < 5 times LOR. • As discussed in **Section 12.1.1**, none of the secondary lab reports had an exceedance of the internal laboratory duplicate RPD.
Accuracy		

Data Quality Indicator	Acceptance Criteria	Comment
• Appropriate work instructions have been followed • Collection of trip blanks and rinsate samples • Compliance with holding times • Analysis of: - Trip blanks - Rinsate blanks - Method blanks - Matrix spikes - Surrogate spikes - Laboratory control samples - Laboratory prepared spikes	• <5% Holding time exceedances • Trip blanks - COPC < LOR • Rinsate blanks - COPC < LOR • Method blanks – COPC < LOR • Matrix spikes – 70% - 130% • Surrogate spikes – 50% - 150% • Laboratory control samples - 70% - 130%	• Results for Trip blanks were less than the LOR • Results for Rinsate blanks were less than the LOR • Method blanks were less than the LOR • Matrix spikes were within specified limits • Surrogate spikes were within specified limits. • Laboratory control samples were within specified limits.
Representativeness		
Appropriate media sampled in accordance with the SAQP, including: • Samples must be collected to reflect the characteristics of each medium. • Sample analysis must reflect properties of field samples. • Homogeneity of the samples. • Appropriate collection handling, storage and preservation. • Detection of laboratory artefacts (i.e. contamination blanks)	• All samples were collected in appropriate sampling containers and analysed for the COPC as described in the DSI (SLR 2020a) and RAP (SLR 2020b).	• As per the sample receipt documentation in **Appendix F**, samples were collected in the appropriate sample containers supplied by the laboratory for the analysis of COPC specified in the RAP (SLR 2020b).
Comparability		

Data Quality Indicator	Acceptance Criteria	Comment
• Standard Operating Procedures implemented by experienced samplers during sampling. • Climatic conditions (temperature, rainfall, wind) recorded to quantify the influence (if any). • Same types of samples collected (size fractions and sample containers) and handled in the same manner. • Analysis of split sample (1 in 20 samples) • Sample analytical methods across primary and secondary laboratory • Laboratory practical quantification limits (PQLs) and units of measure (justified/quantified if different)	• Fieldwork was undertaken by staff trained in environmental sampling • As shown in the laboratory reports in **Appendix F**, sample preservation was appropriate. • As shown in Table D2 in **Appendix D**, split samples have been collected at a rate of more than 1:20 samples. • Laboratory duplicates and RPDs as per the laboratory procedures. • As shown in the laboratory reports in **Appendix F**, analytical methods and PQLs were generally consistent.	• NA
Completeness		
• Critical locations sampled. • Documentation and record keeping appropriate.	• Critical samples analysed in accordance with the scope response. • Analytes sampled in accordance with scope of works. • Sampling documentation recorded and kept in an appropriate manner.	• NA

Appendix F

Laboratory Reports

CHAIN OF CUSTODY DOCUMENTATION

SLR Consulting Australia Pty Ltd

ABN 29 001 584 612

PROJECT OFFICE (Tick one)

- ☐ BRISBANE: Level 2, 15 Astor Terrace, Spring Hill, QLD 4000
- ☐ CANBERRA: GPO 410, Canberra, ACT 2600
- ☐ DARWIN: 5 Foelsche Street, Darwin, NT 0800
- ☐ GOLD COAST: 194 Varsity Parade, Varsity Lakes, QLD 4227
- ☐ MACKAY: 21 River Street, Mackay, QLD 4740
- ☐ MELBOURNE: Suite 2, 2 Domville Avenue, Hawthorn, VIC 3122
- ✓ Sydney: 202 Submarine School;, Sub Base Platypus, North Sydney, NSW, 2060
- ☐ NEWCASTLE: 10 Kings Road, New Lambton, NSW 2305
- ☐ PERTH: Ground Floor, 503 Murray Street, Perth, WA 6000
- ☐ ROCKHAMPTON: rockhampton@slrconsulting.com
- ☐ AUCKLAND: 68 Beach Road, Auckland 1010 NZ
- ☐ NELSON: 5 Duncan Street, Port Nelson, 7010 NZ
- ☐ NEW PLYMOUTH: Level 2, 10 Devon Street East, New Plymouth, 4310 NZ

CLIENT: ProTen Tamworth Pty Ltd

PROJECT: Remediation Delineation

PROJECT NUMBER: 610.30237

PROJECT MANAGER: Hugh Selby

PM CONTACT No: 0447 241 473

LABORATORY: Eurofin

LABORATORY ADDRESS: Lane Cove

SAMPLER: Jason Roesler

SAMPLER CONTACT No: 0421 039 534

Email Reports and Invoices to: LQRSYD@slrconsulting.com, jroesler@slrconsulting.com

Turnaround Time (TAT)

✓ Standard TAT

☐ Non Standard or Urgent TAT

Required TAT:

COC Number 1 of 3

COMMENTS OR ADDITIONAL DIRECTIONS

No.	Sample ID	Date & Time	Matrix (Soil, water, ACM, etc)	Containers and Preservatives	REQUESTED ANALYSIS: Arsenic	HOLD	Additional Information (Comment on any gross contamination or specific requirements)
	TP101_0.1	21/09/2021	Soil		✕		
	TP101_0.2	21/09/2021	Soil		✕		
	TP101_0.7	21/09/2021	Soil		✕		
	TP102_0.1	21/09/2021	Soil		✕		
	TP102_0.2	21/09/2021	Soil		✕		
	TP102_0.7	21/09/2021	Soil		✕		
	TP103_0.1	21/09/2021	Soil		✕		
	TP103_0.2	21/09/2021	Soil		✕		
	TP103_0.7	21/09/2021	Soil		✕		
	TP104_0.1	21/09/2021	Soil		✕		
	TP104_0.2	21/09/2021	Soil		✕		
	TP104_0.7	21/09/2021	Soil		✕		

I attest that the proper field sampling procedures were used during the collection of these samples.

Relinquished By Sampler	Sign		Date / Time	22-09-2021 @1440	**Received by**	Sign	Date / Time 22/9/21
Relinquished By	Sign		Date / Time		**Received by**	Sign	Date / Time
Relinquished By	Sign		Date / Time		**Received by**	Sign	Date / Time

Temperature Received: 10.3°C

CHAIN OF CUSTODY DOCUMENTATION

SLR Consulting Australia Pty Ltd

ABN 29 001 584 612

PROJECT OFFICE (Tick one)

- ☐ BRISBANE: Level 2, 15 Astor Terrace, Spring Hill, QLD 4000
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- ☐ MELBOURNE: Suite 2, 2 Domville Avenue, Hawthorn, VIC 3122
- ✓ Sydney: 202 Submarine School, Sub Base Platypus, North Sydney, NSW, 2060
- ☐ NEWCASTLE: 10 Kings Road, New Lambton, NSW 2305
- ☐ PERTH: Ground Floor, 503 Murray Street, Perth, WA 6000
- ☐ ROCKHAMPTON: rockhampton@slrconsulting.com
- ☐ AUCKLAND: 68 Beach Road, Auckland 1010 NZ
- ☐ NELSON: 5 Duncan Street, Port Nelson, 7010 NZ
- ☐ NEW PLYMOUTH: Level 2, 10 Devon Street East, New Plymouth, 4310 NZ

CLIENT: ProTen Tamworth Pty Ltd
PROJECT: Remediation Delineation
PROJECT NUMBER: 610.30237
PROJECT MANAGER: Hugh Selby
PM CONTACT No: 0447 241 473

LABORATORY: Eurofin
LABORATORY ADDRESS: Lane Cove
SAMPLER: Jason Roesler
SAMPLER CONTACT No: 0421 039 534
Email Reports and Invoices to: LQRSYD@slrconsulting.com, jroesler@slrconsulting.com

Turnaround Time (TAT)
✓ Standard TAT
☐ Non Standard or Urgent TAT
Required TAT:

COC Number 2 of 3

COMMENTS OR ADDITIONAL DIRECTIONS

No.	Sample ID	Date & Time	Matrix (Soil, water, ACM, etc)	Containers and Preservatives	REQUESTED ANALYSIS: Arsenic	HOLD	Additional Information (Comment on any gross contamination or specific requirements)
	TP105_0.1	21/09/2021	Soil		X		
	TP105_0.2	21/09/2021	Soil		X		
	TP105_0.7	21/09/2021	Soil		X		
	TP201_0.1	21/09/2021	Soil		X		
	TP201_0.2	21/09/2021	Soil		X		
	TP201_0.7	21/09/2021	Soil		X		
	TP202_0.1	21/09/2021	Soil		X		
	TP202_0.2	21/09/2021	Soil		X		
	TP202_0.7	21/09/2021	Soil		X		
	TP203_0.1	21/09/2021	Soil		X		
	TP203_0.2	21/09/2021	Soil		X		
	TP203_0.7	21/09/2021	Soil		X		

I attest that the proper field sampling procedures were used during the collection of these samples.

Relinquished By Sampler	Sign		Date / Time	22-09-2021 @1440	**Received by**	Sign	Date / Time 22/9/21
Relinquished By	Sign		Date / Time		**Received by**	Sign	Date / Time
Relinquished By	Sign		Date / Time		**Received by**	Sign	Date / Time

Temperature Received: 10.3°C

SLR

CHAIN OF CUSTODY DOCUMENTATION

SLR Consulting Australia Pty Ltd

ABN 29 001 584 612

PROJECT OFFICE (Tick one)

- ☐ BRISBANE: Level 2, 15 Astor Terrace, Spring Hill, QLD 4000
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- ☐ NEW PLYMOUTH: Level 2, 10 Devon Street East, New Plymouth, 4310 NZ

CLIENT: ProTen Tamworth Pty Ltd
PROJECT: Remediation Delineation
PROJECT NUMBER: 610.30237
PROJECT MANAGER: Hugh Selby
PM CONTACT No: 0447 241 473

LABORATORY: Eurofin
LABORATORY ADDRESS: Lane Cove
SAMPLER: Jason Roesler
SAMPLER CONTACT No: 0421 039 534
Email Reports and Invoices to: LQRSYD@slrconsulting.com, jroesler@slrconsulting.com

Turnaround Time (TAT)
✓ Standard TAT
☐ Non Standard or Urgent TAT
Required TAT:

COC Number 3 of 3

COMMENTS OR ADDITIONAL DIRECTIONS

No.	Sample ID	Date & Time	Matrix (Soil, water, ACM, etc)	Containers and Preservatives	REQUESTED ANALYSIS: Arsenic	HOLD	Additional Information (Comment on any gross contamination or specific requirements)
	TP204_0.1	21/09/2021	Soil		x		
	TP204_0.2	21/09/2021	Soil		x		
	TP204_0.7	21/09/2021	Soil		x		
	TP205_0.1	21/09/2021	Soil		x		
	TP205_0.2	21/09/2021	Soil		x		
	TP205_0.7	21/09/2021	Soil		x		
	DUP 101	21/09/2021	Soil		x		
	DUP 201	21/09/2021	Soil		x		
	RB101	21/09/2021	Water		x		
	RB201	21/09/2021	Water		x		
*	DUP102	21/09/2021	Soil	*Please forward to ALS for Arsenic			
*	DUP202	21/09/2021	Soil	*Please forward to ALS for Arsenic			

I attest that the proper field sampling procedures were used during the collection of these samples.

Relinquished By Sampler	Sign		Date / Time	22-09-2021 @1440	**Received by**	Sign	Date / Time 22/9/21
Relinquished By	Sign		Date / Time		**Received by**	Sign	Date / Time
Relinquished By	Sign		Date / Time		**Received by**	Sign	Date / Time

Temperature Received: 10.3°C

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Sample Receipt Advice

Company name:	SLR Consulting (Sydney)
Contact name:	Hugh Selby
Project name:	REMEDIATION DELINEATION
Project ID:	610.30237
Turnaround time:	5 Day
Date/Time received	Sep 22, 2021 4:19 PM
Eurofins reference	826821

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✗	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
✗	Split sample sent to requested external lab.
✗	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

DUP102, DUP202 FORWARDED TO ALS

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Hugh Selby - hselby@slrconsulting.com.

Note: A copy of these results will also be delivered to the general SLR Consulting (Sydney) email address.

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IANZ # 1290

Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: REMEDIATION DELINEATION
Project ID: 610.30237

Order No.:
Report #: 826821
Phone: 02 9428 8100
Fax:

Received: Sep 22, 2021 4:19 PM
Due: Sep 29, 2021
Priority: 5 Day
Contact Name: Hugh Selby

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254							
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP101_0.1	Sep 21, 2021		Soil	S21-Se46753	X	X
2	TP101_0.2	Sep 21, 2021		Soil	S21-Se46754	X	X
3	TP101_0.7	Sep 21, 2021		Soil	S21-Se46755	X	X
4	TP102_0.1	Sep 21, 2021		Soil	S21-Se46756	X	X
5	TP102_0.2	Sep 21, 2021		Soil	S21-Se46757	X	X
6	TP102_0.7	Sep 21, 2021		Soil	S21-Se46758	X	X
7	TP103_0.1	Sep 21, 2021		Soil	S21-Se46759	X	X
8	TP103_0.2	Sep 21, 2021		Soil	S21-Se46760	X	X
9	TP103_0.7	Sep 21, 2021		Soil	S21-Se46761	X	X

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Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: REMEDIATION DELINEATION
Project ID: 610.30237

Order No.:
Report #: 826821
Phone: 02 9428 8100
Fax:

Received: Sep 22, 2021 4:19 PM
Due: Sep 29, 2021
Priority: 5 Day
Contact Name: Hugh Selby

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254							
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
10	TP104_0.1	Sep 21, 2021		Soil	S21-Se46762	X	X
11	TP104_0.2	Sep 21, 2021		Soil	S21-Se46763	X	X
12	TP104_0.7	Sep 21, 2021		Soil	S21-Se46764	X	X
13	TP105_0.1	Sep 21, 2021		Soil	S21-Se46765	X	X
14	TP105_0.2	Sep 21, 2021		Soil	S21-Se46766	X	X
15	TP105_0.7	Sep 21, 2021		Soil	S21-Se46767	X	X
16	TP201_0.1	Sep 21, 2021		Soil	S21-Se46768	X	X
17	TP201_0.2	Sep 21, 2021		Soil	S21-Se46769	X	X
18	TP201_0.7	Sep 21, 2021		Soil	S21-Se46770	X	X
19	TP202_0.1	Sep 21, 2021		Soil	S21-Se46771	X	X
20	TP202_0.2	Sep 21, 2021		Soil	S21-Se46772	X	X

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Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: REMEDIATION DELINEATION
Project ID: 610.30237

Order No.:
Report #: 826821
Phone: 02 9428 8100
Fax:

Received: Sep 22, 2021 4:19 PM
Due: Sep 29, 2021
Priority: 5 Day
Contact Name: Hugh Selby

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254							
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
21	TP202_0.7	Sep 21, 2021		Soil	S21-Se46773	X	X
22	TP203_0.1	Sep 21, 2021		Soil	S21-Se46774	X	X
23	TP203_0.2	Sep 21, 2021		Soil	S21-Se46775	X	X
24	TP203_0.7	Sep 21, 2021		Soil	S21-Se46868	X	X
25	TP204_0.1	Sep 21, 2021		Soil	S21-Se46869	X	X
26	TP204_0.2	Sep 21, 2021		Soil	S21-Se46870	X	X
27	TP204_0.7	Sep 21, 2021		Soil	S21-Se46871	X	X
28	TP205_0.1	Sep 21, 2021		Soil	S21-Se46872	X	X
29	TP205_0.2	Sep 21, 2021		Soil	S21-Se46873	X	X
30	TP205_0.7	Sep 21, 2021		Soil	S21-Se46874	X	X
31	DUP101	Sep 21, 2021		Soil	S21-Se46875	X	X

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Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: REMEDIATION DELINEATION
Project ID: 610.30237

Order No.:
Report #: 826821
Phone: 02 9428 8100
Fax:

Received: Sep 22, 2021 4:19 PM
Due: Sep 29, 2021
Priority: 5 Day
Contact Name: Hugh Selby

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254							
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
32	DUP201	Sep 21, 2021		Soil	S21-Se46876	X	X
33	RB101	Sep 21, 2021		Water	S21-Se46877	X	
34	RB102	Sep 21, 2021		Soil	S21-Se46878	X	X
Test Counts						34	33

SLR Consulting
Tenancy 202, Submarine School, Sub Base Platypus,
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 18217

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NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Hugh Selby**

Report **826821-S**
Project name REMEDIATION DELINEATION
Project ID 610.30237
Received Date Sep 22, 2021

Client Sample ID			**TP101_0.1**	**TP101_0.2**	**TP101_0.7**	**TP102_0.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-Se46753**	**S21-Se46754**	**S21-Se46755**	**S21-Se46756**
Date Sampled			**Sep 21, 2021**	**Sep 21, 2021**	**Sep 21, 2021**	**Sep 21, 2021**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	160	480	40	75
% Moisture	1	%	20	19	8.2	19

Client Sample ID			**TP102_0.2**	**TP102_0.7**	**TP103_0.1**	**TP103_0.2**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-Se46757**	**S21-Se46758**	**S21-Se46759**	**S21-Se46760**
Date Sampled			**Sep 21, 2021**	**Sep 21, 2021**	**Sep 21, 2021**	**Sep 21, 2021**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	17	7.8	41	10
% Moisture	1	%	18	12	15	17

Client Sample ID			**TP103_0.7**	**TP104_0.1**	**TP104_0.2**	**TP104_0.7**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-Se46761**	**S21-Se46762**	**S21-Se46763**	**S21-Se46764**
Date Sampled			**Sep 21, 2021**	**Sep 21, 2021**	**Sep 21, 2021**	**Sep 21, 2021**
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	5.8	53	10	6.1
% Moisture	1	%	9.3	19	26	13

Client Sample ID			TP105_0.1	TP105_0.2	TP105_0.7	TP201_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Se46765	S21-Se46766	S21-Se46767	S21-Se46768
Date Sampled			Sep 21, 2021	Sep 21, 2021	Sep 21, 2021	Sep 21, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	32	14	5.9	17
% Moisture	1	%	24	22	12	12

Client Sample ID			TP201_0.2	TP201_0.7	TP202_0.1	TP202_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Se46769	S21-Se46770	S21-Se46771	S21-Se46772
Date Sampled			Sep 21, 2021	Sep 21, 2021	Sep 21, 2021	Sep 21, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	11	7.2	14	8.6
% Moisture	1	%	23	12	26	26

Client Sample ID			TP202_0.7	TP203_0.1	TP203_0.2	TP203_0.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Se46773	S21-Se46774	S21-Se46775	S21-Se46868
Date Sampled			Sep 21, 2021	Sep 21, 2021	Sep 21, 2021	Sep 21, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	7.8	37	160	4.7
% Moisture	1	%	17	20	20	11

Client Sample ID			TP204_0.1	TP204_0.2	TP204_0.7	TP205_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Se46869	S21-Se46870	S21-Se46871	S21-Se46872
Date Sampled			Sep 21, 2021	Sep 21, 2021	Sep 21, 2021	Sep 21, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	8.4	9.3	6.9	11
% Moisture	1	%	20	19	19	9.1

Client Sample ID			TP205_0.2	TP205_0.7	DUP101	DUP201
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Se46873	S21-Se46874	S21-Se46875	S21-Se46876
Date Sampled			Sep 21, 2021	Sep 21, 2021	Sep 21, 2021	Sep 21, 2021
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	17	7.5	57	7.5
% Moisture	1	%	15	16	14	22

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Sep 28, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Sep 23, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261 Site # 18217

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Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

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Melbourne Laboratory - NATA # 1261 Site # 1254							
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP101_0.1	Sep 21, 2021		Soil	S21-Se46753	X	X
2	TP101_0.2	Sep 21, 2021		Soil	S21-Se46754	X	X
3	TP101_0.7	Sep 21, 2021		Soil	S21-Se46755	X	X
4	TP102_0.1	Sep 21, 2021		Soil	S21-Se46756	X	X
5	TP102_0.2	Sep 21, 2021		Soil	S21-Se46757	X	X
6	TP102_0.7	Sep 21, 2021		Soil	S21-Se46758	X	X
7	TP103_0.1	Sep 21, 2021		Soil	S21-Se46759	X	X
8	TP103_0.2	Sep 21, 2021		Soil	S21-Se46760	X	X
9	TP103_0.7	Sep 21, 2021		Soil	S21-Se46761	X	X

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Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
10	TP104_0.1	Sep 21, 2021		Soil	S21-Se46762	X	X
11	TP104_0.2	Sep 21, 2021		Soil	S21-Se46763	X	X
12	TP104_0.7	Sep 21, 2021		Soil	S21-Se46764	X	X
13	TP105_0.1	Sep 21, 2021		Soil	S21-Se46765	X	X
14	TP105_0.2	Sep 21, 2021		Soil	S21-Se46766	X	X
15	TP105_0.7	Sep 21, 2021		Soil	S21-Se46767	X	X
16	TP201_0.1	Sep 21, 2021		Soil	S21-Se46768	X	X
17	TP201_0.2	Sep 21, 2021		Soil	S21-Se46769	X	X
18	TP201_0.7	Sep 21, 2021		Soil	S21-Se46770	X	X
19	TP202_0.1	Sep 21, 2021		Soil	S21-Se46771	X	X
20	TP202_0.2	Sep 21, 2021		Soil	S21-Se46772	X	X

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Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
21	TP202_0.7	Sep 21, 2021		Soil	S21-Se46773	X	X
22	TP203_0.1	Sep 21, 2021		Soil	S21-Se46774	X	X
23	TP203_0.2	Sep 21, 2021		Soil	S21-Se46775	X	X
24	TP203_0.7	Sep 21, 2021		Soil	S21-Se46868	X	X
25	TP204_0.1	Sep 21, 2021		Soil	S21-Se46869	X	X
26	TP204_0.2	Sep 21, 2021		Soil	S21-Se46870	X	X
27	TP204_0.7	Sep 21, 2021		Soil	S21-Se46871	X	X
28	TP205_0.1	Sep 21, 2021		Soil	S21-Se46872	X	X
29	TP205_0.2	Sep 21, 2021		Soil	S21-Se46873	X	X
30	TP205_0.7	Sep 21, 2021		Soil	S21-Se46874	X	X
31	DUP101	Sep 21, 2021		Soil	S21-Se46875	X	X

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
32	DUP201	Sep 21, 2021		Soil	S21-Se46876	X	X
33	RB101	Sep 21, 2021		Water	S21-Se46877	X	
34	RB102	Sep 21, 2021		Soil	S21-Se46878	X	X
Test Counts						34	33

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram | **mg/L:** milligrams per litre | **ug/L:** micrograms per litre

ppm: Parts per million | **ppb:** Parts per billion | **%:** Percentage

org/100mL: Organisms per 100 millilitres | **NTU:** Nephelometric Turbidity Units | **MPN/100mL:** Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Arsenic			mg/kg	< 2			2	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	100			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Se46759	CP	%	97			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Se46871	CP	%	105			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Se46758	CP	mg/kg	7.8	6.1	25	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Se46768	CP	mg/kg	17	17	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Se46873	CP	%	15	14	4.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	No
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Andrew Black	Analytical Services Manager
John Nguyen	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Certificate of Analysis

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Attention: **Hugh Selby**

Report **826821-W**
Project name REMEDIATION DELINEATION
Project ID 610.30237
Received Date Sep 22, 2021

Client Sample ID			**RB101**	**RB102**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**S21-Se46877**	**S21-Se46878**
Date Sampled			**Sep 21, 2021**	**Sep 21, 2021**
Test/Reference	LOR	Unit		
Heavy Metals				
Arsenic	0.001	mg/L	< 0.001	< 0.001

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Sep 28, 2021	28 Days

- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS

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NATA # 1261 Site # 1254

Sydney
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16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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Mayfield East NSW 2304
PO Box 60 Wickham 2293
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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: REMEDIATION DELINEATION
Project ID: 610.30237

Order No.:
Report #: 826821
Phone: 02 9428 8100
Fax:

Received: Sep 22, 2021 4:19 PM
Due: Sep 29, 2021
Priority: 5 Day
Contact Name: Hugh Selby

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254							
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP101_0.1	Sep 21, 2021		Soil	S21-Se46753	X	X
2	TP101_0.2	Sep 21, 2021		Soil	S21-Se46754	X	X
3	TP101_0.7	Sep 21, 2021		Soil	S21-Se46755	X	X
4	TP102_0.1	Sep 21, 2021		Soil	S21-Se46756	X	X
5	TP102_0.2	Sep 21, 2021		Soil	S21-Se46757	X	X
6	TP102_0.7	Sep 21, 2021		Soil	S21-Se46758	X	X
7	TP103_0.1	Sep 21, 2021		Soil	S21-Se46759	X	X
8	TP103_0.2	Sep 21, 2021		Soil	S21-Se46760	X	X
9	TP103_0.7	Sep 21, 2021		Soil	S21-Se46761	X	X

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Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
10	TP104_0.1	Sep 21, 2021		Soil	S21-Se46762	X	X
11	TP104_0.2	Sep 21, 2021		Soil	S21-Se46763	X	X
12	TP104_0.7	Sep 21, 2021		Soil	S21-Se46764	X	X
13	TP105_0.1	Sep 21, 2021		Soil	S21-Se46765	X	X
14	TP105_0.2	Sep 21, 2021		Soil	S21-Se46766	X	X
15	TP105_0.7	Sep 21, 2021		Soil	S21-Se46767	X	X
16	TP201_0.1	Sep 21, 2021		Soil	S21-Se46768	X	X
17	TP201_0.2	Sep 21, 2021		Soil	S21-Se46769	X	X
18	TP201_0.7	Sep 21, 2021		Soil	S21-Se46770	X	X
19	TP202_0.1	Sep 21, 2021		Soil	S21-Se46771	X	X
20	TP202_0.2	Sep 21, 2021		Soil	S21-Se46772	X	X

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Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
21	TP202_0.7	Sep 21, 2021		Soil	S21-Se46773	X	X
22	TP203_0.1	Sep 21, 2021		Soil	S21-Se46774	X	X
23	TP203_0.2	Sep 21, 2021		Soil	S21-Se46775	X	X
24	TP203_0.7	Sep 21, 2021		Soil	S21-Se46868	X	X
25	TP204_0.1	Sep 21, 2021		Soil	S21-Se46869	X	X
26	TP204_0.2	Sep 21, 2021		Soil	S21-Se46870	X	X
27	TP204_0.7	Sep 21, 2021		Soil	S21-Se46871	X	X
28	TP205_0.1	Sep 21, 2021		Soil	S21-Se46872	X	X
29	TP205_0.2	Sep 21, 2021		Soil	S21-Se46873	X	X
30	TP205_0.7	Sep 21, 2021		Soil	S21-Se46874	X	X
31	DUP101	Sep 21, 2021		Soil	S21-Se46875	X	X

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Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
32	DUP201	Sep 21, 2021		Soil	S21-Se46876	X	X
33	RB101	Sep 21, 2021		Water	S21-Se46877	X	
34	RB102	Sep 21, 2021		Soil	S21-Se46878	X	X
Test Counts						34	33

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Arsenic			mg/L	< 0.001			0.001	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	92			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Se46878	CP	%	90			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Se46877	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	No
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Andrew Black	Analytical Services Manager
John Nguyen	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2134685**	Page	: 1 of 2
Client	: **SLR Consulting Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: HUGH SELBY	Contact	: Tyler Anderson
Address	: SUB BASE PLATYPUS 202/120 HIGH STREET NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 610.30237 REMEDIATION DELINEATION	Date Samples Received	: 24-Sep-2021 17:20
Order number	: ----	Date Analysis Commenced	: 28-Sep-2021
C-O-C number	: ----	Issue Date	: 01-Oct-2021 13:03
Sampler	: JASON ROESLER		
Site	: ----		
Quote number	: EN/032/20 Primary Work Only		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)			*Sample ID*	**DUP102**	**DUP202**	**----**	**----**	**----**
			Sampling date / time	21-Sep-2021 00:00	21-Sep-2021 00:00	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*	**ES2134685-001**	**ES2134685-002**	**--------**	**--------**	**--------**
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	**13.8**	**19.2**	**----**	**----**	**----**
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**77**	**5**	**----**	**----**	**----**

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2134685**	Page	: 1 of 3
Client	: **SLR Consulting Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: HUGH SELBY	Contact	: Tyler Anderson
Address	: SUB BASE PLATYPUS 202/120 HIGH STREET NORTH SYDNEY 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 610.30237 REMEDIATION DELINEATION	Date Samples Received	: 24-Sep-2021
Order number	: ----	Date Analysis Commenced	: 28-Sep-2021
C-O-C number	: ----	Issue Date	: 01-Oct-2021
Sampler	: JASON ROESLER		
Site	: ----		
Quote number	: EN/032/20 Primary Work Only		
No. of samples received	: 2		
No. of samples analysed	: 2		

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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3927197)									
ES2134685-002	DUP202	EG005T: Arsenic	7440-38-2	5	mg/kg	5	5	0.0	No Limit
ES2134600-015	Anonymous	EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3925233)									
ES2134600-013	Anonymous	EA055: Moisture Content	----	0.1	%	9.8	12.6	24.5	0% - 50%
ES2134722-007	Anonymous	EA055: Moisture Content	----	0.1	%	29.7	29.6	0.5	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3927197)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	88.1	88.0	113

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3927197)							
ES2134600-015	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	88.0	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2134685**	Page	: 1 of 4
Client	: **SLR Consulting Australia Pty Ltd**	Laboratory	: Environmental Division Sydney
Contact	: HUGH SELBY	Telephone	: +61 2 8784 8555
Project	: 610.30237 REMEDIATION DELINEATION	Date Samples Received	: 24-Sep-2021
Site	: ----	Issue Date	: 01-Oct-2021
Sampler	: JASON ROESLER	No. of samples received	: 2
Order number	: ----	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
DUP102,	DUP202	**21-Sep-2021**	**----**	----	----	**28-Sep-2021**	05-Oct-2021	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
DUP102,	DUP202	**21-Sep-2021**	**29-Sep-2021**	20-Mar-2022	✓	**29-Sep-2021**	20-Mar-2022	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	12	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Total Metals by ICP-AES	EG005T	1	12	**8.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).

CHAIN OF CUSTODY DOCUMENTATION

SLR Consulting Australia Pty Ltd

ABN 29 001 584 612

PROJECT OFFICE (Tick one)

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- ☐ MACKAY: 21 River Street, Mackay, QLD 4740
- ☐ MELBOURNE: Suite 2, 2 Domville Avenue, Hawthorn, VIC 3122
- ✓ Sydney: 202 Submarine Schoo; Sub Base Platypus, North Sydney, NSW, 2060
- ☐
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- ☐ NELSON: 5 Duncan Street, Port Nelson, 7010 NZ
- ☐ NEW PLYMOUTH: Level 2, 10 Devon Street East, New Plymouth, 4310 NZ

CLIENT: ProTen Tamworth Pty Ltd

PROJECT: Asbestos validation

***PROJECT* NUMBER: 610.30237**

PROJECT MANAGER: Hugh Selby

PM CONTACT No: 0447 241 473

LABORATORY: Eurofin

LABORATORY ADDRESS: Lane Cove

SAMPLER: Jason Roesler

SAMPLER CONTACT No: 0421 039 534

Email Reports and Invoices to: LQRSYD@slrconsulting.com, jroesler@slrconsulting.com

Turnaround Time (TAT)

✓ Standard TAT

☐ Non Standard or Urgent TAT

Required TAT:

COC Number

1 of 1

COMMENTS OR ADDITIONAL DIRECTIONS

No.	Sample ID	Date & Time	Matrix (Soil, water, ACM, etc)	Containers and Preservatives	REQUESTED ANALYSIS: Suite B10	Asbestos Identification in Soil (AS 4964)	Asbestos Identification in Building Material					HOLD	Additional Information (Comment on any gross contamination or specific requirements)
	TP301	9/28/2021	Soil			X							
	TP302	9/28/2021	Soil			X							
	TP303	9/28/2021	Soil			X							
	TP304	9/28/2021	Soil			X							
	TP305	9/28/2021	Soil			X							
	SP01	9/28/2021	Soil		X								
	SP02	9/28/2021	Soil		X								
	SP03	9/28/2021	Soil		X								
	SP04	9/28/2021	Soil		X								
	SP05	9/28/2021	Soil		X								
	SP06	9/28/2021	Soil		X								
	SP_ACM01	9/28/2021	Soil				X						
	SP_ACM02	9/28/2021	Soil									X	

I attest that the proper field sampling procedures were used during the collection of these samples.

Relinquished By Sampler	Sign		Date / Time	29-09-2021 @1530	**Received by**	Sign M·H	Date / Time
Relinquished By	Sign		Date / Time		**Received by**	Sign 29/9/21	Date / Time
Relinquished By	Sign		Date / Time		**Received by**	Sign	Date / Time

Temperature Received: 0.6

#828871

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Sample Receipt Advice

Company name:	SLR Consulting (Sydney)
Contact name:	Jason Roesler
Project name:	ASBESTOS VALIDATION
Project ID:	610.30237
Turnaround time:	5 Day
Date/Time received	Sep 29, 2021 4:42 PM
Eurofins reference	828871

Sample Information

✓	A detailed list of analytes logged into our LIMS, is included in the attached summary table.
✓	All samples have been received as described on the above COC.
✓	COC has been completed correctly.
✓	Attempt to chill was evident.
✓	Appropriately preserved sample containers have been used.
✓	All samples were received in good condition.
✓	Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
✓	Appropriate sample containers have been used.
✓	Sample containers for volatile analysis received with zero headspace.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Jason Roesler - jroesler@slrconsulting.com.

Note: A copy of these results will also be delivered to the general SLR Consulting (Sydney) email address.

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: ASBESTOS VALIDATION
Project ID: 610.30237

Order No.:
Report #: 828871
Phone: 02 9428 8100
Fax:

Received: Sep 29, 2021 4:42 PM
Due: Oct 7, 2021
Priority: 5 Day
Contact Name: Jason Roesler

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	Moisture Set	Eurofins Suite B10
Melbourne Laboratory - NATA # 1261 Site # 1254										
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794										
Mayfield Laboratory - NATA # 1261 Site # 25079										
Perth Laboratory - NATA # 2377 Site # 2370										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	TP301	Sep 09, 2021		Soil	S21-Oc01074	X				
2	TP302	Sep 09, 2021		Soil	S21-Oc01075	X				
3	TP303	Sep 09, 2021		Soil	S21-Oc01076	X				
4	TP304	Sep 09, 2021		Soil	S21-Oc01077	X				
5	TP305	Sep 09, 2021		Soil	S21-Oc01078	X				
6	SPO1	Sep 09, 2021		Soil	S21-Oc01079				X	X
7	SPO2	Sep 09, 2021		Soil	S21-Oc01080				X	X
8	SPO3	Sep 09, 2021		Soil	S21-Oc01081				X	X
9	SPO4	Sep 09, 2021		Soil	S21-Oc01082				X	X

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: ASBESTOS VALIDATION
Project ID: 610.30237

Order No.:
Report #: 828871
Phone: 02 9428 8100
Fax:

Received: Sep 29, 2021 4:42 PM
Due: Oct 7, 2021
Priority: 5 Day
Contact Name: Jason Roesler

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	Moisture Set	Eurofins Suite B10
Melbourne Laboratory - NATA # 1261 Site # 1254										
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794										
Mayfield Laboratory - NATA # 1261 Site # 25079										
Perth Laboratory - NATA # 2377 Site # 2370										
External Laboratory										
10	SPO5	Sep 09, 2021		Soil	S21-Oc01083				X	X
11	SPO6	Sep 09, 2021		Soil	S21-Oc01084				X	X
12	SP_ACM01	Sep 09, 2021		Building Materials	S21-Oc01085		X			
13	SP_ACM02	Sep 09, 2021		Building Materials	S21-Oc01086			X		
Test Counts						5	1	1	6	6

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Certificate of Analysis

SLR Consulting
Tenancy 202, Submarine School, Sub Base Platypus
North Sydney
NSW 2060

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention:	Jason Roesler
Report	828871-AID
Project Name	ASBESTOS VALIDATION
Project ID	610.30237
Received Date	Sep 29, 2021
Date Reported	Oct 11, 2021

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name ASBESTOS VALIDATION
Project ID 610.30237
Date Sampled Sep 09, 2021
Report 828871-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP301	21-Oc01074	Sep 09, 2021	Approximate Sample 467g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP302	21-Oc01075	Sep 09, 2021	Approximate Sample 463g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP303	21-Oc01076	Sep 09, 2021	Approximate Sample 431g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP304	21-Oc01077	Sep 09, 2021	Approximate Sample 504g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP305	21-Oc01078	Sep 09, 2021	Approximate Sample 541g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
SP_ACM01	21-Oc01085	Sep 09, 2021	Approximate Sample 3g / 45x15x5mm Sample consisted of: Grey fibre cement fragments	Chrysotile asbestos detected.
SP_ACM02	21-Oc01086	Sep 09, 2021	Approximate Sample 15g / 180x50x4mm Sample consisted of: Grey fibre cement fragments	Chrysotile asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Oct 07, 2021	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Oct 07, 2021	Indefinite

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Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: ASBESTOS VALIDATION
Project ID: 610.30237

Order No.:
Report #: 828871
Phone: 02 9428 8100
Fax:

Received: Sep 29, 2021 4:42 PM
Due: Oct 7, 2021
Priority: 5 Day
Contact Name: Jason Roesler

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Moisture Set	Eurofins Suite B10
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	TP301	Sep 09, 2021		Soil	S21-Oc01074	X			
2	TP302	Sep 09, 2021		Soil	S21-Oc01075	X			
3	TP303	Sep 09, 2021		Soil	S21-Oc01076	X			
4	TP304	Sep 09, 2021		Soil	S21-Oc01077	X			
5	TP305	Sep 09, 2021		Soil	S21-Oc01078	X			
6	SPO1	Sep 09, 2021		Soil	S21-Oc01079			X	X
7	SPO2	Sep 09, 2021		Soil	S21-Oc01080			X	X
8	SPO3	Sep 09, 2021		Soil	S21-Oc01081			X	X
9	SPO4	Sep 09, 2021		Soil	S21-Oc01082			X	X

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NATA # 1261 Site # 20794

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4/52 Industrial Drive
Mayfield East NSW 2304
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Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

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Phone : +61 8 6253 4444
NATA # 2377 Site # 2370

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

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35 O'Rorke Road
Penrose, Auckland 1061
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Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: ASBESTOS VALIDATION
Project ID: 610.30237

Order No.:
Report #: 828871
Phone: 02 9428 8100
Fax:

Received: Sep 29, 2021 4:42 PM
Due: Oct 7, 2021
Priority: 5 Day
Contact Name: Jason Roesler

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Moisture Set	Eurofins Suite B10
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
10	SPO5	Sep 09, 2021		Soil	S21-Oc01083			X	X
11	SPO6	Sep 09, 2021		Soil	S21-Oc01084			X	X
12	SP_ACM01	Sep 09, 2021		Building Materials	S21-Oc01085		X		
13	SP_ACM02	Sep 09, 2021		Building Materials	S21-Oc01086		X		
Test Counts						5	2	6	6

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour blue indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour orange indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V = r x t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**).
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

SLR Consulting
Tenancy 202, Submarine School, Sub Base Platypus,
North Sydney
NSW 2060

Attention: **Jason Roesler**

Report **828871-S**
Project name ASBESTOS VALIDATION
Project ID 610.30237
Received Date Sep 29, 2021

Client Sample ID			**SPO1**	**SPO2**	**SPO3**	**SPO4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S21-Oc01079**	**S21-Oc01080**	**S21-Oc01081**	**S21-Oc01082**
Date Sampled			**Sep 09, 2021**	**Sep 09, 2021**	**Sep 09, 2021**	**Sep 09, 2021**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	56	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	56	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	106	100	69	107
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			SPO1	SPO2	SPO3	SPO4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc01079	S21-Oc01080	S21-Oc01081	S21-Oc01082
Date Sampled			Sep 09, 2021	Sep 09, 2021	Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	88	83	87	84
p-Terphenyl-d14 (surr.)	1	%	68	66	77	70
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	104	106	133	134
Tetrachloro-m-xylene (surr.)	1	%	75	71	62	73
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			SPO1	SPO2	SPO3	SPO4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S21-Oc01079	S21-Oc01080	S21-Oc01081	S21-Oc01082
Date Sampled			Sep 09, 2021	Sep 09, 2021	Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	123	126	135	150
Heavy Metals						
Arsenic	2	mg/kg	8.1	7.0	9.0	8.7
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	15	20	16
Copper	5	mg/kg	41	35	59	54
Lead	5	mg/kg	13	11	19	12
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	16	13	17	15
Zinc	5	mg/kg	72	58	150	74
% Moisture	1	%	19	31	18	16

Client Sample ID			SPO5	SPO6
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Oc01083	S21-Oc01084
Date Sampled			Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			SPO5	SPO6
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Oc01083	S21-Oc01084
Date Sampled			Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons				
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	95	100
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	84	72
p-Terphenyl-d14 (surr.)	1	%	88	94
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-HCH	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-HCH	0.05	mg/kg	< 0.05	< 0.05
d-HCH	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05

Client Sample ID			SPO5	SPO6
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Oc01083	S21-Oc01084
Date Sampled			Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	[Q09]INT	63
Tetrachloro-m-xylene (surr.)	1	%	109	133
Organophosphorus Pesticides				
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2

Client Sample ID			SPO5	SPO6
Sample Matrix			Soil	Soil
Eurofins Sample No.			S21-Oc01083	S21-Oc01084
Date Sampled			Sep 09, 2021	Sep 09, 2021
Test/Reference	LOR	Unit		
Organophosphorus Pesticides				
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	53	64
Heavy Metals				
Arsenic	2	mg/kg	8.0	7.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	19	15
Copper	5	mg/kg	37	36
Lead	5	mg/kg	13	12
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	15	12
Zinc	5	mg/kg	71	64
% Moisture	1	%	28	17

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Oct 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Oct 07, 2021	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Oct 07, 2021	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Sydney	Oct 07, 2021	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Oct 07, 2021	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Metals M8	Sydney	Oct 07, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Oct 01, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: SLR Consulting (Sydney)
Address: Tenancy 202, Submarine School, Sub Base Platypus, North Sydney NSW 2060

Project Name: ASBESTOS VALIDATION
Project ID: 610.30237

Order No.:
Report #: 828871
Phone: 02 9428 8100
Fax:

Received: Sep 29, 2021 4:42 PM
Due: Oct 7, 2021
Priority: 5 Day
Contact Name: Jason Roesler

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	Moisture Set	Eurofins Suite B10
Melbourne Laboratory - NATA # 1261 Site # 1254										
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794										
Mayfield Laboratory - NATA # 1261 Site # 25079										
Perth Laboratory - NATA # 2377 Site # 2370										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	TP301	Sep 09, 2021		Soil	S21-Oc01074	X				
2	TP302	Sep 09, 2021		Soil	S21-Oc01075	X				
3	TP303	Sep 09, 2021		Soil	S21-Oc01076	X				
4	TP304	Sep 09, 2021		Soil	S21-Oc01077	X				
5	TP305	Sep 09, 2021		Soil	S21-Oc01078	X				
6	SPO1	Sep 09, 2021		Soil	S21-Oc01079				X	X
7	SPO2	Sep 09, 2021		Soil	S21-Oc01080				X	X
8	SPO3	Sep 09, 2021		Soil	S21-Oc01081				X	X
9	SPO4	Sep 09, 2021		Soil	S21-Oc01082				X	X

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Order No.:
Report #: 828871
Phone: 02 9428 8100
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Received: Sep 29, 2021 4:42 PM
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Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	HOLD	Moisture Set	Eurofins Suite B10
Melbourne Laboratory - NATA # 1261 Site # 1254										
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794										
Mayfield Laboratory - NATA # 1261 Site # 25079										
Perth Laboratory - NATA # 2377 Site # 2370										
External Laboratory										
10	SPO5	Sep 09, 2021		Soil	S21-Oc01083				X	X
11	SPO6	Sep 09, 2021		Soil	S21-Oc01084				X	X
12	SP_ACM01	Sep 09, 2021		Building Materials	S21-Oc01085		X			
13	SP_ACM02	Sep 09, 2021		Building Materials	S21-Oc01086			X		
Test Counts						5	1	1	6	6

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs..

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM where no positive PFAS results have been reported have been reviewed and no data was affected.

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QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	105			70-130	Pass	
TRH C10-C14	%	93			70-130	Pass	
Naphthalene	%	94			70-130	Pass	
TRH C6-C10	%	100			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	111			70-130	Pass	
Toluene	%	102			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
m&p-Xylenes	%	104			70-130	Pass	
o-Xylene	%	103			70-130	Pass	
Xylenes - Total*	%	104			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	96			70-130	Pass	
Anthracene	%	101			70-130	Pass	
Benz(a)anthracene	%	96			70-130	Pass	
Benzo(a)pyrene	%	103			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g.h.i)perylene	%	121			70-130	Pass	
Benzo(k)fluoranthene	%	106			70-130	Pass	
Chrysene	%	100			70-130	Pass	
Dibenz(a.h)anthracene	%	118			70-130	Pass	
Fluoranthene	%	101			70-130	Pass	
Fluorene	%	102			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	116			70-130	Pass	
Naphthalene	%	104			70-130	Pass	
Phenanthrene	%	97			70-130	Pass	
Pyrene	%	101			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	77			70-130	Pass	
4.4'-DDD	%	74			70-130	Pass	
4.4'-DDE	%	80			70-130	Pass	
4.4'-DDT	%	81			70-130	Pass	
a-HCH	%	70			70-130	Pass	
Aldrin	%	78			70-130	Pass	
b-HCH	%	75			70-130	Pass	
d-HCH	%	81			70-130	Pass	
Dieldrin	%	74			70-130	Pass	
Endosulfan I	%	79			70-130	Pass	
Endosulfan II	%	74			70-130	Pass	
Endosulfan sulphate	%	83			70-130	Pass	
Endrin	%	70			70-130	Pass	
Endrin aldehyde	%	79			70-130	Pass	
Endrin ketone	%	71			70-130	Pass	
g-HCH (Lindane)	%	76			70-130	Pass	
Heptachlor	%	89			70-130	Pass	
Heptachlor epoxide	%	80			70-130	Pass	
Hexachlorobenzene	%	79			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methoxychlor			%	89			70-130	Pass	
LCS - % Recovery									
Organophosphorus Pesticides									
Diazinon			%	130			70-130	Pass	
Dimethoate			%	118			70-130	Pass	
Ethion			%	82			70-130	Pass	
Fenitrothion			%	125			70-130	Pass	
Methyl parathion			%	115			70-130	Pass	
Mevinphos			%	71			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	96			80-120	Pass	
Cadmium			%	98			80-120	Pass	
Chromium			%	100			80-120	Pass	
Copper			%	101			80-120	Pass	
Lead			%	91			80-120	Pass	
Mercury			%	86			80-120	Pass	
Nickel			%	101			80-120	Pass	
Zinc			%	101			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	S21-Se59513	NCP	%	92			70-130	Pass	
Naphthalene	S21-Se59513	NCP	%	108			70-130	Pass	
TRH C6-C10	S21-Se59513	NCP	%	89			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S21-Se59513	NCP	%	105			70-130	Pass	
Toluene	S21-Se59513	NCP	%	97			70-130	Pass	
Ethylbenzene	S21-Se59513	NCP	%	96			70-130	Pass	
m&p-Xylenes	S21-Se59513	NCP	%	97			70-130	Pass	
o-Xylene	S21-Se59513	NCP	%	97			70-130	Pass	
Xylenes - Total*	S21-Se59513	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	N21-Se61128	NCP	%	99			70-130	Pass	
Acenaphthylene	N21-Se61128	NCP	%	98			70-130	Pass	
Anthracene	N21-Se61128	NCP	%	70			70-130	Pass	
Benz(a)anthracene	N21-Se61128	NCP	%	81			70-130	Pass	
Benzo(a)pyrene	N21-Se61128	NCP	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	N21-Se61128	NCP	%	82			70-130	Pass	
Benzo(g.h.i)perylene	N21-Se61128	NCP	%	91			70-130	Pass	
Benzo(k)fluoranthene	N21-Se61128	NCP	%	96			70-130	Pass	
Chrysene	N21-Se61128	NCP	%	93			70-130	Pass	
Dibenz(a.h)anthracene	N21-Se61128	NCP	%	86			70-130	Pass	
Fluoranthene	N21-Se61128	NCP	%	89			70-130	Pass	
Fluorene	N21-Se61128	NCP	%	99			70-130	Pass	
Indeno(1.2.3-cd)pyrene	N21-Se61128	NCP	%	88			70-130	Pass	
Naphthalene	N21-Se61128	NCP	%	103			70-130	Pass	
Phenanthrene	N21-Se61128	NCP	%	100			70-130	Pass	
Pyrene	N21-Se61128	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S21-Oc04648	NCP	%	93			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	S21-Oc04648	NCP	%	91			75-125	Pass	
Chromium	S21-Oc04648	NCP	%	93			75-125	Pass	
Copper	S21-Se62146	NCP	%	93			75-125	Pass	
Lead	S21-Oc04648	NCP	%	89			75-125	Pass	
Mercury	S21-Oc04648	NCP	%	85			75-125	Pass	
Nickel	S21-Oc04648	NCP	%	93			75-125	Pass	
Zinc	S21-Oc04648	NCP	%	92			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S21-Oc01081	CP	%	86			70-130	Pass	
TRH >C10-C16	S21-Oc01081	CP	%	82			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S21-Se54821	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S21-Oc04650	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S21-Oc04650	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S21-Oc04650	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	S21-Se54821	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S21-Se54821	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S21-Oc04650	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S21-Oc04650	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S21-Oc04650	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S21-Se54821	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S21-Se54821	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S21-Se54821	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S21-Se54821	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S21-Se54821	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S21-Se54821	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	N21-Se61127	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	N21-Se61127	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	N21-Se61127	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	N21-Se61127	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	N21-Se61127	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	N21-Se61127	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Tokuthion	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	N21-Se61127	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S21-Oc01079	CP	%	19	18	9.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc01080	CP	mg/kg	7.0	8.5	20	30%	Pass	
Cadmium	S21-Oc01080	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Oc01080	CP	mg/kg	15	19	26	30%	Pass	
Copper	S21-Oc01080	CP	mg/kg	35	41	15	30%	Pass	
Lead	S21-Oc01080	CP	mg/kg	11	14	22	30%	Pass	
Mercury	S21-Oc01080	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Oc01080	CP	mg/kg	13	16	22	30%	Pass	
Zinc	S21-Oc01080	CP	mg/kg	58	73	23	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S21-Oc01082	CP	mg/kg	8.7	8.4	3.0	30%	Pass	
Cadmium	S21-Oc01082	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S21-Oc01082	CP	mg/kg	16	18	13	30%	Pass	
Copper	S21-Oc01082	CP	mg/kg	54	41	26	30%	Pass	
Lead	S21-Oc01082	CP	mg/kg	12	13	13	30%	Pass	
Mercury	S21-Oc01082	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S21-Oc01082	CP	mg/kg	15	15	2.0	30%	Pass	
Zinc	S21-Oc01082	CP	mg/kg	74	90	19	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC

Authorised by:

Emma Beesley	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)
Roopesh Rangarajan	Senior Analyst-Volatile (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Appendix G

Permeability Tests

Trilab
Soil Rock Calibration

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346A Bilsen Road,
Geebung
QLD 4034
Ph: +61 7 3265 5656

Perth
2 Kimmer Place,
Queens Park
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Ph: +61 8 9258 8323

PERMEABILITY BY FALLING HEAD TEST REPORT

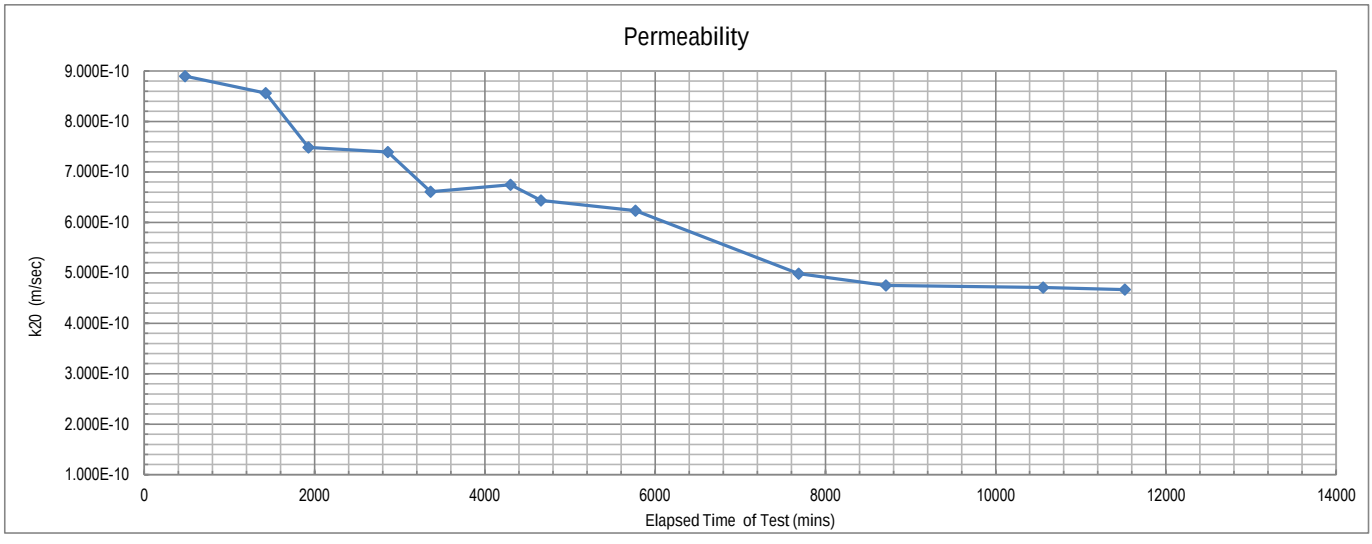
Test Method AS 1289 6.7.2, 5.1.1

Client	East West Enviroag Pty Ltd	**Report No.**	21090455-FHPT
		Workorder No.	0009088
Address	82 Plain Street, Tamworth NSW 2340	**Test Date**	17/09/2021
		Report Date	28/09/2021
Project	EW215331 - Material Evaluation - Rushes Creek		
Client ID	Shed 18 - 1	**Depth (m)**	0.60-0.90
Description	CLAY-brown	**Sample Type**	Remoulded Soil Specimen

RESULTS OF TESTING

Compaction Method	**AS1289.5.1.1 - Standard Compaction**		
Maximum Dry Density (t/m^3)	**1.62**	Hydraulic Gradient	**9.5**
Optimum Moisture Content (%)	**22.6**	Surcharge (kPa)	**2.9**
Placement Moisture Content (%)	**22.2**	Head Pressure Applied (kPa)	**10.79**
Moisture Ratio (%)	**98.4**	Water Type	**Deaerated**
Placement Wet Density (t/m^3)	**1.94**	Percentage Material Retained/Sieve Size (mm)	**0 % /9.5 mm**
Density Ratio (%)	**98.3**	Sample Height and Diameter (mm)	**116.13 / 101.45 mm**

PERMEABILITY $k_{(20)} =$ **4.7×10^{-10} (m/sec)**



Remarks: The above specimen was remoulded to a target of 98% of Standard Maximum Dry Density and at Optimum Moisture Content.

Sample/s supplied by client The compaction data was supplied by the client.

Accredited for compliance with ISO/IEC 17025 - Testing.
The results of the tests, calibrations, and/or measurements included in this document are traceable to Australian/National Standards.

Tested at Trilab Brisbane Laboratory

Authorised Signatory

C. Channon

NATA ACCREDITATION FOR TECHNICAL COMPETENCE

Laboratory No. 9926

Trilab
Soil Rock Calibration

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PERMEABILITY BY FALLING HEAD TEST REPORT

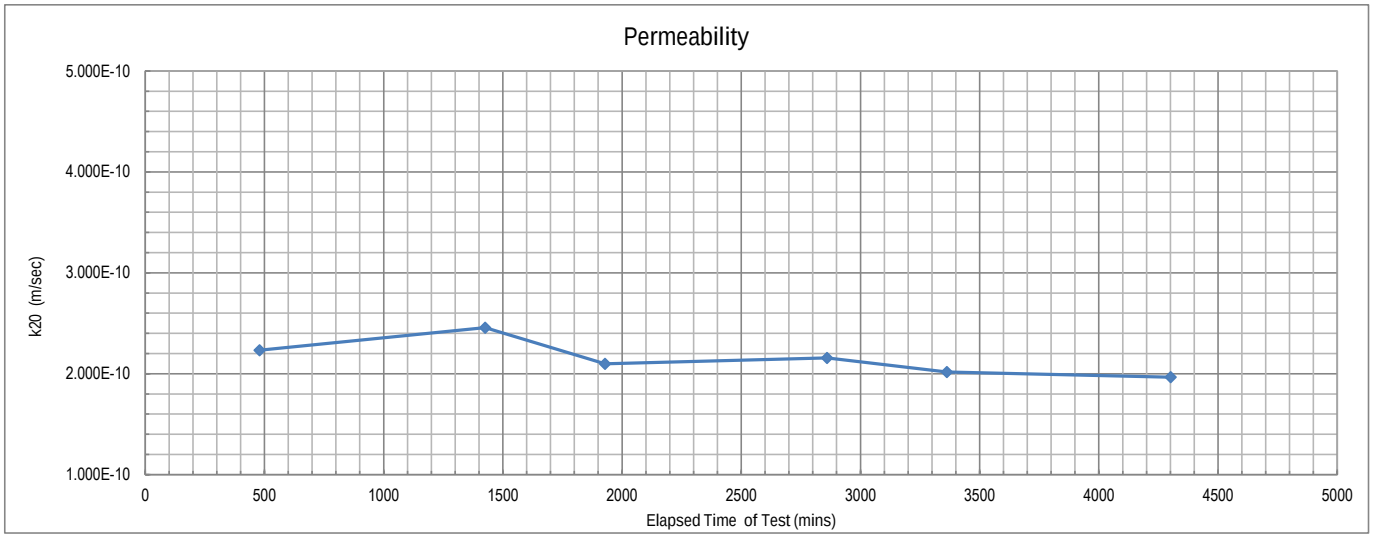
Test Method AS 1289 6.7.2, 5.1.1

Client	East West Enviroag Pty Ltd	**Report No.**	21090456-FHPT
		Workorder No.	0009088
Address	82 Plain Street, Tamworth NSW 2340	**Test Date**	17/09/2021
		Report Date	28/09/2021
Project	EW215331 - Material Evaluation - Rushes Creek		
Client ID	Shed 12 - 2	**Depth (m)**	0.00-0.30
Description	CLAY-brown	**Sample Type**	Remoulded Soil Specimen

RESULTS OF TESTING

Compaction Method	**AS1289.5.1.1 - Standard Compaction**		
Maximum Dry Density (t/m^3)	**1.49**	Hydraulic Gradient	**9.4**
Optimum Moisture Content (%)	**26.7**	Surcharge (kPa)	**2.9**
Placement Moisture Content (%)	**26.6**	Head Pressure Applied (kPa)	**10.79**
Moisture Ratio (%)	**99.8**	Water Type	**Deaerated**
Placement Wet Density (t/m^3)	**1.85**	Percentage Material Retained/Sieve Size (mm)	**0 % /9.5 mm**
Density Ratio (%)	**98.1**	Sample Height and Diameter (mm)	**116.5 / 101.49 mm**

PERMEABILITY $k_{(20)} =$ **2.0×10^{-10} (m/sec)**



Remarks: The above specimen was remoulded to a target of 98% of Standard Maximum Dry Density and at Optimum Moisture Content.

Sample/s supplied by client The compaction data was supplied by the client.

Accredited for compliance with ISO/IEC 17025 - Testing.
The results of the tests, calibrations, and/or measurements included in this document are traceable to Australian/National Standards.

Tested at Trilab Brisbane Laboratory

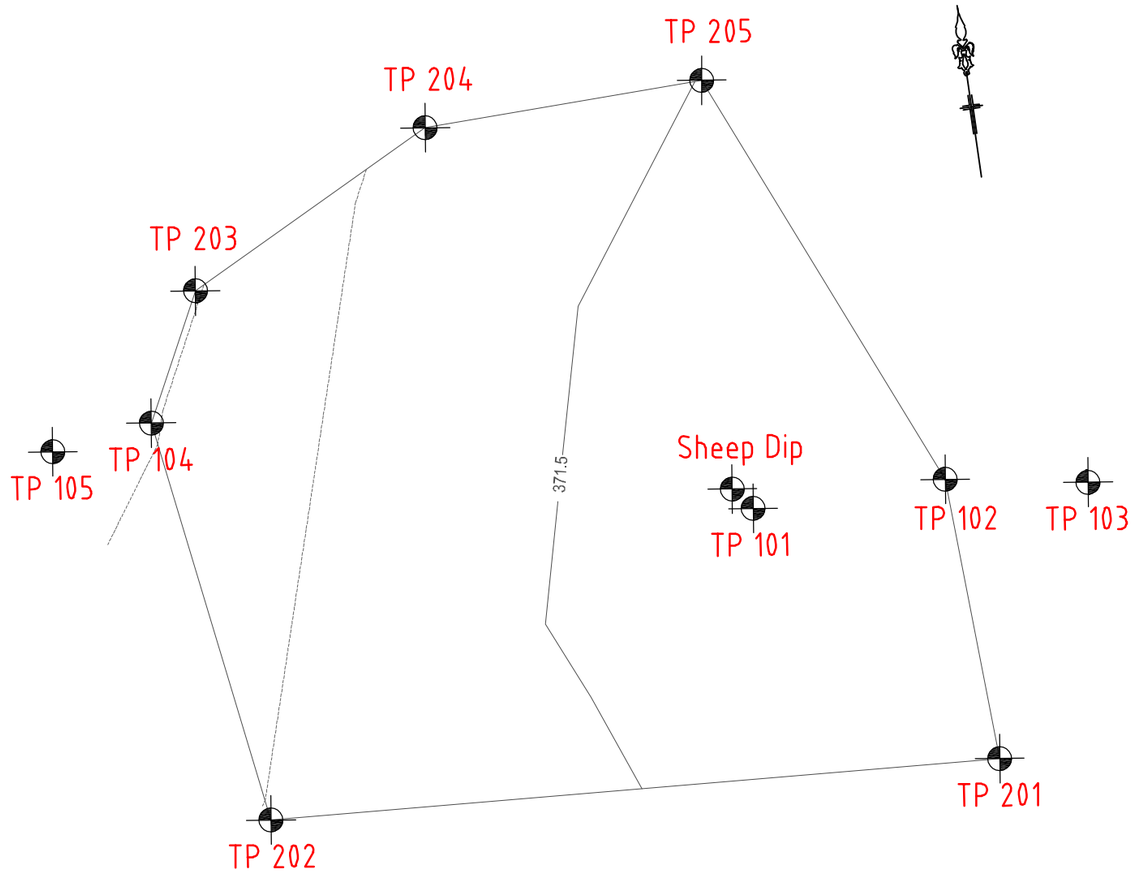
Authorised Signatory

C. Channon

Laboratory No. 9926

Appendix H

Site Surveys



SHEEP DIP PLAN

Scale 1:250
Contours at 0.1m Intervals

NOTE

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2. The information provided in this sketch is to assist in the construction process
3. In the event that there are ERRORS or CONFLICTING information provided you MUST contact the Office for immediate clarification
4. All dimensions are in millimeters unless stated otherwise
5. This site survey was carried out using Differential Global Navigational Satellite System technology (GNSS) on 22.10.2021
6. Test Pit reference numbers and approximate locations have been taken from SLR sketch (App A_F3_CappingExtent_01.pdf) received on 22.10.2021
7. The survey locations where on top of the disturbed (visual) areas

Location	Northing	Easting	Level
Sheep Dip	270205.61	6588558.17	371.57
TP 101	270206.25	6588557.27	371.50
TP 102	270214.17	6588557.27	371.52
TP 103	270219.99	6588556.29	371.45
TP 104	270182.50	6588564.34	371.29
TP 105	270178.36	6588563.78	371.27
TP 201	270214.68	6588545.69	371.59
TP 202	270184.93	6588547.63	371.41
TP 203	270185.08	6588569.40	371.30
TP 204	270195.33	6588574.59	371.44
TP 205	270206.77	6588574.82	371.50

Survey completed on 22.10.2021 for the existing site level

SKETCH DATA

Showing the location and level taken around the sheep dip area

DATE OF WORK: Friday 22nd October 2021

SURVEY WORK BY: Lachlan Smith & Michael Beath

www.dialbeforeyoudig.com.au
DIAL1100 BEFORE YOU DIG

LEGEND (EXISTING – LIGHT PROPOSED – DARKER)
CENTRE LINE, KERB AND GUTTER, TOP OF BATTER, SURFACE DRAINAGE, EDGE OF BITUMEN SEAL, FENCELINE, SEWERMAIN, WATERMAIN (& SIZE), STORMWATER DRAINAGE, OVERHEAD POWER, UNDERGROUND ELECTRICAL
TREE, SHRUB, SIGN, SEWER MANHOLE, INSPECTION PIT, DOWNPIPE & ROOFWATER OUTLET, POWER POLE, STREETLIGHT, GUIDE POST, WATER (HYDRANT,VALVE,METER), TELSTRA PIT AND CABLES

Rev.	DESCRIPTION	APPROVED	DATE
A	Sheep Dip co-ordinates	M.Beath	17.11.21

Cad: 21079 Rev A
Civilcad: 21079V20
Survey: L.Smith
Drawn: M.Beath
Designed: N/A
Checked: J.Herdegen

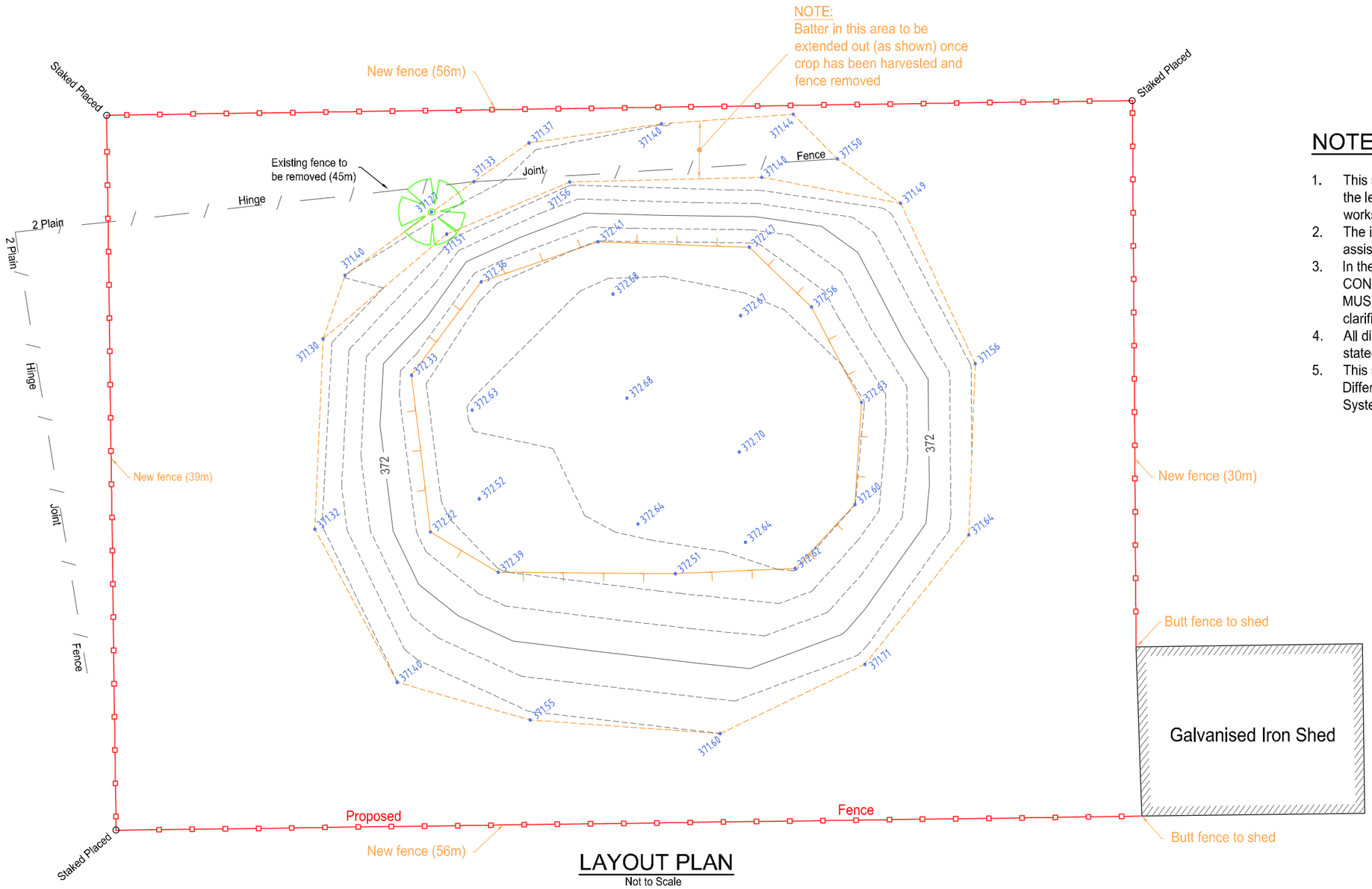
Original A3 Drawing Scale Bar: A3 Scale 1:250 (H) 2.5 0.0 2.5 5.0

Datum Description:
PM 117735 RL 349.753 GDA 2020
Located on the eastern side of Rushes Creek Rd 130m south of Rushes Creek

BATH STEWART ASSOCIATES
DEVELOPMENT CONSULTANTS
SURVEYORS – ENGINEERS – PLANNERS – PROJECT MANAGERS
239 Marius Street TAMWORTH NSW 2340
Telephone (02) 6766 5966 A.C.N. 002 745 020
office@bathstewart.com.au

PROTEN
1582 RUSHES CREEK RD RUSHES CREEK
LOT 171 DP 752169
22.10.2021 – SHEEP DIP CO-ORDINATES – ORIGINAL CONDITION

Ref. No: 21079
Sheet No : 01 of 01
Revision : A



NOTE

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2. The information provided in this sketch is to assist in the construction process
3. In the event that there are ERRORS or CONFLICTING information provided you MUST contact the Office for immediate clarification
4. All dimensions are in millimeters unless stated otherwise
5. This site survey was carried out using Differential Global Navigational Satellite System technology (GNSS) on 16.11.2021

LAYOUT PLAN

Not to Scale

LEGEND

123.45 Location & Level of finish surface

SKETCH DATA

Showing the location and level taken on the completed remediation works and associated proposed fencing for the Sheep Dip Area

DATE OF WORK: Tuesday 16th November 2021

SURVEY WORK BY: Lachlan Smith & Luke Berman

www.dialbeforeyoudig.com.au
DIAL 1100 BEFORE YOU DIG

LEGEND (EXISTING – LIGHT PROPOSED – DARKER)

CENTRE LINE
KERB AND GUTTER
TOP OF BATTER
SURFACE DRAINAGE
EDGE OF BITUMEN SEAL
FENCELINE
SEWERMAIN
WATERMAIN (& SIZE)
STORMWATER DRAINAGE
OVERHEAD POWER
UNDERGROUND ELECTRICAL

TREE, SHRUB, SIGN
SEWER MANHOLE, INSPECTION PIT
DOWNPIPE & ROOFWATER OUTLET
POWER POLE
STREETLIGHT, GUIDE POST
WATER (HYDRANT,VALVE,METER)
TELSTRA PIT AND CABLES

Rev.	DESCRIPTION	APPROVED	DATE
K	Sheep Dip Remediation Works - Final	M.Beath	17.11.21
J	Pad 7 - Shale surface levels	M.Beath	17.11.21
I	Pad 6 - Shale surface levels	M.Beath	26.10.21

Cad: 21079 Rev K
Civilcad: 21422V24
Survey: L.S. & L.B.
Drawn: M.Beath
Designed: N/A
Checked: J.Herdegen

Original A3 Drawing Scale Bar:
Not to Scale

Datum Description:
PM 117735 RL 349.753 GDA 2020
Located on the eastern side of Rushes Creek Rd 130m south of Rushes Creek

BATH STEWART ASSOCIATES
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SURVEYORS – ENGINEERS – PLANNERS – PROJECT MANAGERS
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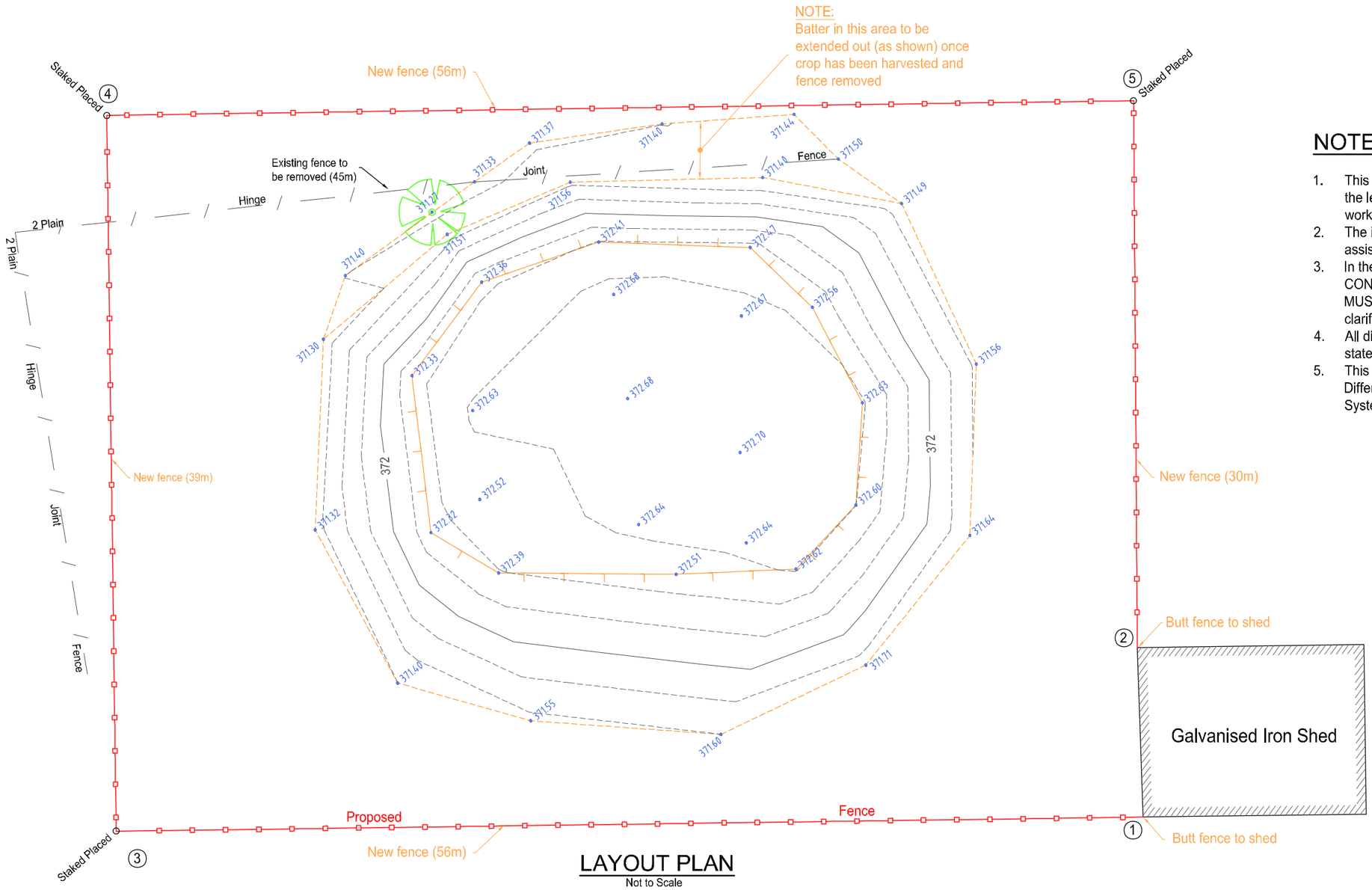
office@bathstewart.com.au

PROTEN
1582 RUSHES CREEK RD RUSHES CREEK
LOT 171 DP 752169
16.11.2021 – SHEEP DIP REMEDIATION AREA & FENCING

Ref. No: 21079
Sheet No : 01 of 01
Revision : K



LAYOUT PLAN

Not to Scale

NOTE

1. This sketch is to be read in conjunction with the letter and / or email issued for these works
2. The information provided in this sketch is to assist in the construction process
3. In the event that there are ERRORS or CONFLICTING information provided you MUST contact the Office for immediate clarification
4. All dimensions are in millimeters unless stated otherwise
5. This site survey was carried out using Differential Global Navigational Satellite System technology (GNSS) on 16.11.2021

LEGEND

123.45 Location & Level of finish surface

Location	Easting	Northing	Level
1	270219.78	6588534.51	371.69
2	270220.84	6588543.70	371.83
3	270164.29	6588542.06	371.23
4	270169.57	6588580.71	371.07
5	270225.07	6588573.19	371.77

SKETCH DATA

Showing the location and level taken on the completed remediation works and associated proposed fencing for the Sheep Dip Area

DATE OF WORK: Tuesday 16th November 2021

SURVEY WORK BY: Lachlan Smith & Luke Berman

LEGEND (EXISTING – LIGHT PROPOSED – DARKER)

CENTRE LINE, KERB AND GUTTER, TOP OF BATTER, SURFACE DRAINAGE, EDGE OF BITUMEN SEAL, FENCELINE, SEWERMAIN, WATERMAIN (& SIZE), STORMWATER DRAINAGE, OVERHEAD POWER, UNDERGROUND ELECTRICAL

TREE, SHRUB, SIGN, SEWER MANHOLE, INSPECTION PIT, DOWNPIPE & ROOFWATER OUTLET, POWER POLE, STREETLIGHT, GUIDE POST, WATER (HYDRANT,VALVE,METER), TELSTRA PIT AND CABLES

Rev.	DESCRIPTION	APPROVED	DATE
R	Rev K updated with co-ordinates added - As Requested	M.Beath	08.12.21
Q	Pads 1-8 Partial WAE	J.Herdegen	02.12.21
P	Shed 4 - Bolt Setout	J.Herdegen	01.12.21

Cad: 21079 Rev R
Civilcad: 21422V24
Survey: L.S. & L.B.
Drawn: M.Beath
Designed: N/A
Checked: J.Herdegen

Original A3 Drawing Scale Bar:
Not to Scale

Datum Description:
PM 117735 RL 349.753 GDA 2020
Located on the eastern side of Rushes Creek Rd 130m south of Rushes Creek

BATH STEWART ASSOCIATES
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Telephone (02) 6766 5966 A.C.N. 002 745 020
office@bathstewart.com.au

PROTEN
1582 RUSHES CREEK RD RUSHES CREEK
LOT 171 DP 752169
08.12.2021 – SHEEP DIP REMEDIATION AREA FENCE CO–ORDINATES

Ref. No: 21079
Sheet No : 01 of 01
Revision : R

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NELSON
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Richmond, Nelson 7020
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Appendix N:

Complaint Report Form

Person Who Received the Complaint

Name: …… Position: ……

Date: …… Time: …… am/pm

Site Management notified: Yes / No (if no, provide reason)

Person Who Made the Complaint

Name: ……

Address: ……

Contact Details: ……

Complaint Details (when and what was the complaint in relation to?)

Date: …… Time (approx.): …… am/pm

Description: ……

……

……

……

……

Field Investigation

Field investigation undertaken: Yes / No (if no, provide reason)

Description: ……

……

……

……

……

Is the complaint in relation to an environmental incident: Yes / No

If yes, follow the Environmental Incident Management Strategy - see CEMP / OEMP.

Remedial Actions

Remedial action undertaken: Yes / No (if no, provide reason)

Description: ……

……

……

……

……

Any further correction action required: Yes / No

Description: ……

……

……

……

……

Complainant Informed

Complainant informed of findings and outcomes: Yes / No (if no, provide reason)

Via: Phone / Email / Letter / In person

Staff Name: …… Position: ……

Date: …… Time: …… am/pm

Sign Off

Name: …… Position: ……

Signature: …… Date: ……

Recorded in Complaints register ☐

Appendix O:

Environmental Incident Report Form

Section A - Incident Details

Incident Details	
ProTen Farm	
Date	
Time	
Description of incident	
Recorded by	
Investigation	
Has the incident caused, or does it threaten to cause material harm to the environment?	YES / NO If yes, implement PIRMP (NSW) and contact EPA and Authorities as per section B Comments:
Person responsible for investigating and Reporting	
Investigation method	
Findings of investigation	
Action Taken and Close Out	
Remedial Action taken	Yes/No If Yes, Describe:

Further Corrective Action required	Yes/No If Yes, Describe:
Report submitted to EPA	Date Time
Close out	Name: Title: Signature: Date:

Section B – Notification of Authorities for PIRMP

Authority:	**Emergency Services – Fire/Police/Ambulance**		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	**EPA**		
Date:		Time:	
Person Spoken to:			
EPA Incident Number:			
instructions			
Authority:	EPA – Local Office		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	NSW Health		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	Safework NSW		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	Local Council		
Date:		Time:	
Person Spoken to:			
instructions			
Authority:	DPE		
Date:		Time:	
Person Spoken to:			
instructions			

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