G9	An appropriately qualified person(s) must: a) monitor and record all parameters that are required to be monitored by this environmental authority and in the manner specified by this environmental authority; and b) analyse and interpret the results of all monitoring required by this environmental authority, and document the analysis and interpretation.
G10	Chemicals (excluding Fertiliser Mixing Bin and Fertiliser Storage Silos as identified in Appendix A – Site Layout Plan) and fuels in containers of greater than 15 litres must be stored within a secondary containment system.
G11	When requested by the administering authority, monitoring must be undertaken in the manner prescribed by the administering authority to investigate potential or actual environmental harm arising from the activity. The results of monitoring must be provided to the administering authority within the timeframe and in the format specified in the request.
G12	Measures for detecting seepage or leaks from storage tanks and storage areas must be installed and implemented.
G13	Any detection of a leak or seepage from storage tanks or storage areas must be reported to the administering authority within 24 hours.

Agency Interest: Waste	
Condition number	**Condition**
WA1	All waste generated in carrying out the activity must be lawfully reused, recycled or removed to a facility that can lawfully accept the waste.
WA2	Incompatible wastes must not be mixed in the same container or waste storage area

Agency Interest: Acoustic

Condition number	Condition
N1	Other than as permitted within this environmental authority, noise generated by the activity must not cause environmental nuisance to any sensitive place or commercial place.
N2	Noise from the activity must not exceed the levels identified in *Table – Noise limits* at any nuisance sensitive place or commercial place when measured in accordance with the associated monitoring requirements.

Table – Noise limits

Noise level	Monday to Saturday			Sunday and Public Holidays		
	7am–6pm	6pm–10pm	10pm–7am	9am–6pm	6pm–10pm	10pm–9am
	Noise measured at the nearest sensitive place					
LAeq adj, 1 hr	48	42	32	No audible noise		
LA_1, 1 hr	55	49	39			
	Noise measured at a commercial place					
LAeq adj, 1 hr	55	50	45	No audible noise		
LA_1, 1 hr	62	57	52			

*Site-specific values to be inserted

Associated monitoring requirements

1. All monitoring devices must be calibrated and maintained according to the manufacturer's instruction manual.
2. Any monitoring must be in accordance with the most recent version of the administering authority's Noise Measurement Manual.
3. Any monitoring of noise emissions from the activity must be undertaken when the activity is in operation.

Agency interest: Air

Condition number	Condition number
A1	Other than as permitted within this environmental authority, odours or airborne contaminants must not cause environmental nuisance to any sensitive place or commercial place.

A2	Dust and particulate matter emissions must not exceed the following concentrations at any sensitive place or commercial place: (a) dust deposition of 120 milligrams per square metre per day, when monitored in accordance with Australian Standard AS 3580.10.1 (or more recent editions); or (b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, when monitored in accordance with Australian Standard AS 3580.9.6 (or more recent editions) or any other method approved by the administering authority.

Agency interest: Land	
Condition number	**Condition**
L1	Other than as permitted within the environmental authority, contaminants must not be released to land.
L2	Erosion and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment to waters.
L3	Before applying to surrender this environmental authority, the site must be rehabilitated to achieve a safe, stable, non-polluting landform and be suitable for the intended land use.
L4	Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014*.

Agency interest: Water	
Condition number	**Condition**
W1	Contaminants must not be released to any waters.
W2	Contaminants must not be released to groundwater or at a location where they are likely to release to groundwater

Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

Defined words or phrases in the singular include the plural and vice versa.

Activity means the environmentally relevant activities, whether resource activities or prescribed activities, to which the environmental authority relates.

Administering authority means the Department of Environment and Science or its successors or predecessors.

Appropriately qualified person(s) means a person or persons who has professional qualifications, training, skills and experience relevant to the EA requirement and can give authoritative assessment, advice and analysis in relation to the EA requirement using the relevant protocols, standards, methods or literature.

Commercial place means a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

Environmental nuisance as defined in Chapter 1 of the Environmental Protection Act 1994.

Groundwater means water that occurs naturally in, or is introduced artificially into, an aquifer.

Incompatible waste means waste that may chemically react when:

1) placed in proximity to other wastes; and/or
2) mixed with other wastes.

Land does not include waters.

LAeq adj, 1hr means the adjusted A weighted equivalent continuous sound pressure level measured in fast response time weighting, adjusted for tonality and impulsiveness, during the measurement period of 1 hour.

LA1, 1hr means the A weighted sound pressure level measured in fast response time weighting, that is exceeded for 1% of the measurement period of 1 hour.

Measures have the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

NATA means National Association of Testing Authorities.

Prescribed environmental matters has the meaning in section 10 of the Environmental Offsets Act 2014, limited to the matters of State environmental significant listed in schedule 2 of the Environmental Offsets Regulation 2014.

Records include breach notifications, written procedures, analysis results, monitoring reports and monitoring programs required under a condition of this authority.

Secondary containment system means a system designed, installed and operated to prevent any release of contaminants from the system, or containers within the system, to land, groundwater, or surface waters.

Sensitive place includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place:

1. a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
2. a motel, hotel or hostel; or
3. a kindergarten, school, university or other educational institution; or
4. a medical centre or hospital; or

5. a protected area under the Nature Conservation Act 1992, the Marine Parks Act 2004 or a World Heritage Area; or
6. a public park or garden; or
7. for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2019.

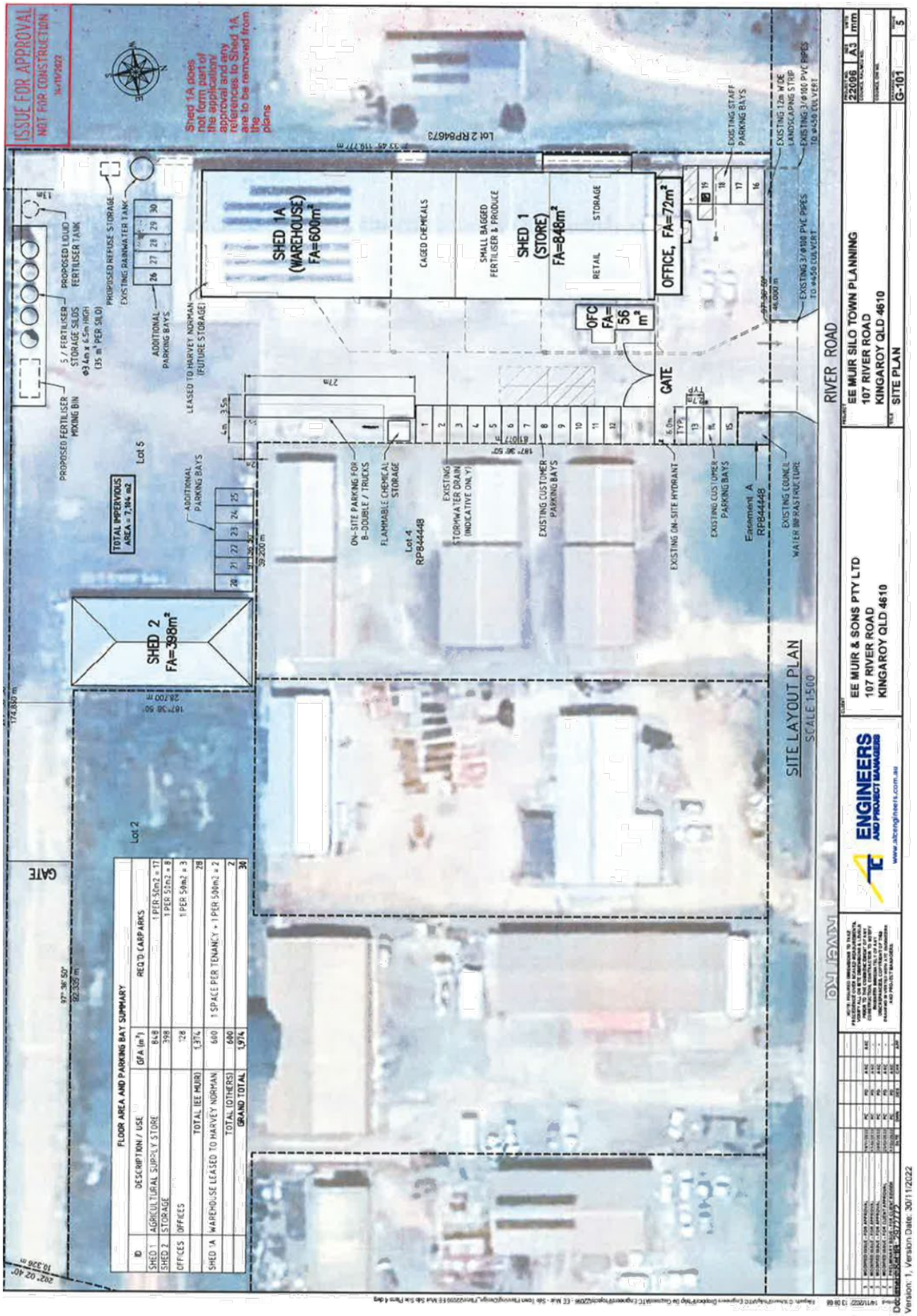
Significant residual impact has the meaning in section 8 Environmental Offsets Act 2014.

Waters includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water, natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

You means the holder of the environmental authority


Permit
Environmental authority P-EA-100458360
Appendix A – Site Layout Plan
Client: E.E Muir & Sons Pty Ltd
Project No.: J000821
Compiled by: GK Date: 01/07/2022
Approved by: RM Date: 01/07/2022
Metres
0 10 20
Legend
Site boundary
Cadastre
Roads
Proposed Infrastructure
Fertiliser Mixing Bin
Fertiliser Storage Silos
Refuse Storage Area
UAN Fertiliser Tank
Existing infrastructure
Caged Chemicals
Chemical Storage Shed
Laydown area
Office
Parking
Shed 1 (Retail)
Shed 1A (Warehouse)
Shed 2 (Storage)
Regulated Vegetation
Category R
5SP249675

END OF ENVIRONMENTAL AUTHORITY


ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
Shed 1A does not form part of the application/ approval and any references to Shed 1A are to be removed from the plans
SHED 1A (WAREHOUSE) FA=600m²
SHED 1 (STORE) FA=848m²
SHED 2 FA=398m²
OFFICE, FA=72m²
OFC FA= 56 m²
CAGED CHEMICALS
SMALL BAGGED FERTILISER & PRODUCE
RETAIL
STORAGE
GATE
RIVER ROAD
SITE LAYOUT PLAN
SCALE 1:500
PROPOSED FERTILISER MIXING BIN
5 / FERTILISER STORAGE SILOS Ø3.4m x 6.5m HIGH (35 m³ PER SILO)
PROPOSED FERTILISER TANK
PROPOSED REFUSE STORAGE
EXISTING RAINWATER TANK
ADDITIONAL PARKING BAYS
LEASED TO HARVEY NORMAN (FUTURE STORAGE)
TOTAL IMPERVIOUS AREA = 7,184 m2
ON-SITE PARKING FOR B-DOUBLE / TRUCKS
FLAMMABLE CHEMICAL STORAGE
Lot 4 RP844448
EXISTING STORMWATER DRAIN (INDICATIVE ONLY)
EXISTING CUSTOMER PARKING BAYS
EXISTING ON-SITE HYDRANT
EXISTING CUSTOMER PARKING BAYS
Easement A RP844448
EXISTING COUNCIL WATER INFRASTRUCTURE
EXISTING STAFF PARKING BAYS
EXISTING 12m WIDE LANDSCAPING STRIP
EXISTING 3/Ø100 PVC PIPES TO Ø450 CULVERT
EXISTING 3/Ø100 PVC PIPES TO Ø450 CULVERT
Lot 2 RP846473
Lot 5
Lot 2
FLOOR AREA AND PARKING BAY SUMMARY
ID | DESCRIPTION / USE | GFA (m²) | REQ'D CARPARKS
SHED 1 | AGRICULTURAL SUPPLY STORE | 848 | 1 PER 50m2 = 17
SHED 2 | STORAGE | 398 | 1 PER 50m2 = 8
OFFICES | OFFICES | 128 | 1 PER 50m2 = 3
TOTAL (EE MUIR) | 1,374 | 28
SHED 1A | WAREHOUSE LEASED TO HARVEY NORMAN | 600 | 1 SPACE PER TENANCY + 1 PER 500m2 = 2
TOTAL (OTHERS) | 600 | 2
GRAND TOTAL | 1,974 | 30
ENGINEERS AND PROJECT MANAGERS
www.allcengineers.com.au
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
SITE PLAN
22096
A3
G-101
Version: 1, Version Date: 30/11/2022

ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
14/11/2022
Shed 1A does not form part of the application/ approval and any refererences to Shed 1A are to be removed from the plans
NORTH ELEVATION
SCALE 1:500
SOUTH ELEVATION
SCALE 1:500
EAST ELEVATION
SCALE 1:500
WEST ELEVATION
SCALE 1:500
SHED 1
SHED 2
SHED 1A
OFFICE
SILOS
MIXING BIN
ENGINEERS
AND PROJECT MANAGERS
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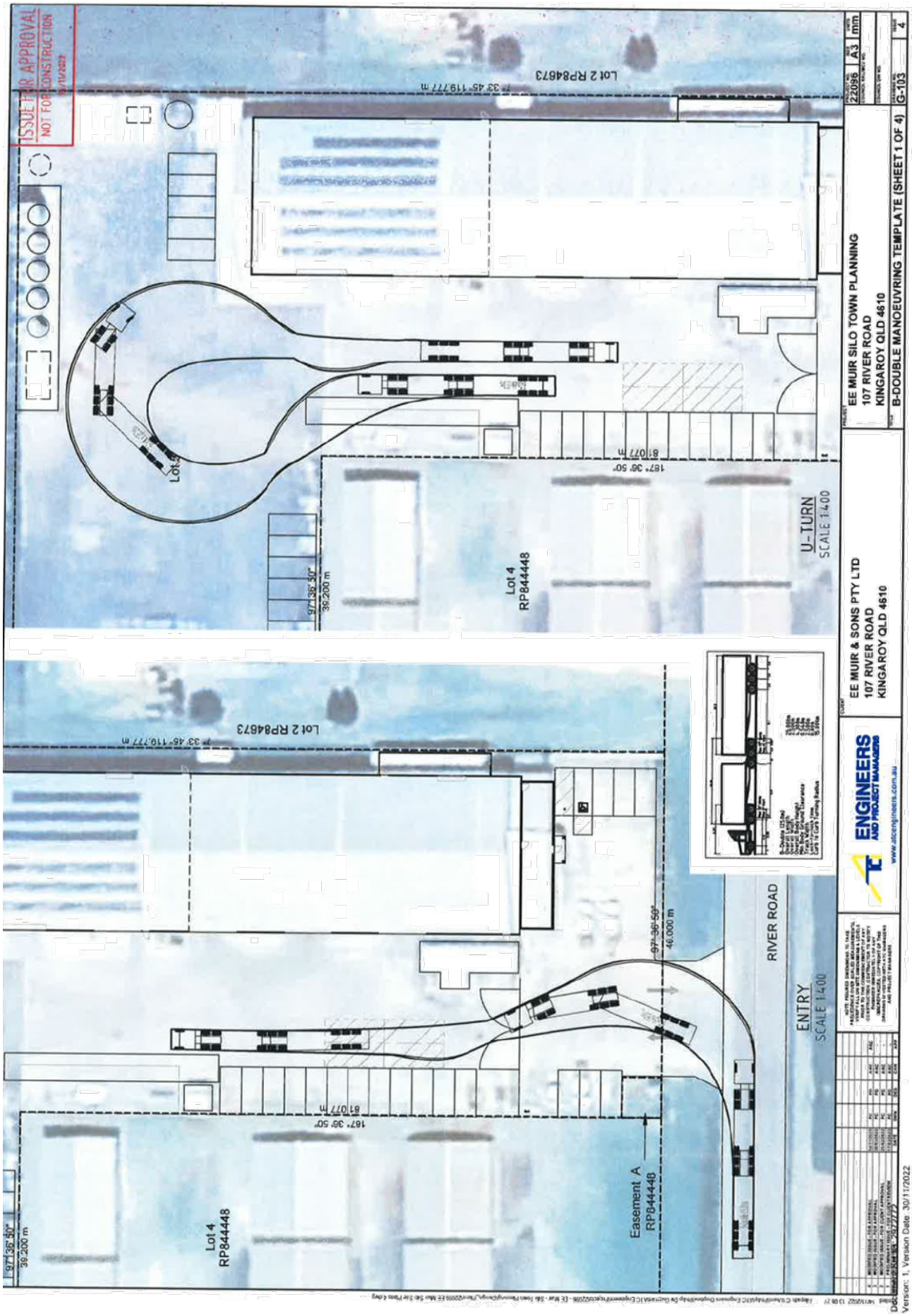
KINGAROY QLD 4610
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
SITE ELEVATIONS
22096
A3
G-102
4
Version: 1, Version Date: 30/11/2022


ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
Lot 2 RP846473
Lot 4 RP844448
U-TURN
SCALE 1:400
ENTRY
SCALE 1:400
RIVER ROAD
Easement A RP844448
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
B-DOUBLE MANOEUVRING TEMPLATE (SHEET 1 OF 4)
G-103
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
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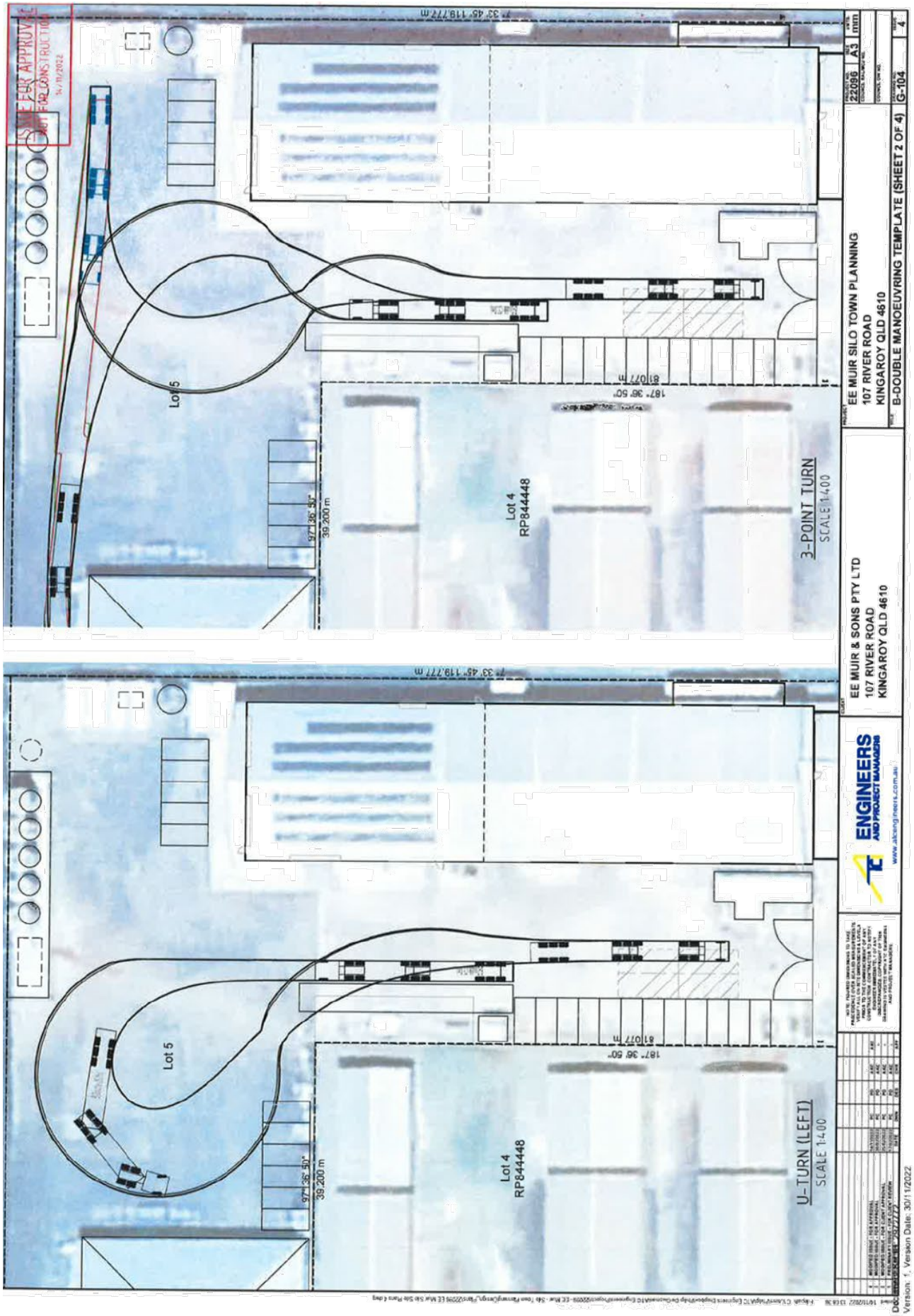
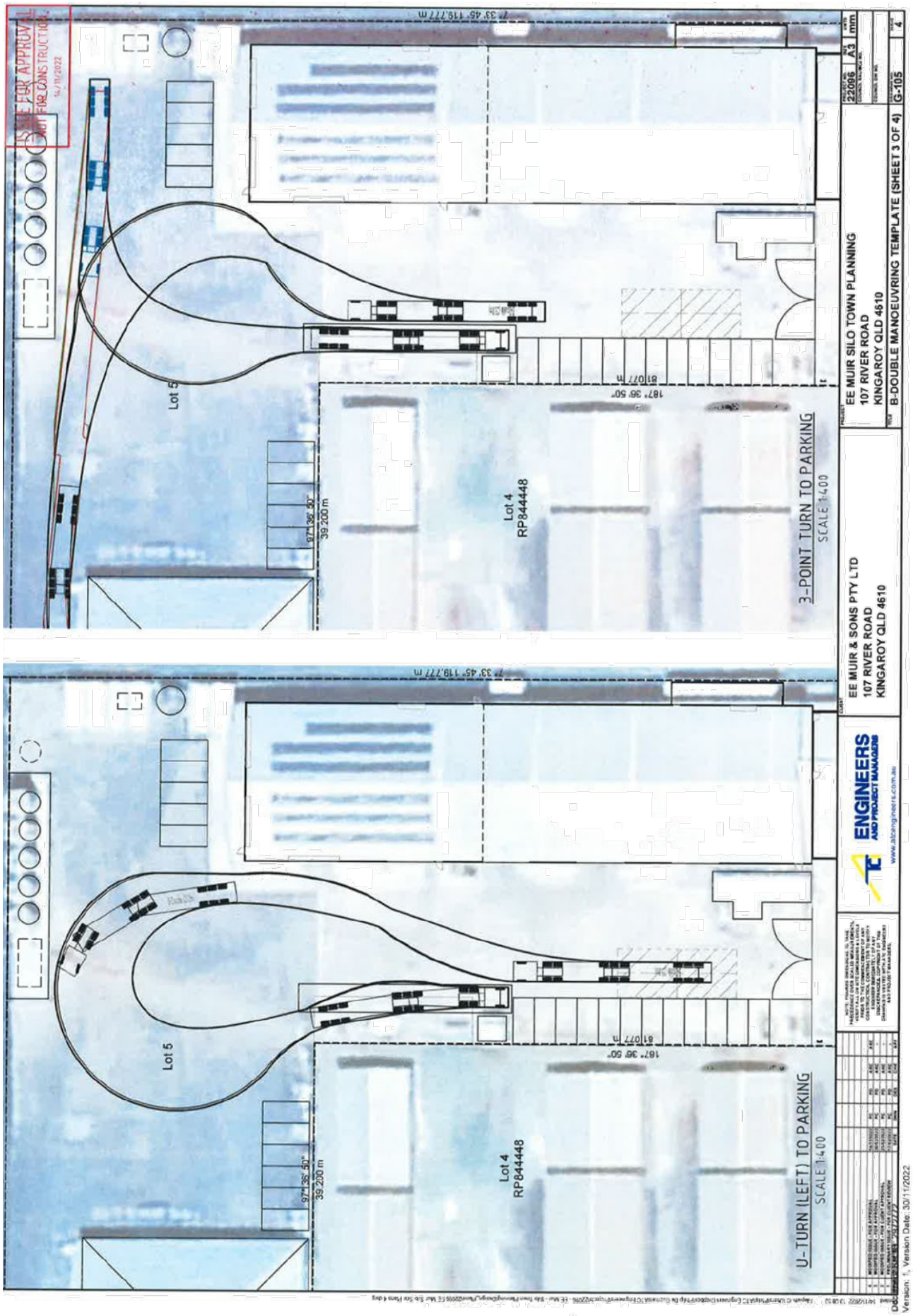

ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
Lot 5
Lot 4
RP844448
39.200 m
97° 36' 50"
187° 36' 50"
81.077 m
3-POINT TURN
SCALE 1:400
U-TURN (LEFT)
SCALE 1:400
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
B-DOUBLE MANOEUVRING TEMPLATE (SHEET 2 OF 4)
22096
A3
G-104
ENGINEERS
AND PROJECT MANAGERS


ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
Lot 5
Lot 4
RP844448
39.200 m
97° 36' 50"
187° 36' 50"
81.077 m
3-POINT TURN TO PARKING
SCALE 1:400
U-TURN (LEFT) TO PARKING
SCALE 1:400
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
B-DOUBLE MANOEUVRING TEMPLATE (SHEET 3 OF 4)
G-105
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AND PROJECT MANAGERS
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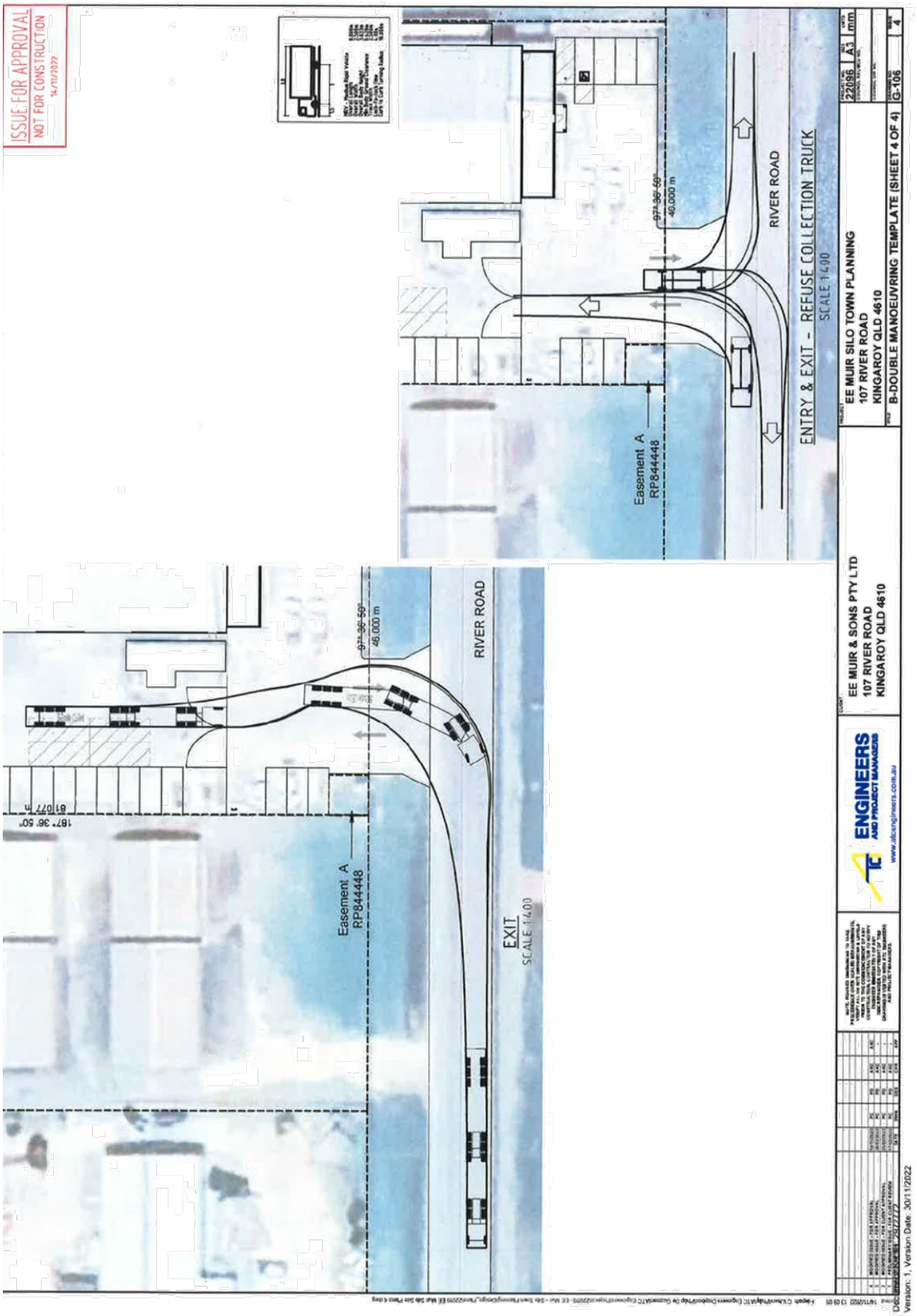
ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
ENTRY & EXIT - REFUSE COLLECTION TRUCK
SCALE 1:400
RIVER ROAD
Easement A
RP844448
EXIT
SCALE 1:400
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
B-DOUBLE MANOEUVRING TEMPLATE (SHEET 4 OF 4)
G-106
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ENVIRONMENTAL ASSESSMENT
107 River Road, Kingaroy

Client: E.E Muir & Sons Pty Ltd

Range Environmental Consultants
Office A, 189 Hume Street
Toowoomba QLD 4350
T 07 4588 6711
E admin@rangeenviro.com.au

Project Number: J000821
Status: Final
Date: 19/07/2022

Important Note

We have prepared this report for the sole purposes of **E.E Muir & Sons Pty Ltd** (the Client) for the specific purpose for which it is supplied (the Purpose). This report is strictly limited for use by the client for the purpose and the facts and matters stated in it and it shall not be used directly or indirectly for any other use.

Third parties may not rely on this report. Range Environmental Consultants waives all liability to any third-party loss, damage, liability or claim arising out of or incidental to a third party publishing, using or relying on the facts, content, opinions or subject matter contained in this report.

We have assumed that all information provided to us by the Client or other third parties which was relied upon, wholly or in part in reporting, was complete, current, and accurate at the time of supply. Range Environmental Consultants waives all responsibility for any loss or damage relating to the accuracy, currency and completeness of information provided by the Client or other third parties.

Document Version Register

Version	Purpose	Lead Author	Reviewer	Approved for Issue	
				Approver	Date
1	Final	RJM	LMT	LMT	19/07/2022

Contents

Figures

Tables

Photographs

Appendices

1. Introduction

An environmental assessment was undertaken for E.E Muir & Sons Pty Ltd (hereafter 'the Client') for a proposed fertiliser manufacturing facility at 107 River Road, Kingaroy (hereafter 'the site'). The site is formally described as Lot 5 SP249675 and is located within the South Burnett Regional Council (SBRC) Local Government Area (Figure 1).

The site is currently leased by the Client and used for the distribution of packaged agricultural products such as seeds, fertilisers, and chemicals from the retail section of the site shown at Figure 2. The development plans are provided at Appendix A:. The existing use would continue to operate in conjunction with the proposed fertiliser manufacturing facility.

This environmental assessment was undertaken to support a Material Change of Use (MCU) (Special Industry) Development Application (DA) and a site-specific Environmental Authority (EA) Application for prescribed concurrence Environmentally Relevant Activity (ERA) 7(4)(a): manufacturing, in a year, the following quantities of fertiliser - 200t to 1,000t.

This environmental assessment was prepared in accordance with:

- Section 125 of the *Environmental Protection Act 1994* (EP Act);
- EP Act Guideline Application requirements for activities with impacts to air, land, noise, water, and waste (DES Publications ESR/2015/1836 to1840).
- State Development Assessment Provisions (SDAP) State Code 22: Environmentally Relevant Activities.
- South Burnett Regional Planning Scheme 2017 (v1.4).

Version: 1, Version Date: 18/08/2022

Figure 2
Proposed
Development
Layout
Project: Environmental Assessment
Client: E.E Muir & Sons Pty Ltd
Project No.: J000821
Compiled by: MCW Date: 13/05/2022
Approved by: RM Date: 13/05/2022
0 10 20 Metres
Legend
Site boundary
Cadastre
Roads
Proposed Infrastructure
Fertiliser Mixing Bin
Fertiliser Storage Silos
Refuse Storage Area
UAN Fertiliser Tank
Existing Infrastructure
Caged Chemicals
Chemical Storage Shed
Laydown area
Office
Parking
Shed 1 (Retail)
Shed 1A (Warehouse)
Shed 2 (Storage)
The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.
Source: Cadastral data sourced from DNRME (2021). Aerial imagery sourced from Metromap (2021).
N
range environmental consultants
Staff parking
Entry/Exit
Customer parking
Customer parking
Truck parking
5SP249675
Document Set ID: 2930538
Version: 1, Version Date: 18/08/2022

2. Assessment against Reporting Requirements for ERA Applications

2.1 EP Act

Reporting requirements for site specific ERA applications are provided at Section 125 (1)(l) of the EP Act. Table 1 demonstrates that this environmental assessment report meets the mandatory application reporting requirements.

Table 1 Assessment against Reporting Requirements for ERA Applications

Report Requirement	Section of Report Addressing Requirement
For a site-specific application (S125 (l)) -	
(a) Include an assessment of the likely impact of the relevant activity on the environmental values, including:	
1. A description of the environmental values likely to be affected by each relevant activity; and	Section 5
2. Details of any emissions or releases likely to be generated by each relevant activity; and	Section 6
3. A description of the risk and likely magnitude of impacts on the environmental values; and	Section 7
4. Details of the management practices proposed to be implemented to prevent or minimise adverse impacts; and	Appendix G
5. Details of how the land the subject of the application will be rehabilitated after each relevant activity ceases; and	Appendix G
(b) Include a description of the proposed measures for minimising and managing waste generated by each relevant activity; and	Appendix G
(c) Include details of any site management plan that relates to the land the subject of the application.	Not applicable

2.2 State Code 22

The performance outcomes of State Code 22: Environmentally Relevant Activities were incorporated into the environmental assessment of the proposal. A code response table demonstrating compliance with the performance outcomes of State Code 22 is provided at Appendix B:.

2.3 Local Planning Scheme

The relevant code responses are provided in ONF Surveyors' Development Assessment Report (Reference: 10282K).

3. Site Description

3.1 Site Particulars

Details of the site are provided in Table 2.

Table 2 Site Particulars

Descriptor	Description
Project Proponent	E.E Muir & Sons Pty Ltd
Registered Suitable Operator	RSO100252140
Street Address	107 River Road, Kingaroy
Real Property Description	Lot 5 on SP249675
Site Area	0.7931 hectares (ha)
Local Government Area	South Burnett Regional Council (SBRC)
Planning Scheme	South Burnett Regional Planning Scheme 2017 (v1.4)
Land Use Zoning	Industrial within the Priority Infrastructure Area (PIA)

3.2 Existing Approvals and Permits

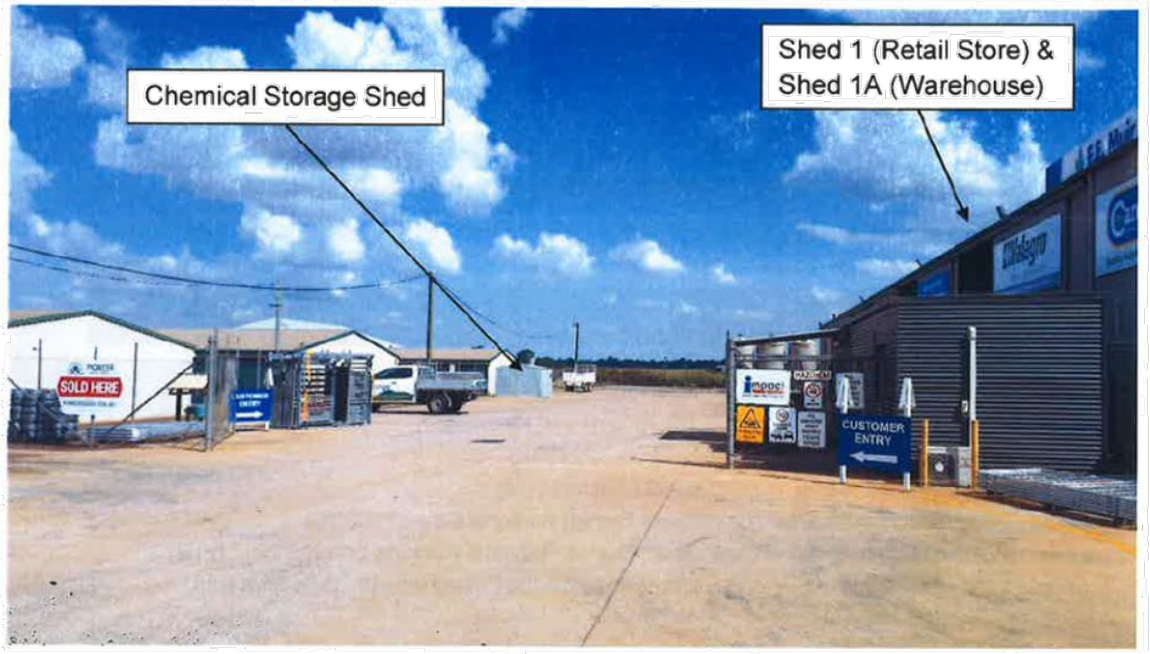
The are no existing Development Approvals/Permits or Environmental Authorities over the site for a fertiliser manufacturing facility.

3.3 Site Condition

The site is currently occupied by the Client and used for an existing retail business for various packaged agricultural products. The current layout of the site includes sealed and unsealed hardstand areas for product storage and vehicle manoeuvring and parking, sheds for product storage, administration offices and unused grain silos (Figure 2).

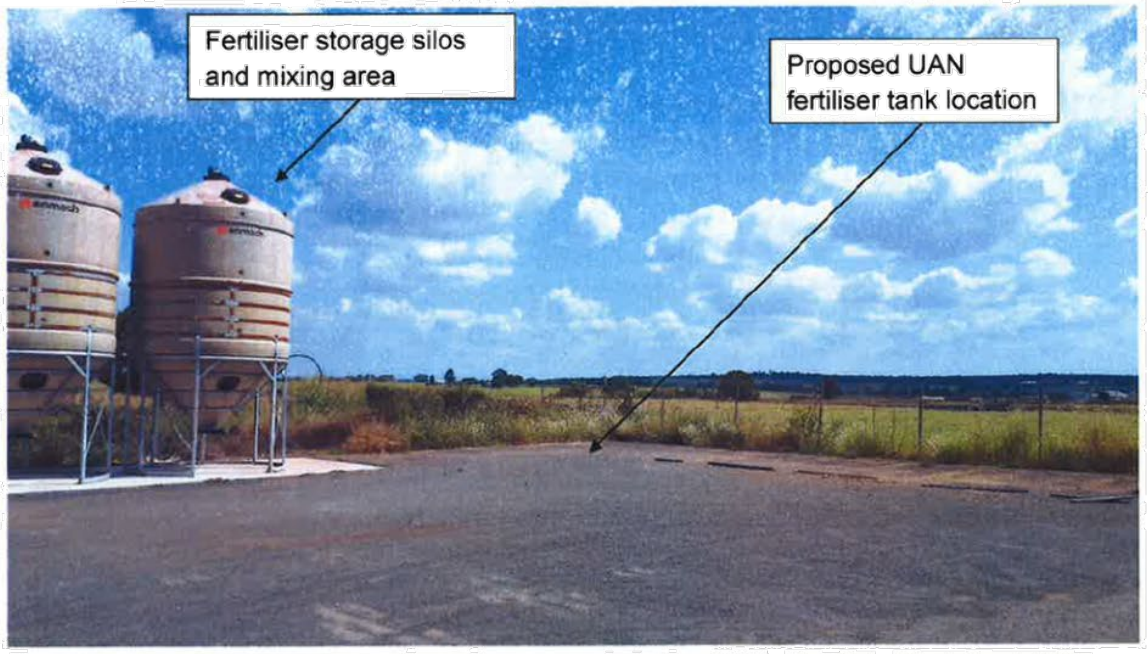
As shown in the site inspection photos below and aerial imagery at Figure 2, there were no ecological values of note and low potential for habitat for any threatened flora or fauna due to a high level of previous disturbance and development and ongoing routine maintenance. The site gently slopes southwards to a drainage feature adjacent to the southern boundary of the site, which flows to an unnamed drainage feature 45m to the west.

There were no watercourses or wetlands at the site, however, an unnamed watercourse occurred approximately 45m west of the site. It is a tributary of Kingaroy Creek which is located 438 m south of the site.

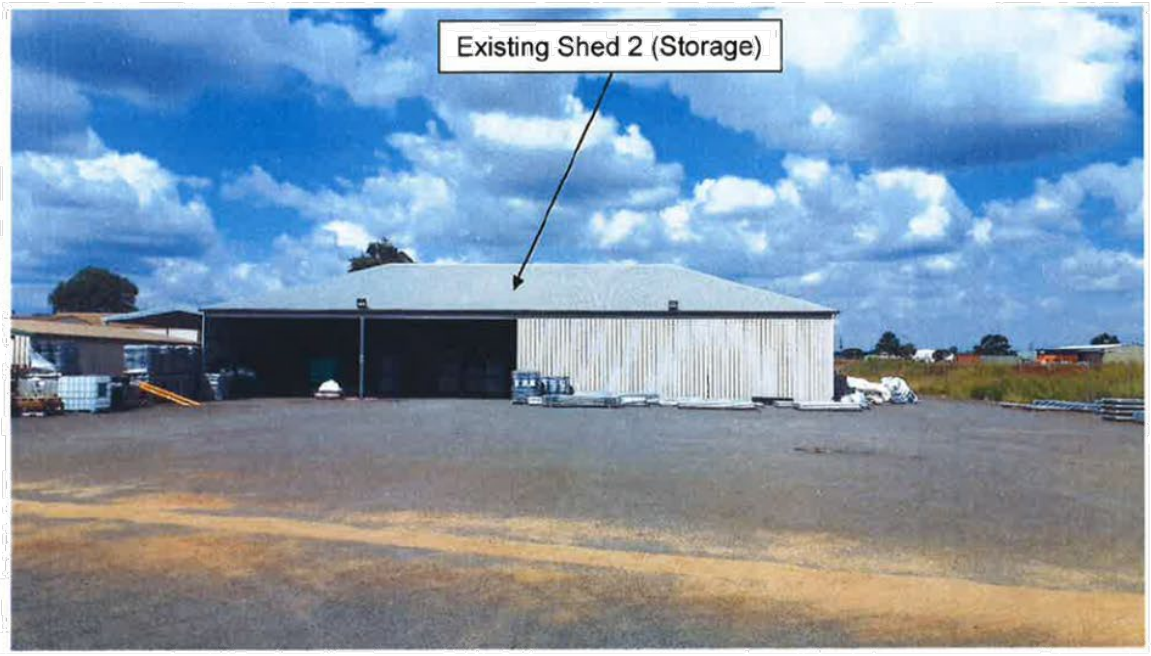


Photograph 1 View to the south of the site entrance

Photograph 2 View to the west of the front carpark and retail store



Photograph 3 View to the south-west of the proposed Urea Ammonium Nitrate (UAN) fertiliser tank location and fertiliser storage silos and mixing area



Photograph 4 View to the east of the existing shed 2 for fertiliser storage (1t bulk bags)

4. Description of Proposed Operations

An overview of the proposed fertiliser manufacturing operations at the site is provided at Table 3 below. A site layout of the existing and proposed infrastructure is provided at Figure 2 and plans of development are provided at Appendix A:.

Table 3 Site Operations

Aspect of Operations	Description
Facility operator	• E.E Muir & Sons Pty Ltd
Registered Suitable Operator (RSO)	• RSO100252140
Site	• Lot 5 SP249675
Nature of Activity	• Fertiliser manufacturing facility
ERAs	• ERA 7(4)(a): Chemical manufacturing –manufacturing, in a year, the following quantities of fertiliser - 200t to 1,000t.
Annual Throughput	• Manufacturing approximately 1000t of fertiliser/year.
ERA Process	1. A semi-trailer or B-Double will arrive with dry, granular fertiliser inputs (products), which are approximately 2mm to 6mm in diameter. The products include urea + diammonium phosphate (DAP) + potassium chloride or potassium sulphate. 2. The products will be individually stored in one of the 5 x 35m³ silos. They will be transferred from the transport vehicle to the silos by an electric conveyor. 3. An electric conveyor at the bottom of the silos will direct the products to a weigh bin with a 5t capacity. The weigh bin will weigh each product separately. 4. An electric conveyor will direct the individually weighed products to the mixing blender. The mixing blender will have a 2t capacity and will mix the products together in a tumbling process (much like a concrete mixer). This process does not include other additives such as water or liquid chemicals. 5. An electric conveyor will direct the mixed loose product to a truck with roller tarps or into 1t bulk bags. 1t bulk bags will be stored inside Shed 2 (Storage). Note: All conveyors, weigh bin and mixer are enclosed to reduce spillage, dust, and rainfall ingress.
Supporting Non-ERA Activity - UAN Sales	1. A contractor will fill up 1 x 22kL liquid urea-ammonium nitrate (UAN) polyethylene aboveground storage tank (AST).[1] 2. Customers will arrive with an intermediate bulk container (IBC).

[1] The tank will not be bunded as it is not identified as a hazardous chemical under the Work Health and Safety Regulation 2011. The Safety Data Sheet (SDS) shown at Appendix C: also shows that UAN is 'not hazardous' to the environment. The proposed activity does not trigger ERA 8 (1)(d) under Schedule 2 of the Environmental Protection Regulation, as the quantity will not exceed 200m³.

Aspect of Operations	Description
	3. The UAN product will be pumped into the customer's IBC and transported offsite by the customer.
Plant and Equipment	The plant and equipment proposed for the site will include: • 5 x 35m³ silos. • 1 x 22kL UAN AST. • Covered electric conveyors. • 2t mixing blender. • 5t weigh bin. • One (1) x forklift. • Up to two (2) trucks per week accessing the site to deliver product (not including client's trucks). No onsite servicing of plant and equipment or fuel storages are proposed.
Hours of operation	• 8:00am to 5:00pm, Monday to Friday. • No weekends or public holidays.
Wastes	• General and recyclable waste from office and amenities shall be stored in covered bins and removed regularly. • Wastewater from amenities shall be directed to the sewer mains. • Spillages will be recovered and reused. • No other solid or liquid waste streams will be generated from the proposed facility.

5. Environmental Values of the Site and Surrounds

5.1 Biodiversity

The assessment of biodiversity values included a desktop assessment of Local, State and Federal databases and a site inspection to validate the desktop study findings. The biodiversity assessment confirmed that the heavily disturbed site is of limited ecological value.

5.1.1 Vegetation Communities

Regulated Vegetation mapping shows less than 0.01 hectares (ha) of Category R Regulated Vegetation (Reef regrowth watercourse vegetation) (Endangered Regional Ecosystem 12.3.3) is mapped within the north-east corner of the site (see Figure 3 and Appendix C:). The site inspection confirmed that this area was carparking and did not contain Regulated Vegetation. Furthermore, no development for the proposed fertiliser manufacturing facility is proposed within the mapped Regulated Vegetation.

The following are not mapped within the site:

- Watercourse or drainage feature on the vegetation management watercourse and drainage features map;
- Essential Habitat; or
- A Wetland on the Vegetation Management Wetlands Map.

The Protected Matters Search identified five (5) Threatened Ecological Communities (TECs) may occur within 5km of the site. The site inspection confirmed that no TECs occurred within or adjoining the site.

5.1.2 Wetlands

There are no Referable Wetlands or Wetland Protection Areas mapped within the site (Appendix C:). No High Ecological Value Waters or Wetlands are mapped over the site. The site inspection confirmed that no wetlands or High Ecological Waters occurred within or adjacent to the site.

5.1.3 Strategic Environmental Area

The site and surrounding land are not mapped as a Strategic Environmental Area under the *Regional Planning Interests Act 2014*.

5.1.4 Threatened Flora

The Protected Matters Search Tool identified 14 threatened flora species that could potentially occur within 5 km of the site based on habitat (Appendix C:). The Protected Matters Search Tool is a predictive model that identifies all species that could potentially occur, or suitable habitat that could potentially occur, and does not necessarily mean the species has been previously recorded in the area. A search of the Wildlife Online database identified that 12 threatened flora species have been recorded within a 5km buffer of the site (Appendix C:).

The site is not mapped within a 'High Risk Area' for protected plants (Appendix C:).

The site is currently occupied by the Client and is used for an existing retail business for various agricultural products. Surrounding lands are heavily disturbed and routinely maintained for road transport, residential, industrial, and agricultural uses. There were no ecological values of note and low potential for habitat for any threatened flora due to a high level of previous disturbance and ongoing routine maintenance.

5.1.5 Threatened Fauna

The Protected Matters Search Tool identified 25 threatened fauna species that could potentially occur within 5 km of the site based on habitat (Appendix C:). A search of the Wildlife Online database identified eight (8) threatened fauna species recorded within a 5km buffer of the site (Appendix C:). The site is not in a Koala Habitat Area (KHA) under SDAP.

The site is currently occupied by the Client and is used for an existing retail business for various agricultural products. Surrounding lands are heavily disturbed and routinely maintained for road transport, residential, industrial, and agricultural uses. There were no ecological values of note and low potential for habitat for any

threatened fauna due to a high level of previous disturbance and ongoing routine maintenance.

5.1.6 Protected Areas & Offset Areas

The site is not within or adjoining a Protected Area or a Legally Secured Offset Area.

5.1.7 Marine and Coastal Values

The site is not in a marine or coastal setting therefore it does not include or adjoin marine parks, marine plants or fish habitat areas.

5.1.8 Waterways for Fish Passage

The site does not include mapped or unmapped waterways for fish passage under the State Development Assessment Provisions (SDAP) (Figure 4 and Appendix C:). Figure 4 shows a moderate risk (amber) waterway for fish passage occurs approximately 45m west of the site at the unnamed watercourse.

5.1.9 Corridors and Landscape Connectivity

The site is located within a largely fragmented landscape, resulting from industrial and agricultural development. The site does not provide important habitat or landscape connectivity value for local fauna.

5.1.10 Biodiversity Area

The site is not mapped under the Biodiversity Areas overlay of the SBRC Planning Scheme (Appendix C:).

Figure 4 Queensland Waterways for Waterway Barrier Works
Project: Environmental Assessment
Client: E.E Muir & Sons Pty Ltd
Project No.: J000821
Compiled by: MCW Date: 21/03/2022
Approved by: RM Date: 21/03/2022
0 80 160 Metres
Legend
Site boundary
Cadastre
Roads
Waterways for waterway barrier works
Risk of impact
1 - Low
2 - Moderate
3 - High
4 - Extreme
The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.
Source: Cadastral data sourced from DNRME (2021). Aerial imagery sourced from Maxar (2021).
N
range environmental consultants
Youngman Street
River Road
Stenbens Street
Bunya Highway
First Avenue
Barron Park Drive
45m to unnamed watercourse
5SP249675
438m to Kingaroy Creek
Hodges Road
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Version: 1. Version Date: 18/08/2022

5.1.11 Matters of State Environmental Significance (MSES)

State Planning Policy (SPP) biodiversity overlay mapping for MSES shows less than 0.01 hectares (ha) of Category R Regulated Vegetation is mapped within the north-western portion of the site (Figure 5). The mapped MSES is associated with the unnamed watercourse located approximately 45m west of the site. The site inspection confirmed that this area was carparking and did not contain Regulated Vegetation. Furthermore, no development for the proposed fertiliser manufacturing facility is proposed within the mapped Regulated Vegetation.

The site inspection confirmed that there are no MSES (as defined at Schedule 2 of the Environmental Offsets Regulation 2014) at or immediately adjoining the site. The site and surrounds are heavily disturbed and routinely maintained for road infrastructure, residential, agricultural, and industrial land uses.

5.1.12 Matters of National Environmental Significance (MNES)

Matters of National Environmental Significance (MNES) identified under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that may occur at or near the site based on the Protected Matters Search Tool (PMST) include (Appendix C:).

- Five (5) Threatened Ecological Communities (TECs) that have the potential to occur in the area.
- 39 threatened terrestrial species, comprising 14 flora and 25 fauna species.
- 14 migratory bird species.

The assessment found that there are no MNES or their supporting habitat at or immediately adjoining the site. The site and surrounds are heavily disturbed and routinely maintained for road infrastructure, residential, agricultural, and industrial land uses.

5.2 Land

5.2.1 Topography

The site is part of a highly modified landscape due to the site's previous development, existing land use and ongoing routine maintenance.

The topography of the local area has a gentle slope (2%) towards the unnamed drainage feature 45m to the west of the site. The site is located at 420 m Australian Height Datum (AHD) and the unnamed watercourse is located at approximately 419 m AHD.

5.2.2 Geology

Detailed surface geology mapping provided in QLD Globe shows that the development area is on an area of olivine basalt which is part of the Main Range Volcanics.

5.2.3 Soils

The site inspection confirmed that soils at the site mainly included reworked native materials such as weathered basalt. However, most of the site is hardstand or has a blue metal gravel surface layer.

5.2.4 Agricultural Land

The site is mapped as an Important Agricultural Area and partially mapped as Agricultural Land Class A by the Agricultural Land Overlay of the SBRC Planning Scheme (Figure 6).

The site is not agricultural land and has no agricultural value as it is heavily disturbed by the site's existing industrial land use. The current and proposed use of the site is consistent with the land use zoning which is Industrial.

5.2.5 Contaminated Land

A search of the Environmental Management Register (EMR) and Contaminated Land Register (CLR) determined that the site is not included on the EMR or CLR (Appendix E:). The site was not recorded on the Department of Defence's Unexploded Ordnance (UXO) database.

5.2.6 Acid Sulphate Soils

Acid sulphate soils (ASS) are a characteristic feature of marine and estuarine sediments in low lying coastal environments, particularly where landform elevations are below 5 m AHD. The site is located on tertiary basalt parent material approximately 127 km inland and at an elevation of 420 m AHD. The site is not mapped in an ASS hazard area in QLD Globe. ASS are highly unlikely to occur at the site due to its elevation, geological and geomorphic setting.

Document Set ID: 2930538
Version: 1, Version Date: 18/08/2022

5.3 Hydrology

5.3.1 Surface Water

The site is located in the Boyne and Auburn Rivers sub basin of the Burnett catchment. The local area has a gentle slope (2%) towards the unnamed drainage feature 45 m to the west of the site, which drains to the south-west towards Kingaroy Creek located approximately 438 m south of the site (Figure 7). Kingaroy Creek flows to the north-west where it enters the Stuart River. The Stuart River flows to the north-west to confluence with the Boyne River and Lake Boondooma.

The site inspection confirmed that there are no watercourses at the site, however, an unnamed watercourse occurs approximately 45m west of the site (refer to following photographs).

Photograph 5 View to the east of an existing spoon drain on River Road near the site

Photograph 6 View to the north (upstream) of the unnamed watercourse at River Road proximate to the site

Photograph 7 View to the south (downstream) of the unnamed watercourse at River Road proximate to the site

Figure 7
Surface Water Features
Project: Environmental Assessment
Client: E.E Muir & Sons Pty Ltd
Project No.: J000821
Compiled by: MW Date: 22/03/2022
Approved by: RM Date: 22/03/2022
0 100 200 Metres
Legend
Site boundary
Cadastre
Roads
Watercourse (defined by the Water Act 2000)
Watercourse drainage features
The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.
Source: Cadastral data sourced from DNRME (2021). Aerial imagery sourced from Maxmap (2021).
N
range environmental consultants
45m to unnamed watercourse
438m to Kingaroy Creek
5SP249675
KELVYN STREET
ROAD
YOUNGMAN STREET
STEHBENS STREET
IVINS STREET
BUNYA HIGHWAY
FIRST AVENUE
IRENE STREET
HODGES ROAD
RIVER ROAD
Kingaroy Creek
Version: 1. Version Date: 18/08/2022

5.3.2 Flood Hazard

The site is partially mapped in a Flood Hazard Area by the Flood Hazard Overlay of the SBRC Planning Scheme (Figure 8).

5.3.3 Groundwater

There is one (1) registered groundwater bore at the site (RN144862) used for water supply. There are an additional six (6) registered groundwater bores within a 1 km radius of the site (Figure 9). The bore cards for these bores were reviewed. The groundwater in the local area is sub-artesian and is associated with basalt aquifers of the Main Range Volcanics. The shallowest aquifer recorded in the area was 10 m below ground level (or approximately 410 m AHD) in the Main Range Volcanics (see bore report RN144862 which is located at the site - Appendix C:).

There are no Potential Groundwater Dependent Ecosystems (GDE) areas mapped within the site (Figure 9). Two (2) surface expression GDEs are mapped approximately 660 m south and 830 m south-east of the site (Figure 9). The unnamed watercourse located 45 m west of the site was mapped as a Surface GDE (moderate confidence) line.

5.3.4 Environmental Values of Waters

Due to no allocation of environmental values and water quality objectives for the Boyne and Auburn Rivers sub basin of the Burnett catchment, surface water and groundwater values were determined in accordance with Section 6 and Section 11 of the EPP Water and Wetland Biodiversity Policy 2019.

- Aquatic ecosystems;
- Irrigation;
- Farm supply/use;
- Stock water;
- Aquaculture;
- Human consumer;
- Primary recreation;
- Secondary recreation;
- Visual recreation;
- Drinking water;
- Industrial use;
- Cultural, spiritual, and ceremonial values.

5.4 Visual Amenity

The site is located within a General Industry land use area and is zoned as Industrial under the South Burnett Regional Council Planning Scheme 2017 (v1.4). The site is already developed for an industrial use. The proposed development is complementary to the existing use and will require minimal additional infrastructure that will be located at the southern boundary of the site. The proposed development will be consistent with the existing visual amenity of the local industrial area.

5.5 Cultural Heritage

The site does not have any recorded indigenous or other cultural heritage values as demonstrated below. The site is heavily disturbed by the site's existing land use.

5.5.1 Indigenous Cultural Heritage

A search of the Department of Aboriginal and Torres Strait Islander Partnerships' Cultural Heritage Database and Register determined the following regarding the site and a 5 km surrounding buffer (Appendix F:):

- No Aboriginal cultural heritage site points were recorded within a 5 km surrounding buffer of the site.

5.5.2 Other Cultural Heritage

The site has no other cultural heritage values recorded on Local, State or Federal databases or registers.

5.6 Air and Noise

5.6.1 Surrounding Land Use

The site is located in an industrial area and is currently used for sales and distribution of agricultural supplies. Other land uses in the local area of relevance to ambient air and noise levels include:

- Public Roads: River Road is adjacent to the northern boundary of the site and the Bunya Highway is 0.4km east of the site.
- Industry: numerous industrial business are located east of the site and the Kingaroy Wastewater Treatment Plant is 370m west of the site.
- Residential: a single residential dwelling is adjacent to the western boundary of the site. High density residential development mainly occurs at least 800 m to the east and north of the site.
- Agriculture: Land use mapping and aerial photography suggests that the dominant land uses in the broader landscape are cropping and grazing.

Sensitive receptors in the local area include rural residential dwellings (Figure 11).

Figure 10
Surrounding
Land Uses
Project: Environmental Assessment
Client: E.E Muir & Sons Pty Ltd
Project No.: J000821
Compiled by: MCW Date: 13/05/2022
Approved by: RM Date: 13/05/2022
0 50 100 Metres
Legend
Site boundary
Cadastre
Roads
Industrial Zone
General Industry
General Industry Expansion
The content of this document includes third party data. Range Environmental Consultants does not guarantee the accuracy of such data.
Source: Cadastral data sourced from DNRME (2021). Aerial imagery sourced from Nearmap (2021).
N
range environmental consultants
YOUNGMAN STREET
FIRST AVENUE
RIVER ROAD
HODGES ROAD
STEHBENS STREET
BUNYA HIGHWAY
IVINS STREET
BARRON PARK DRIVE
6SP249675
197m
Document Set ID: 2303566
Version: 1, Version Date: 18/08/2022

5.6.2 Ambient Air Quality

Ambient air quality in the area is expected to be good, given the surrounding rural land uses to the south and north of the site and separation distances to nearby industrial land uses such as the Kingaroy Wastewater Treatment Plant. Dust levels may be elevated at times during the year under dry conditions where fugitive dust emissions may occur from exposed ground, heavy vehicle movements on adjacent sites to the east or during agricultural land management activities such as cultivating/ripping, spraying and harvesting/slashing.


Figure 11
Sensitive
Receptors
Project: Environmental
Assessment
Client: E.E Muir
& Sons Pty Ltd
Project No.: J000821
Compiled by: MCW Date: 13/05/2022
Approved by: RM Date: 13/05/2022
Metres
0 80 160
Legend
Site boundary
Cadastre
500m buffer
Roads
Sensitive
receptors
The content of this document includes third
party data. Range Environmental Consultants
does not guarantee the accuracy of such data.
Source: Cadastral data sourced from DNRME
(2021); Aerial imagery sourced from Metromap
(2021).
N
range
environmental
consultants
KELVYN STREET
ROAD
YOUNGMAN STREET
STEHBENS STREET
BARRON PARK DRIVE
BUNYA HIGHWAY
FIRST AVENUE
IRENE STREET
RIVER ROAD
HODGES ROAD
5SP249675
1
2
3
4
Document Set ID: 2830630
Version: 1, Version Date: 18/08/2022

5.7 Climate

This section provides a description of the climatic features of the region based on data for the Bureau of Meteorology's (BOM) Kingaroy Airport weather station (Station No. 040922).

5.7.1 Temperature

The area experiences a temperate climate with warm summers (average maximum of 26°C) and cool winters (average minimum of 11°C).

5.7.2 Rainfall

The median annual rainfall for the area is 624 mm. The monthly distribution of median rainfall demonstrates that the region experiences distinct wet and dry seasons. As seen in Figure 12, most rainfall occurs over the warmer months (October to March) with the least rainfall received in the middle of the year during the cooler months (April to September).

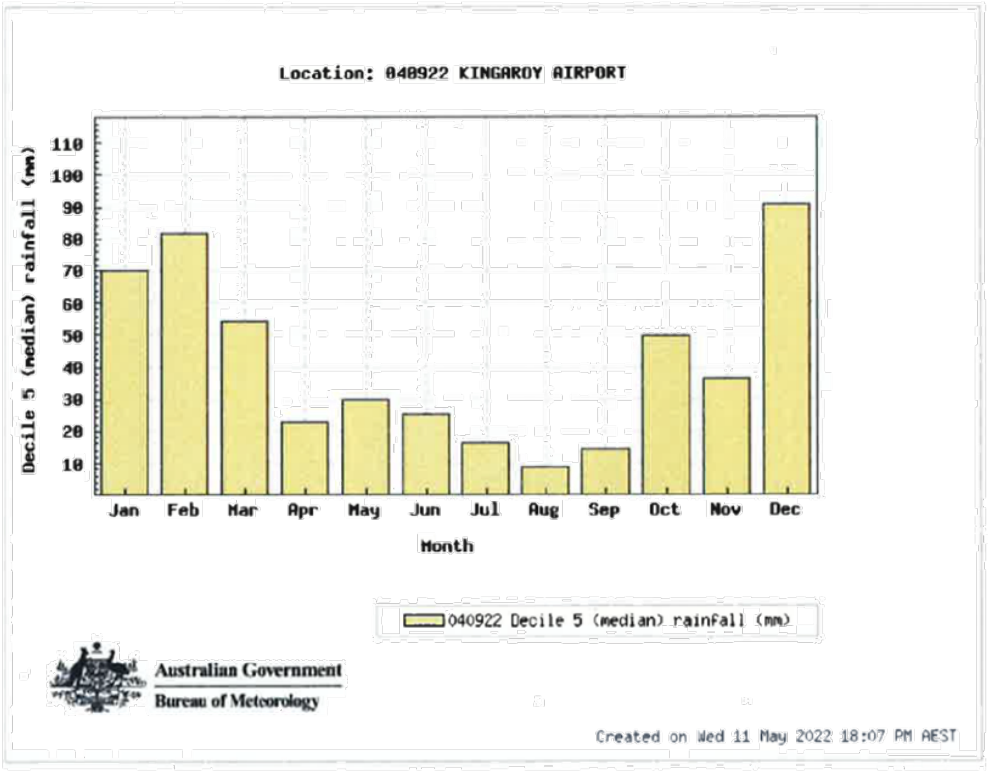


Figure 12 Monthly median rainfall

5.7.3 Wind

Annual 9am and 3pm wind roses for the Kingaroy Airport (station no. 040922) (located 3.5km from the site) are presented at Figure 13 and Figure 14 which show that the prevailing annual wind direction is from the south-east and east (BoM, 2021).

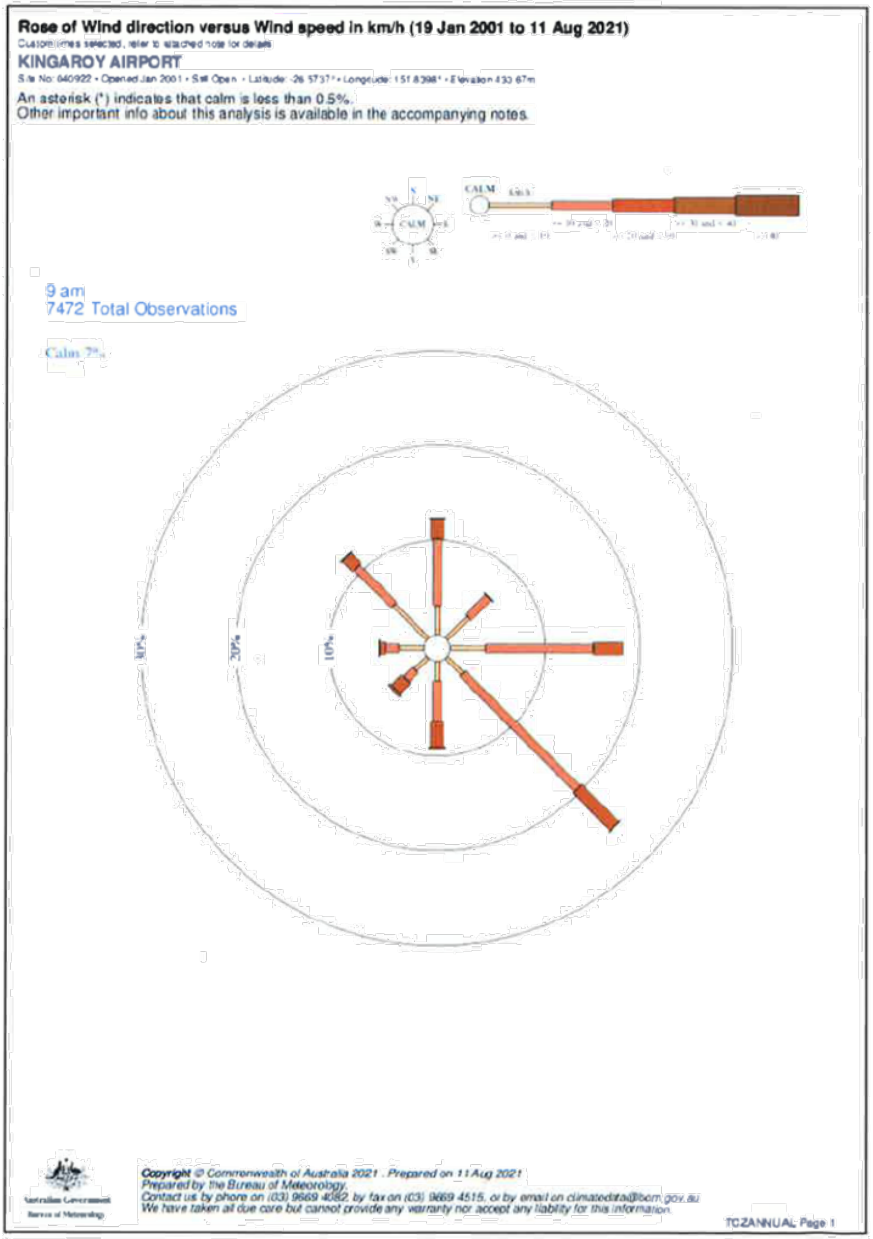


Figure 13 Kingaroy Airport Annual Wind Roses 9am

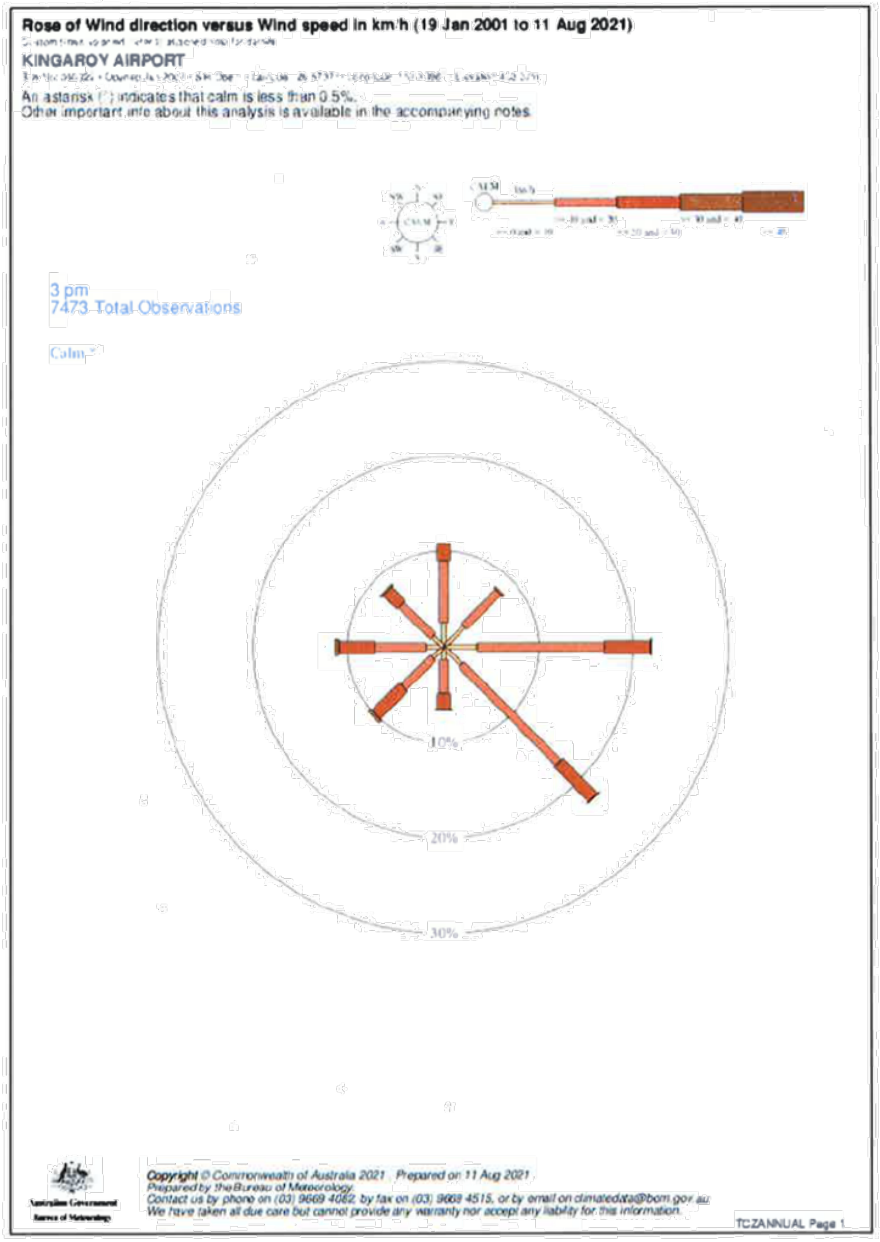


Figure 14 Kingaroy Airport Annual Wind Roses 3pm

6. Emissions Profile

A project emissions profile is provided in Table 4 to describe potential emission sources.

Table 4 Project Emissions Profile

Emission Type and Description	Potential Source and Impact
Amenity (Noise and Air)	
Noise emissions from the site's operations.	• Noise emissions from the operation of the plant and equipment at the site causes nuisance at sensitive receptors.
Air emissions from the site's operations.	• Air emissions from loading, unloading and mixing fertiliser products causes harm at sensitive receptors. • Fugitive dust emissions from vehicle movements causes nuisance at sensitive receptors. • Loose fertiliser products become windblown and leave the site.
Odour emissions from the site's operations.	• Odour emissions from mixing and storing fertiliser products causes nuisance at sensitive receptors.
Water (Surface water, stormwater and groundwater)	
Release of wastewater from the site to waters.	• Nil - No proposed wastewater releases from the site to surface water or groundwater.
Release of firefighting water during an emergency at the site in relation to the fertiliser manufacturing process.	• Nil - Proposed fertilisers to be stored for manufacturing are not dangerous goods and are not flammable or combustible materials.
Poor management of liquid wastes causes a release to stormwater, surface water and groundwater.	• Nil - no liquid wastes will be generated from the proposed development.
Floodwaters are impacted by the site's operations.	• Flood waters become impacted by contact with stored fertiliser products and plant and equipment.
Spill/leak of hydrocarbons from plant and equipment or from fertiliser storages adversely impacts waters.	• Spilt/leak of hydrocarbons from plant and equipment is released from the site and adversely impacts stormwater, surface water and groundwater. • Spills or releases of stored fertilisers adversely impacts stormwater, surface water and groundwater.
Release of contaminated stormwater from the site to water.	• Stormwater runoff from the site may entrain loose fertiliser products and adversely impact stormwater and surface water.
Land	
Release of wastewater from the site to soil.	• Nil - No proposed wastewater releases from the site to soil is proposed.
Release of firefighting water during an emergency at the site in relation to the fertiliser manufacturing process.	• Nil - Proposed fertilisers to be stored for manufacturing are not dangerous goods and are not flammable or combustible materials.

Emission Type and Description	Potential Source and Impact
Poor management of liquid wastes causes a release to soil.	• Nil - no liquid wastes will be generated from the proposed development.
Spill/leak of hydrocarbons from plant and equipment or from fertiliser storages adversely impacts soils.	• Spill/leak of hydrocarbons from plant and equipment is released from the site and adversely impacts soils. • Spills or releases of stored fertilisers adversely impacts soils.
Waste	
Disposal of wastes to land or waters at the site.	• Nil - there are no proposed releases of wastes to land or waters at the site.
Accidental spill or leaks of wastes to environment due to poor management of wastes.	• Poor management of solid wastes (general and recyclable wastes) causes a release to land and waters.

7. Environmental Impact Risk Assessment

A qualitative environmental risk assessment was undertaken with reference to HB 203:2006 Environmental Risk Management - Principles and process (Standards Australia, 2006) to assess the environmental risk presented to the local environmental values described at Section 5.

7.1.1 Context

- The proposal is for the development of a fertiliser manufacturing facility at 107 River Road, Kingaroy.
- Major stakeholders that have a strong interest in the operations of the facility include:
  - South Burnett Regional Council;
  - Department of Environment and Science;
  - Industry/companies producing fertiliser products;
  - Industry/companies purchasing the fertiliser distributed by the Client; and
  - Neighbouring land holders and businesses located near the facility.
- The site is zoned Industrial within the Priority Infrastructure Area (PIA) of the South Burnett Regional Planning Scheme.
- The dominant surrounding land use is industrial land uses (east), residential dwellings (north and west) and farmland (cropping)(south).

7.1.2 Scope

To determine the level of environmental risk presented by the proposed development to local environmental values.

7.1.3 Identification of Environmental Risks

The risk of potential impacts to environmental values are identified in Table 5.

7.1.4 Risk Analysis

A qualitative analysis of environmental risk for the proposed fertiliser manufacturing facility is provided in Table 5. The risk analysis tool is provided at Appendix G:.

7.1.5 Risk Evaluation

As shown in Table 5, the proposed fertiliser manufacturing facility was found to present a low risk of adverse environmental impact.

7.1.6 Risk Treatment and Monitoring

The SBMP (Appendix H:) describes how environmental risks will be treated and monitored to maintain a low level of environmental risk for the future operation of the fertiliser manufacturing facility.

Table 5 Qualitative Environmental Impact Risk Analysis

Environmental Value	Potential Source & Impact	Likelihood	Consequence	Risk	Comment
Land	Spill/leak of hydrocarbons from plant and equipment or from fertiliser storages adversely impacts soils.	Unlikely	Insignificant	Low	• The operational areas of the site will be sealed, except for some maintained trafficable blue metal gravel areas in the southern portion of the site. • Plant and equipment will be maintained in accordance with the manufacturer's specifications to reduce the risk of equipment failures and spills. • No bulk fuel storage is proposed for the site. • A spill kit shall be kept on site and any spills cleaned up immediately using dry methods. • Spills and leaks of hydrocarbons from plant and equipment is not anticipated to present a significant soil contamination risk. • Fertiliser for the manufacturing process will be in a dry, pellet form (not liquid). Any spills will be cleaned up immediately. • Fertiliser products shall be contained within silos prior to mixing and stored within Shed 2 (Storage) in 1t bulk bags. • No mixed fertiliser shall be stored outdoors. • Spills and leaks of stored fertiliser at the site are not anticipated to present a significant soil contamination risk.
	Accidental release of solid wastes to soil.	Unlikely	Insignificant	Low	• No waste streams will be generated by the fertiliser manufacturing process. • No liquid wastes will be generated at the site. • Solid wastes (general and recyclable) from the site more broadly will be stored in covered bins and removed from the site regularly.

Environmental Value	Potential Source & Impact	Likelihood	Consequence	Risk	Comment
Water	Flood waters are adversely impacted by contact with stored fertiliser products and plant and equipment.	Unlikely	Insignificant	Low	• Waste management will not present a significant risk of impact to soils. • Fertiliser products shall be contained within silos prior to mixing and stored within Shed 2 (Storage) in 1t bulk bags. Shed 2 is existing, is already used for fertiliser storage and is largely outside the flood zone. • No mixed fertiliser shall be stored outdoors. • Fertiliser for the manufacturing process will be in a dry, pellet form (not liquid). Any spills will be cleaned up immediately. • If flooding is predicted all reasonable and safe efforts shall be made to secure plant, equipment and fertiliser to prevent offsite harm during flooding. • The SDS for fertilisers do not suggest they are toxic to aquatic life. • The risk of elevated nutrients causing water quality impact under flood conditions is expected to be low given the likely high volumes of poor-quality water (mainly affected by suspended solids and elevated nutrients) in the Kingaroy Creek catchment. • Fertiliser manufacturing at the site is not expected to present a significant risk of offsite impact in the event of a flood.

Environmental Value	Potential Source & Impact	Likelihood	Consequence	Risk	Comment
	Accidental release of solid wastes to waters.	Unlikely	Insignificant	Low	• No waste streams will be generated by the fertiliser manufacturing process. • No liquid wastes will be generated at the site. • Solid wastes (general and recyclable) from the site more broadly will be stored in covered bins and removed from the site regularly. • Waste management will not present a significant risk of impact to waters.
	Spilt/leak of hydrocarbons from plant and equipment is released from the site and adversely impacts stormwater, surface water and groundwater.	Unlikely	Insignificant	Low	• The operational areas of the site will be sealed, except for some maintained trafficable blue metal gravel areas in the southern portion of the site. • Plant and equipment will be maintained in accordance with the manufacturer's specifications to reduce the risk of equipment failures and spills. • No bulk fuel storage is proposed for the site. • A spill kit shall be kept on site and any spills cleaned up immediately using dry methods. • Groundwater is at 10m below ground level (bgl). • Spills and leaks of hydrocarbons at the site are not anticipated to present a significant stormwater, surface water or groundwater risk.

Environmental Value	Potential Source & Impact	Likelihood	Consequence	Risk	Comment
	Spills or releases of fertiliser adversely impacts stormwater, surface water and groundwater.	Unlikely	Insignificant	Low	• The operational areas of the site will be sealed, except for some maintained trafficable blue metal gravel areas in the southern portion of the site. • The fertiliser mixing process described at Table 3 is an enclosed system and is unlikely to be impacted by ingress of rainfall. • Fertiliser products shall be contained within silos prior to mixing and stored within Shed 2 (Storage) in 1t bulk bags. • No mixed fertiliser shall be stored outdoors. • Groundwater is at 10m below ground level (bgl). • Fertiliser for the manufacturing process will be in a dry, pellet form (not liquid). Any spills will be cleaned up immediately. • Spills and leaks of fertiliser at the site are not anticipated to present a significant contamination risk to waters.
Amenity (Noise and Air)	Noise emissions from the operation of the plant and equipment at the site causes nuisance at sensitive receptors.	Unlikely	Insignificant	Low	• The site is situated in an area zoned as Industrial and is commensurate with the surrounding industrial land uses and acoustic environment. • The nearest noise sensitive receptor (residential dwelling) is approximately 67m from the proposed fertiliser mixing area. • Primary noise sources at the site are vehicles, mechanical plant and equipment which will operate intermittently between 8:00am to 5:00pm, Monday to Friday. • The proposed use is not expected to materially change the existing noise emissions profile of the site due to the limited nature and scale of the activity.

Environmental Value	Potential Source & Impact	Likelihood	Consequence	Risk	Comment
					• No significant impacts to amenity in relation to noise emissions from the proposed facility are anticipated.
	Air emissions from loading, unloading and mixing fertiliser products causes harm at sensitive receptors.	Unlikely	Insignificant	Low	• The fertiliser loading, unloading and mixing process described at Table 3 is an enclosed system and is unlikely to cause fugitive dust emissions. • The fertiliser granules are 2mm to 6mm in diameter and are unlikely to become windblown. • Trucks transporting loose fertiliser from the site shall have roller tarps covering the load to prevent spills. Remaining fertiliser product shall be stored in 1t bulk bags within Shed 2 (Storage). • The proposed development is not anticipated to cause air quality impacts at receptors.
	Fugitive dust emissions from vehicle movements causes nuisance at sensitive receptors.	Unlikely	Insignificant	Low	• Blue metal gravel areas shall be maintained to prevent fugitive dust emissions from vehicle movements. • All persons shall adhere to the site's speed limit of 10km/hr. • The proposed development is not anticipated to cause fugitive dust emission nuisance at receptors.

Environmental Value	Potential Source & Impact	Likelihood	Consequence	Risk	Comment
	Loose fertiliser products become windblown and leave the site.	Unlikely	Insignificant	Low	• The fertiliser loading, unloading and mixing process described at Table 3 is an enclosed system and is unlikely to cause fugitive dust emissions. • The fertiliser granules are 2mm to 6mm in diameter and are unlikely to become windblown. • Trucks transporting loose fertiliser from the site shall have roller tarps covering the load to prevent spills. Remaining fertiliser product shall be stored in 1t bulk bags within Shed 2 (Storage). • Any spillages shall be cleaned up immediately. • The risk of wind-blown waste causing pollution on-or off-site is low.
	Odour emissions from mixing and storing fertiliser products causes nuisance at sensitive receptors.	Unlikely	Insignificant	Low	• The fertiliser loading, unloading and mixing process described at Table 3 is an enclosed system and is unlikely to cause odour emissions. • Fertiliser manufacturing shall only be undertaken at the designated location shown at Appendix A:. • Storage of fertiliser in 1t bulk bags shall only occur within Shed 2 (Storage). • The fertiliser mixing process is dry and does not include other additives such as water or chemicals and is not odorous. • The proposed development is not anticipated to cause odour impacts at receptors.

Environmental Value	Potential Source & Impact	Likelihood	Consequence	Risk	Comment
Biodiversity	Harm to threatened flora and fauna species and their habitat.	Rare	Minor	Low	• Threatened flora and fauna were not observed at the site and are unlikely to occur based on the existing industrial uses at the site. • The proposed development will not impact threatened flora or fauna.
	Harm to the ecological values and functions of waterways or wetlands.	Rare	Insignificant	Low	• The site and surrounds have been heavily disturbed by existing industrial uses in the area. • The site does not contain or immediately adjoin any high ecological value waterways or wetlands. • Any spills will be cleaned up immediately to minimise potential risks to water quality. • UAN storage is not an ERA and it is not classified as hazardous to the environment. • The proposed development will not impact the ecological values or functions of any waterways or wetlands that connect to Kingaroy Creek.
	Adverse impacts to areas of environmental significance, landscape connectivity or protected areas.	Rare	Insignificant	Low	• The site and surrounds have been heavily disturbed by existing industrial uses in the area. • The development site does not include or adjoin any protected areas or undisturbed areas that may provide habitat for fauna. • The development site does not provide important habitat or landscape connectivity value for local fauna. • The proposed development will not impact on landscape ecological values or connectivity.

Environmental Value	Potential Source & Impact	Likelihood	Consequence	Risk	Comment
	Adverse impacts on MSES or MNES at the site.	Rare	Insignificant	Low	• The site and surrounds have been heavily disturbed by existing industrial uses in the area. • The site inspection confirmed that the mapped MSES in the north-western portion of the site (Figure 5) did not occur due to the development of the existing facility and surrounding land uses. • There are no MSES or MNES at the site. • The proposed development will not have a significant residual impact on MSES. • The proposed development will not have a significant impact on MNES.
Visual Amenity	The proposed development adversely impacts the visual amenity values of the site and local area.	Rare	Insignificant	Low	• The site is situated in an area zoned as Industrial and is commensurate with the surrounding industrial land uses and visual amenity. • The proposed ERA activity will be undertaken within the south-western portion of the site, which will be screened by the existing retail store when viewed from River Road. • No significant impacts to visual amenity are anticipated.
Cultural Heritage	The proposed development adversely impacts the cultural heritage values of the site.	Rare	Insignificant	Low	• There are no recorded cultural heritage values within the site. • The site and surrounds have been heavily disturbed by existing industrial uses in the area. • No significant impacts to cultural heritage values are anticipated.

8. Summary

The proposal involves the operation of a fertiliser manufacturing facility on Lot 5 SP249675 currently occupied by E. E Muir & Sons Pty Ltd.

The site is heavily disturbed from the operation of the current agricultural retail store and warehouse. The qualitative environmental impact risk assessment considered the potential for harm to occur to environmental values from project emissions and relevant aspects of the development and operation of the facility.

The operation of the proposed fertiliser manufacturing facility by E. E Muir & Sons Pty Ltd is not anticipated to have a significant impact on the environmental values of the local area.

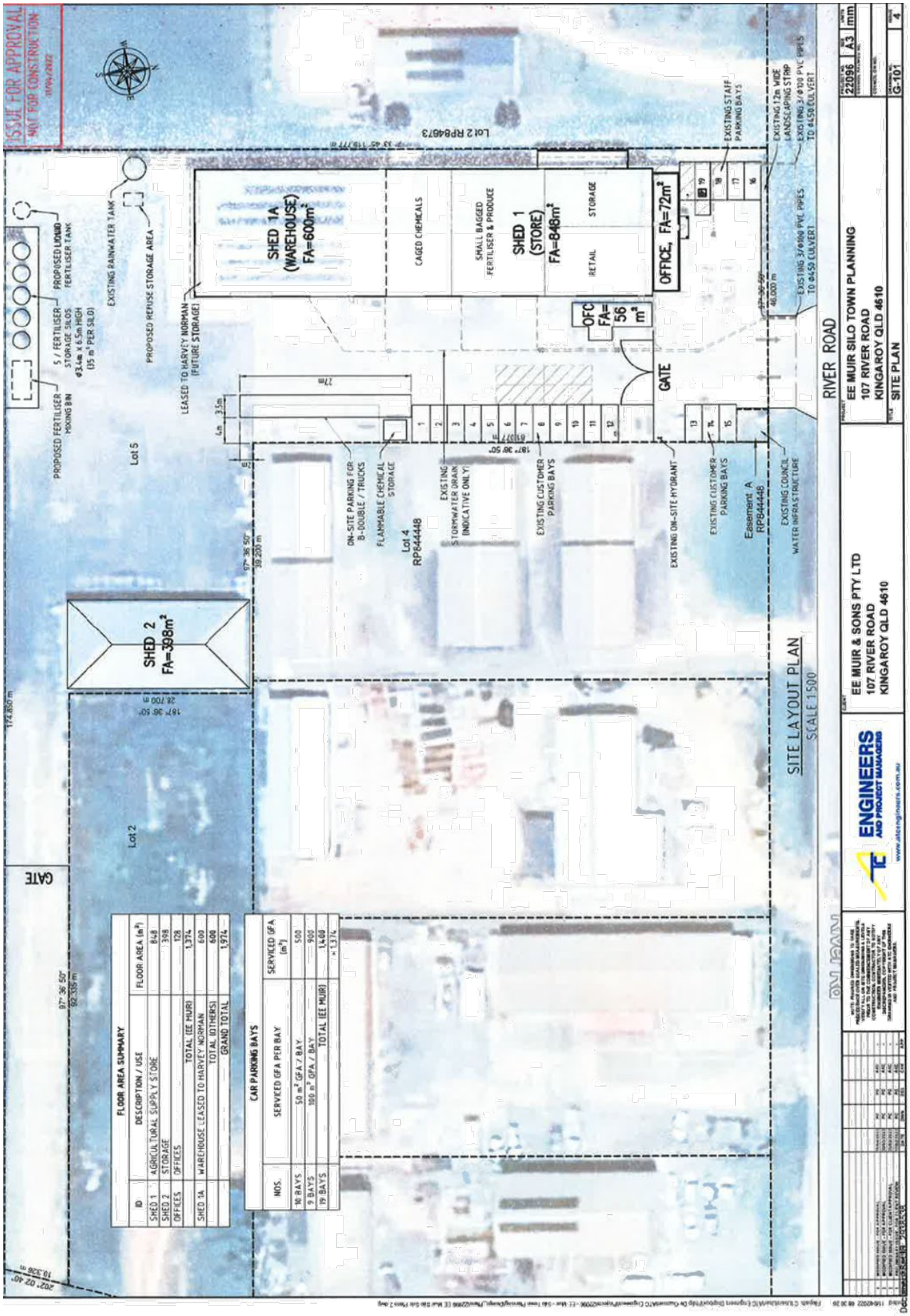
9. References

Bureau of Meteorology (BoM). 2021. Kingaroy Airport weather station (Station No. 040922). Median Rainfall and Annual Wind Rose.

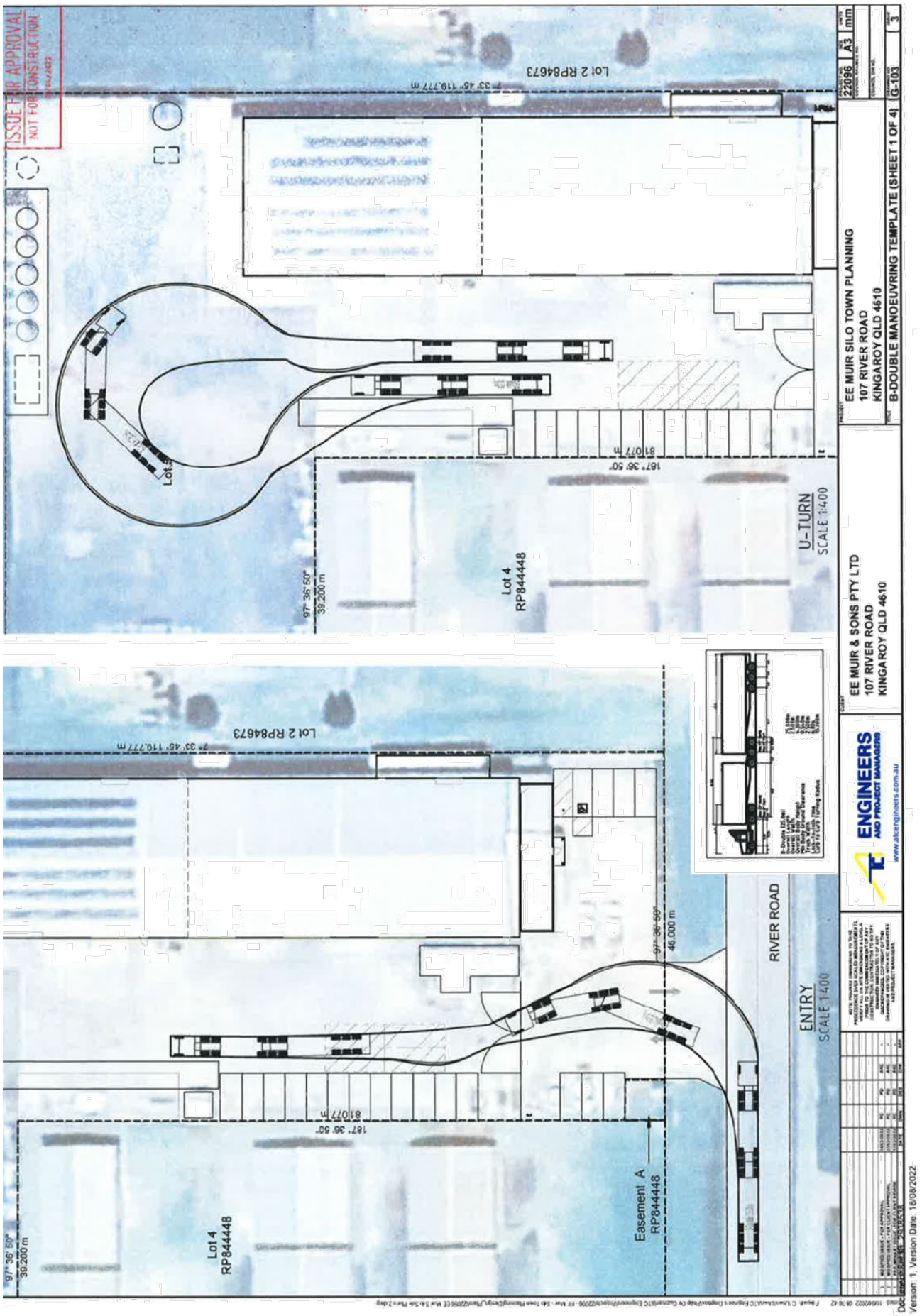
Department of Environment and Science (DES) 2020. Environmental Protection (Water and Wetland Biodiversity) Policy 2019

Appendix A: Development Plans

Project Number: J000821
Report Status/Date: Final/19/07/2022
Page Number: A 1


ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
SITE LAYOUT PLAN
SCALE 1:500
SHED 1A (WAREHOUSE) FA=600m²
SHED 1 (STORE) FA=848m²
SHED 2 FA=398m²
OFFICE, FA=72m²
OFC FA= 56 m²
CAGED CHEMICALS
SMALL BAGGED FERTILISER & PRODUCE
RETAIL
STORAGE
GATE
RIVER ROAD
Lot 2
Lot 5
Lot 4 RP844448
Lot 2 RP84673
Easement A RP844448
PROPOSED FERTILISER MIXING BIN
5 / FERTILISER STORAGE SILOS Ø3.4m x 6.5m HIGH (35 m³ PER SILO)
PROPOSED LIQUID FERTILISER TANK
EXISTING RAINWATER TANK
PROPOSED REFUSE STORAGE AREA
LEASED TO HARVEY NORMAN (FUTURE STORAGE)
ON-SITE PARKING FOR B-DOUBLE / TRUCKS
FLAMMABLE CHEMICAL STORAGE
EXISTING STORMWATER DRAIN (INDICATIVE ONLY)
EXISTING CUSTOMER PARKING BAYS
EXISTING ON-SITE HYDRANT
EXISTING COUNCIL WATER INFRASTRUCTURE
EXISTING STAFF PARKING BAYS
EXISTING 12m WIDE LANDSCAPING STRIP
EXISTING 3/Ø750 PVC PIPES TO Ø450 CULVERT
EXISTING 3/Ø900 PVC PIPES TO Ø450 CULVERT
FLOOR AREA SUMMARY
ID | DESCRIPTION / USE | FLOOR AREA (m²)
SHED 1 | AGRICULTURAL SUPPLY STORE | 848
SHED 2 | STORAGE | 398
OFFICES | OFFICES | 128
TOTAL (EE MUIR) | 1,374
SHED 1A | WAREHOUSE LEASED TO HARVEY NORMAN | 600
TOTAL (OTHERS) | 600
GRAND TOTAL | 1,974
CAR PARKING BAYS
NOS. | SERVICED GFA PER BAY | SERVICED GFA (m²)
16 BAYS | 50 m² GFA / BAY | 500
9 BAYS | 100 m² GFA / BAY | 900
19 BAYS | TOTAL (EE MUIR) | 1,400
= 1,374
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
ENGINEERS AND PROJECT MANAGERS
www.aliceengineers.com.au
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
SITE PLAN
22096
A3
G-101
4
Version: 1, Version Date: 18/08/2022

ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
11/04/2022
SHED 1
OFFICE
SILOS
MIXING BIN
SHED 2
NORTH ELEVATION
SCALE 1:500
SHED 2
SHED 1A
OFFICE
SILOS
MIXING BIN
SOUTH ELEVATION
SCALE 1:500
OFFICE
SHED 1
SHED 1A
SHED 2
MIXING BIN
SILOS
EAST ELEVATION
SCALE 1:500
SILOS
MIXING BIN
SHED 2
SHED 1A
SHED 1
WEST ELEVATION
SCALE 1:500
ENGINEERS
AND PROJECT MANAGERS
www.atcengineers.com.au
CLIENT
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
PROJECT
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
TITLE
SITE ELEVATIONS
PROJECT NO.
22096
SIZE
A3
UNITS
mm
DRAWING NO.
G-102
ISSUE
3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NOT FOR CONSTRUCTION
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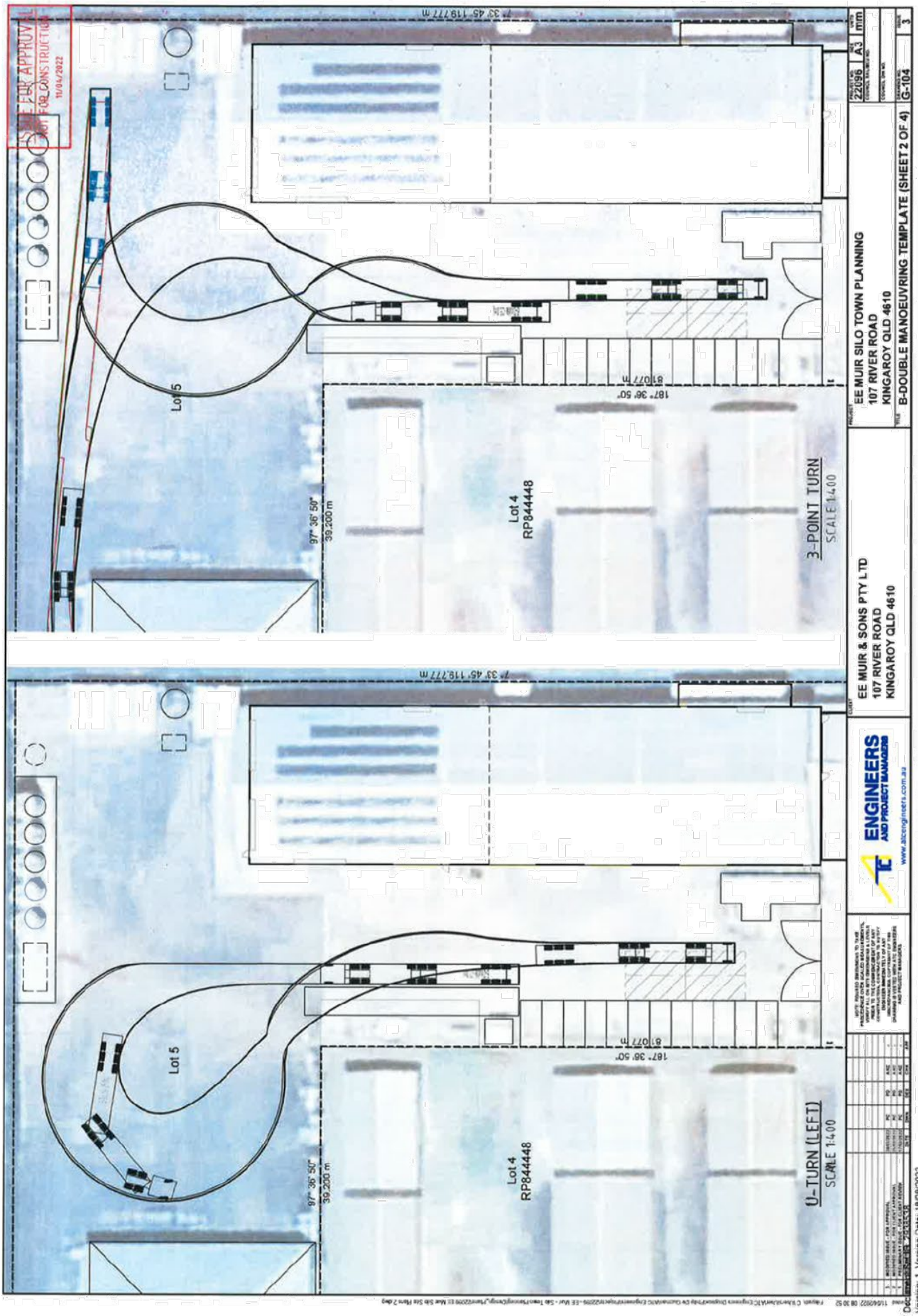
Lot 4 RP844448
97° 36' 50"
39.200 m
187° 36' 50"
81077 m
U-TURN
SCALE 1:400
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
B-DOUBLE MANOEUVRING TEMPLATE (SHEET 1 OF 4)
22096
A3
mm
C-103
3
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
ENGINEERS
AND PROJECT MANAGERS
www.alcengineers.com.au
Lot 2 RP846473
Lot 4 RP844448
97° 36' 50"
46.000 m
187° 36' 50"
81077 m
Easement A
RP844448
RIVER ROAD
ENTRY
SCALE 1:400
Version 1, Version Date: 16/09/2022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NOT FOR CONSTRUCTION
11/04/2022
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Lot 4
RP844448
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39.200 m
187° 36' 50"
81077 m
7° 33' 45"
118.777 m
3-POINT TURN
SCALE 1:400
U-TURN (LEFT)
SCALE 1:400
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
B-DOUBLE MANOEUVRING TEMPLATE (SHEET 2 OF 4)
ENGINEERS
AND PROJECT MANAGERS
www.abcengineers.com.au
22096
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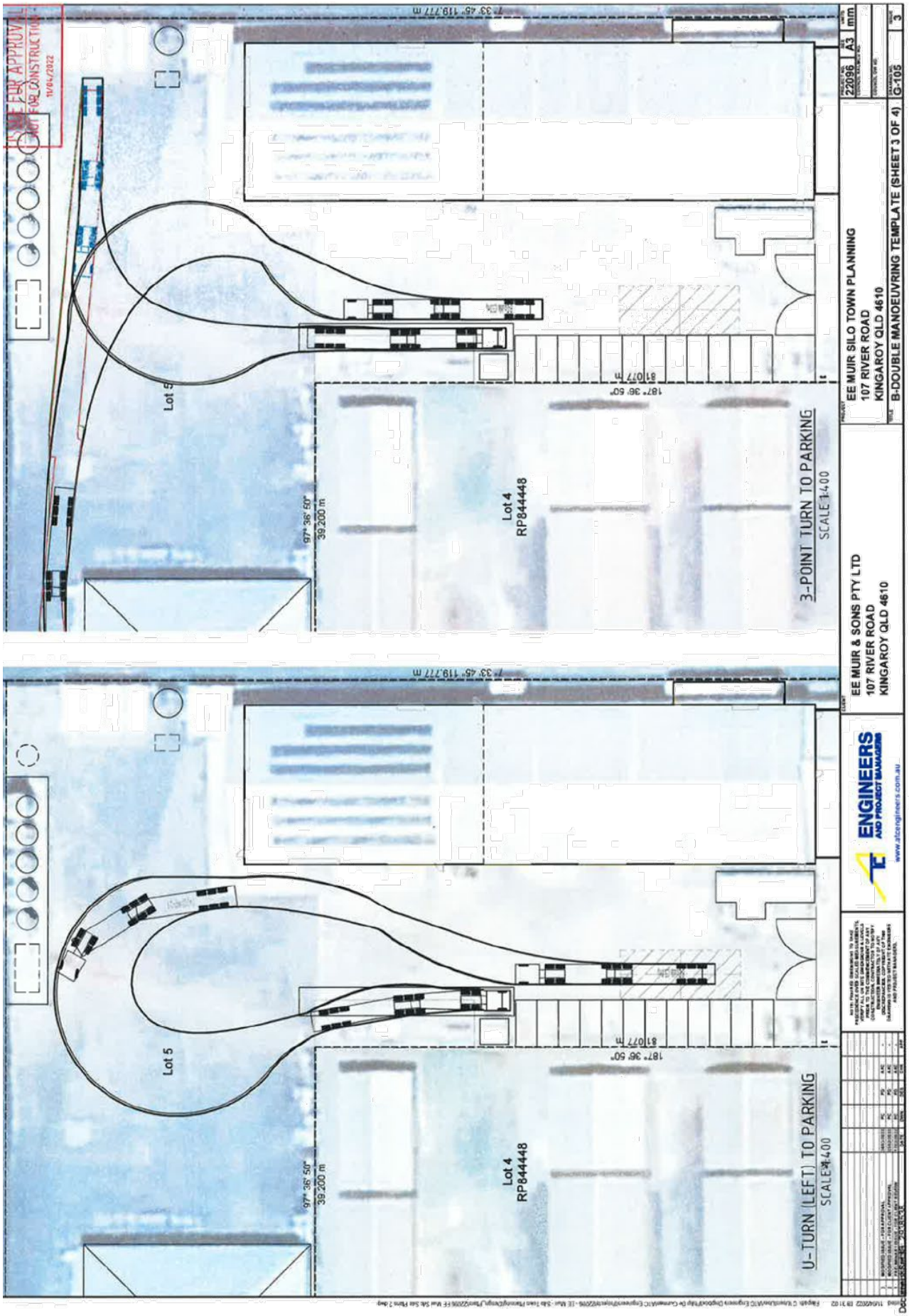
ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
11/04/2022
Lot 5
Lot 4
RP844448
97° 36' 50"
39.200 m
187° 36' 50"
81.077 m
3-POINT TURN TO PARKING
SCALE 1:400
U-TURN (LEFT) TO PARKING
SCALE 1:400
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
B-DOUBLE MANOEUVRING TEMPLATE (SHEET 3 OF 4)
22096
A3
mm
G-105
3
ENGINEERS
AND PROJECT MANAGERS
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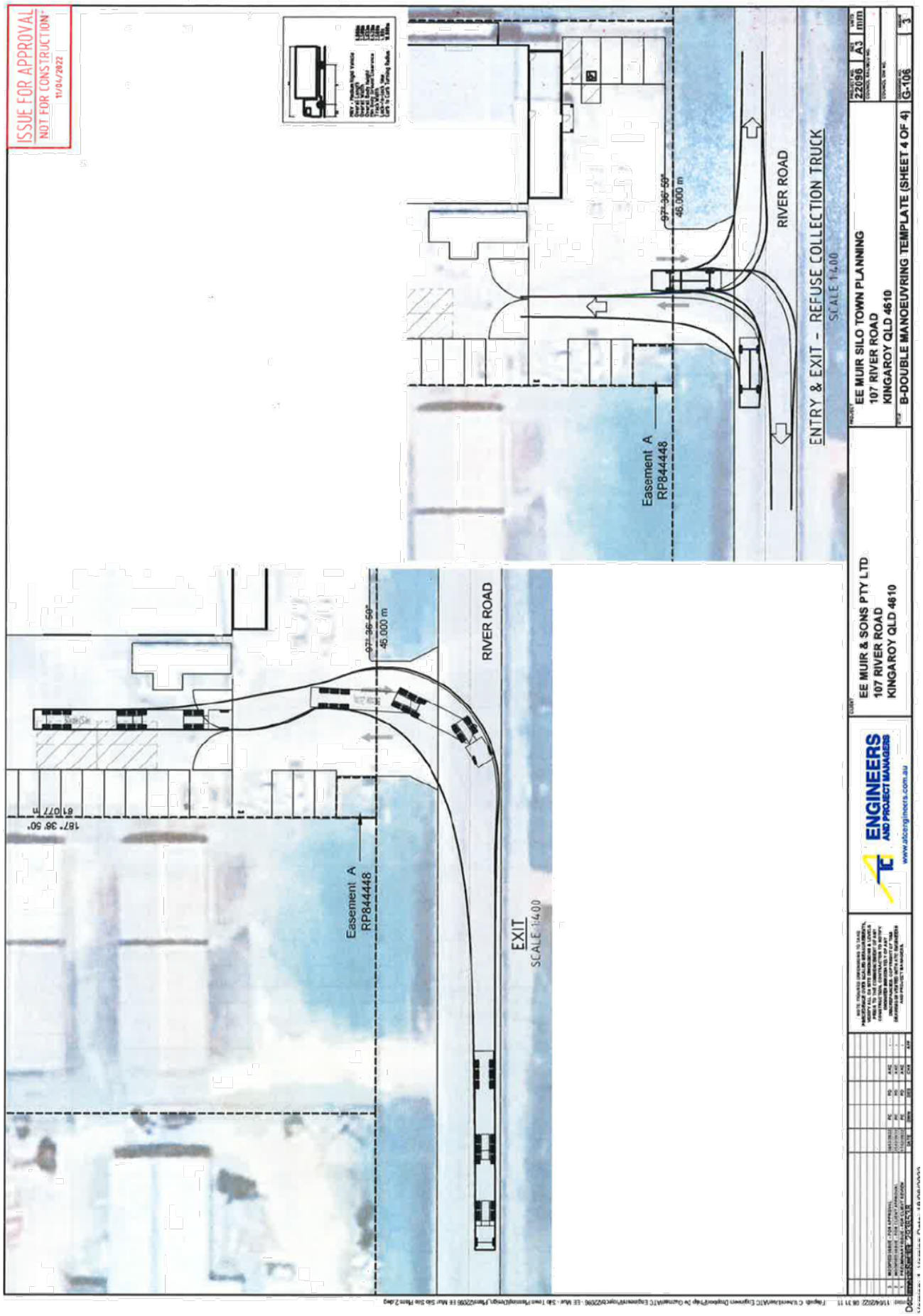
Version 1, Version Date: 18/08/2022


ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION
11/04/2022
ENTRY & EXIT - REFUSE COLLECTION TRUCK
SCALE 1:400
RIVER ROAD
97° 36' 50"
46.000 m
Easement A
RP844448
EXIT
SCALE 1:400
187° 36' 50"
EE MUIR & SONS PTY LTD
107 RIVER ROAD
KINGAROY QLD 4610
EE MUIR SILO TOWN PLANNING
107 RIVER ROAD
KINGAROY QLD 4610
B-DOUBLE MANOEUVRING TEMPLATE (SHEET 4 OF 4)
22096
A3
mm
G-106
3
ENGINEERS
AND PROJECT MANAGERS
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Appendix B: Code Response Tables

Table 6 SDAP State Code 22: Environmentally Relevant Activities (v3.0)

Performance outcomes	Acceptable outcomes	Response
All ERAs		
PO1 Development is suitably located and designed to avoid or mitigate environmental harm to the acoustic environment.	AO1.1 Development meets the acoustic quality objectives for sensitive receptors identified in the Environmental Protection (Noise) Policy 2019.	Complies with PO1 as no significant impacts to amenity in relation to noise emissions are anticipated because: • The site is situated in an area zoned as Industrial and is commensurate with the surrounding industrial land uses and acoustic environment. • The nearest noise sensitive receptor (residential dwelling) is approximately 67m from the proposed fertiliser mixing area. • Primary noise sources at the site are vehicles, mechanical plant and equipment which will operate intermittently between 8:00am to 5:00pm, Monday to Friday. • The proposed use is not expected to materially change the existing noise emissions profile of the site due to the limited nature and scale of the activity. • No significant impacts to amenity in relation to noise emissions from the proposed facility are anticipated.
PO2 Development is suitably located and designed to avoid or mitigate environmental harm to the air environment.	AO2.1 Development meets the air quality objectives of the Environmental Protection (Air) Policy 2019.	Complies with PO2 as no significant impacts to air quality are anticipated because: • The fertiliser loading, unloading and mixing process described at Table 3 is an enclosed

Performance outcomes	Acceptable outcomes	Response
		system and is unlikely to cause fugitive dust emissions. • The fertiliser granules are 2mm to 6mm in diameter and are unlikely to become windblown. • Trucks transporting loose fertiliser from the site shall have roller tarps covering the load to prevent spills. Remaining fertiliser product shall be stored in 1t bulk bags within Shed 2 (Storage). • The proposed development is not anticipated to cause air quality impacts at receptors.
PO3 Development (other than intensive animal industry for poultry farming), is suitably located and designed to avoid or mitigate environmental harm on adjacent sensitive land uses caused by odour.	No acceptable outcome is prescribed.	Complies with PO3 as no significant impacts to odour amenity are anticipated because: • The fertiliser loading, unloading and mixing process described at Table 3 is an enclosed system and is unlikely to cause odour emissions. • Fertiliser manufacturing shall only be undertaken at the designated location shown at Appendix A:. • Storage of fertiliser in 1t bulk bags shall only occur within Shed 2 (Storage). • The fertiliser mixing process is dry and does not include other additives such as water or chemicals and is not odorous. • The proposed development is not anticipated to cause odour impacts at receptors.

Performance outcomes	Acceptable outcomes	Response
PO4 Development is suitably located and designed to avoid or mitigate environmental harm to the receiving waters environment.	AO4.1 Development meets the management intent, water quality guidelines and objectives of the Environmental Protection (Water and Wetland Biodiversity) Policy 2019.	Complies with PO4 as no harm to the receiving water environment is anticipated because: • The operational areas of the site will be sealed, except for some maintained trafficable blue metal gravel areas in the southern portion of the site. • The fertiliser mixing process described at Table 3 is an enclosed system and is unlikely to be impacted by ingress of rainfall. • Fertiliser products shall be contained within silos prior to mixing and stored within Shed 2 (Storage) in 1t bulk bags. • No mixed fertiliser shall be stored outdoors. • Groundwater is at 10m below ground level (bgl). • Fertiliser for the manufacturing process will be in a dry, pellet form (not liquid). Any spills will be cleaned up immediately. • Spills and leaks of fertiliser at the site are not anticipated to present a significant contamination risk to the receiving waters environment.
PO5 Development is designed to include elements which: 1. prevent or minimise the production of hazardous contaminants and waste as by-products; or 2. contain and treat hazardous contaminants on-site rather than releasing them into the environment; and	No acceptable outcome is prescribed.	Complies with PO5 as no harm to the receiving environment is anticipate because: • The proposed activity will not produce hazardous contaminants and wastes as by-products. • Fertiliser products shall be contained within silos prior to mixing and stored within Shed 2

Performance outcomes	Acceptable outcomes	Response
3. provide secondary containment to prevent the accidental release of hazardous contaminants to the environment from spillage or leaks.		(Storage) in 1t bulk bags. Shed 2 is existing, is already used for fertiliser storage and is largely outside the flood zone. • No mixed fertiliser shall be stored outdoors. • Fertiliser for the manufacturing process will be in a dry, pellet form (not liquid). Any spills will be cleaned up immediately. • If flooding is predicted all reasonable and safe efforts shall be made to secure plant, equipment and fertiliser to prevent offsite harm during flooding.
PO6 Environmentally hazardous materials located on-site are stored to avoid or minimise their release into the environment due to inundation during flood events.	No acceptable outcome is prescribed.	Complies with PO6 as no hazardous materials will be released during flood event because: • Fertiliser products shall be contained within silos prior to mixing and stored within Shed 2 (Storage) in 1t bulk bags. Shed 2 is existing, is already used for fertiliser storage and is largely outside the flood zone. • No mixed fertiliser shall be stored outdoors. • Fertiliser for the manufacturing process will be in a dry, pellet form (not liquid). Any spills will be cleaned up immediately. • If flooding is predicted all reasonable and safe efforts shall be made to secure plant, equipment and fertiliser to prevent offsite harm during flooding. • The SDS for fertilisers do not suggest they are toxic to aquatic life.

Performance outcomes	Acceptable outcomes	Response
		• The risk of elevated nutrients causing water quality impact under flood conditions is expected to be low given the likely high volumes of poor-quality water (mainly affected by suspended solids and elevated nutrients) in the Kingaroy Creek catchment. • Fertiliser manufacturing at the site is not expected to present a significant risk of offsite impact in the event of a flood.
All development – matters of state environmental significance		
PO7 Development is designed and sited to: 1. avoid impacts on matters of state environmental significance; or 2. minimise and mitigate impacts on matters of state environmental significance after demonstrating avoidance is not reasonably possible; and 3. provide an offset if, after demonstrating all reasonable avoidance, minimisation and mitigation measures are undertaken, the development results in an acceptable significant residual impact on a matter of state environmental significance. Statutory note: For Brisbane core port land, an offset may only be applied to development on land identified as E1 Conservation/Buffer, E2 Open Space or Buffer/Investigation in the Brisbane Port LUP precinct plan.	No acceptable outcome is prescribed.	The proposed development complies with PO7 because: • The site and surrounds have been heavily disturbed by existing industrial uses in the area. • The site inspection confirmed that the mapped MSES in the north-western portion of the site (Figure 5) did not occur due to the development of the existing facility and surrounding land uses. • There are no MSES or MNES at the site. • The proposed development will not have a significant residual impact on MSES. • The proposed development will not have a significant impact on MNES.
Intensive animal industry – poultry farming (ERA 4(2))		

Performance outcomes	Acceptable outcomes	Response
PO8 Poultry farming development (where farming more than 200,000 birds) is suitably located and designed to avoid or mitigate environmental harm on adjacent sensitive land uses, caused by odour.	AO8.1 For poultry farming involving 300,000 birds or less, development meets the separation distances as determined using the S-factor methodology to: a sensitive land use in a rural zone; and boundary of a non-rural zone. OR AO8.2 Development meets the separation distances as determined by odour modelling using the following criteria: 2.5 odour units, 99.5 percent, 1 hour average for a sensitive land use in a rural zone; or 1.0 odour units, 99.5 percent, 1 hour average for the boundary of a non-rural zone.	Not applicable - this application does not relate to poultry farming.

Appendix C: UAN Safety Data Sheet

OCI IOWA FERTILIZER

SAFETY DATA SHEET
UAN Solution (28-32%)

Section 1. IDENTIFICATION

Product Name: Urea Ammonium Nitrate (UAN) Solution (28-32 % wt nitrogen)

Recommended use: Fertilizer
Restrictions on use: Use only as directed

Manufacturer: Iowa Fertilizer Company, LLC
3550 180th St.
Wever, IA 52658
319-376-4500
319-376-4700 (24 hour)

Emergency phone number: 800-424-9300 (Chemtrec)

Section 2. HAZARD(S) IDENTIFICATION

Classification:

Physical	Health	Environmental
Not Hazardous	Eye Irritation Category 2A	Not Hazardous

Label Elements:

Warning!

Causes serious eye irritation.

Wash thoroughly after handling.
Wear eye protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical attention.

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ersion: 1, Version Date: 18/08/2022

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Ammonium Nitrate	6484-52-2	36-48 % wt
Urea	57-13-6	29-38 % wt
Water	7732-18-5	Balance
Free Ammonia	7664-41-7	100-500 ppm
Corrosion inhibitor	Proprietary	90-140 ppm

Section 4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If irritation occurs or breathing is difficult, get medical attention.
Skin contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Eye contact: Flush eyes with water for several minutes while lifting the upper and lower lids. Get medical attention if irritation develops or persists.
Ingestion: Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a person who is unconscious or convulsing. Get medical attention.

Most important symptoms/effects, acute and delayed: Causes eyes irritation. Prolonged skin contact irritation with redness and itching. Inhalation of mists may cause upper respiratory tract irritation. Swallowing large amounts may cause gastric upset.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is not required under normal use conditions.

Section 5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use media appropriate for the surrounding fire.

Specific hazards arising from the chemical: When water evaporates from this product resides may contain ammonium nitrate. Solid ammonium nitate when sensitized during decomposition may become unstable and explosive. Once the water has evaporated, decomposition of dried material may produce oxides of carbon and nitrogen, ammonium cyanate and ammonia.
Special protective equipment and precautions for fire-fighters: Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus. Cool fire exposure containers with water.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Wear appropriate protective clothing and equipment, see section 8 of the SDS for further information.

Environmental hazards: Report spill as required by local, state, and federal regulations.

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Methods and materials for containment and cleaning up: Collect spilled material with inert material and place into a closable, labeled container for disposal. Wash spill area with water.

Section 7. HANDLING AND STORAGE

Precautions for safe handling: Avoid eye contact and prolonged skin contact. Avoid breathing mists or spray. Use with adequate ventilation. Wash thoroughly after handling.

Avoid welding on pipes or tanks which have contained UAN solution until they have been thoroughly flushed with water. Residual ammonium nitrate may explode under conditions of confinement and high temperatures.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store in a cool, dry, well-ventilated area. Protect storage container from physical damage.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Ammonium Nitrate	None Established
Urea	10 mg/m^3 TWA AIHA WEEL
Water	None Established
Ammonia	50 ppm TWA OSHA PEL 25 ppm TWA, 35 ppm STEL ACGIH TLV
Corrosion inhibitor	None Established

Appropriate engineering controls: If use generates mists, use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

Individual protection measures, such as personal protective equipment:
Respiratory protection: In operations where the occupational exposure limits exceeded, an approved respirator with dust/mist cartridges or supplied air respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.
Skin protection: Rubber gloves are recommended for prolonged skin contact.
Eye/Face protection: Chemical safety goggles should be worn if contact is possible.
Other: Appropriate protective clothing as needed to minimize skin contact. Suitable washing facilities should be available in the work area.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless liquid.
Odor: Little or no detectable ammonia odor.

Odor threshold: None	**pH:** 6.5-7.8
Melting point/freezing point: 0°F (-18°C) for 28%N; 16°F (-9°C) for 30%N; 32°F (0°C) for 32%N (salt out temperature)	**Boiling point:** >212°F (>100°C)
Flash point: None	**Evaporation rate:** Not available
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not applicable	**UEL:** Not applicable
Vapor pressure: 0.11 - 0.06 (28%, 32% respectively) @60°F (15.6°C) due to water component	**Vapor Density (air =1):** Not available
Relative density: 1.281 (28%N); 1.304 (30%N); 1.330 (32%N) @60°F (16°C)	**Solubility in Water:** Miscible
Partition coefficient: n-octanol/water: Urea: -1.59, Ammonium Nitrate: -3.1	**Auto-ignition temperature:** Not applicable
Decomposition temperature: >554°F (>290°C)	**Viscosity:** 3.6 cP (28%N); 6.1 cP (32%N) @40°F (4.4°C)

Section 10. STABILITY AND REACTIVITY

Reactivity: Not expected to be reactive.
Chemical stability: Stable.
Possibility of hazardous reactions: None known.
Conditions to avoid: Urea nitrate may be formed in contact with nitric acid. Urea nitrate has excellent explosive properties and is also friction and mechanical shock sensitive.
Incompatible materials: Avoid reducing agents, strong oxidizing agents, strong acids, strong alkalis, metal powders, combustible materials, chromates, zinc, copper and copper alloys and chlorates.
Hazardous decomposition products: Thermal decomposition may produce oxides of carbon and nitrogen and ammonia.

Section 11. TOXICOLOGICAL INFORMATION

Inhalation: High concentrations of mists may cause nose, throat, and upper respiratory tract irritation.
Ingestion: Swallowing large amounts may cause gastrointestinal irritating and nausea.
Skin contact: Prolonged skin contact may cause irritation with redness and itching.
Eye contact: Causes eye irritation with redness, tearing, and pain.

Chronic effects: None known.

Reproductive Toxicity: None of the components have been shown to cause reproductive or developmental toxicity.

Mutagenicity: None of the components have been shown to cause mutagenic activity.

Carcinogenicity: None of the ingredients are listed as a carcinogen by IARC, NTP or OSHA.

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Acute Toxicity Values:
Ammonium Nitrate: Oral rat LD50 2950 mg/kg, Dermal rat LD50 >5000 mg/kg
Urea: Oral rat LD50 8471 mg/kg

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity:
Ammonium Nitrate: 48 hr LD50 Cyprinus carpio 447 mg/L, 48 hr EC50 daphnia magna 490 mg/L,
Urea: 96 hr LC50 Leuciscus idus >6810 mg/L, 24 hr EC50 daphnia magna >10000 mg/L
Persistence and degradability: Urea is rapidly hydrolyzed to ammonia and carbon dioxide in environmental systems. Ammonium nitrate will be taken up by bacteria.
Bioaccumulative potential: The potential for bioconcentration in aquatic organisms is expected to be low.
Mobility in soil: Urea is highly mobile in soil. Ammonium nitrate will spread on the surface and penetrate into soil at a rate dependent on the soil type and water content.
Other adverse effects: None known.

Section 13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state, and federal regulations.

Section 14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated			
TDG	None	Not Regulated			
IMDG	None	Not Regulated			
IATA	None	Not Regulated			

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.
STCC Code: 2871313

Section 15. REGULATORY INFORMATION

Safety, health, and environmental regulations specific for the product in question.

CERCLA: This product is not subject to CERCLA reporting requirements, however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA Hazard Category (311/312): Acute Health.
SARA 313: This product contains the following Chemical Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372).

Nitrate Compounds	6484-52-2	36-48%

(Ammonium Nitrate)

EPA TSCA Inventory: All of the components of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.
Canadian CEPA: All of the ingredients are listed on the Canadian Domestic Substances List.

Section 16. OTHER INFORMATION

NFPA Rating:	Health = 2	Flammability = 0	Instability = 0
HMIS Rating:	Health = 2	Flammability = 0	Physical Hazard = 0

SDS Revision History: Corrected STCC Code in Section 14.
Date of preparation: December 11, 2018
Date of last revision: February 9, 2017

NOTICE: The information that Iowa Fertilizer Company, LLC (the "Company") has presented here was prepared in accordance with governmental regulations, is based upon data the Company believes to be accurate as of the date of this version, applies solely to the specific product designated and may not be accurate if such product is used with any other product. THE COMPANY MAKES NO WARRANTIES OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR COURSE OF PERFORMANCE OR USAGE OF TRADE. The party purchasing, using or applying the product is responsible for determining its suitability for such party's particular use or purpose, and such party assumes all risks with respect to handling, transferring, transporting, storing, applying or otherwise using the product ("Assumed Risks"), many of which are within the exclusive control of such party. THE COMPANY HEREBY DISCLAIMS ANY AND ALL LIABILITY FOR ANY AND ALL ASSUMED RISKS. Such party is solely responsible for complying with all applicable federal, state and local laws and regulations (collectively, the "Applicable Laws") governing the handling, transfer, transportation, storage, application and use of the product. Before handling, transferring, transporting, storing, applying or otherwise using the product, such party should thoroughly review all Applicable Laws.

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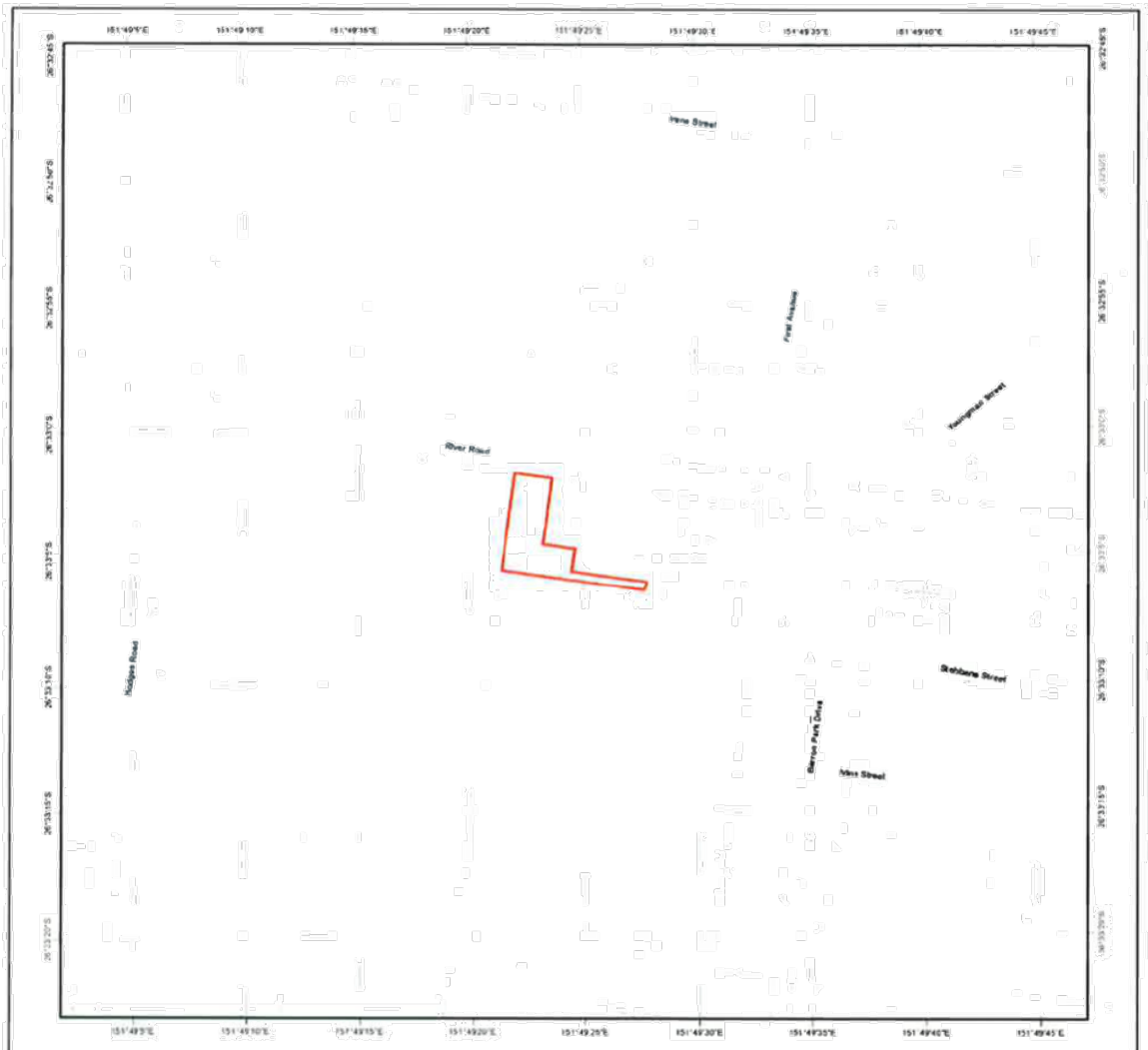
Version: 1, Version Date: 18/08/2022

Appendix D: Ecological Database Searches

Map requested: 22/03/2022 08:20:29

Centred on: Lot: 5 Plan: SP249675



Map of Great Barrier Reef Wetland Protection Areas

Selected Lot and Plan

Cadastral Boundary

Wetland in a wetland protection area

Great Barrier Reef wetland protection area

LOCALITY DIAGRAM

N

0 60 120 180 240 300 m

This product is projected into GDA 1994 MGA Zone 56

Note:
This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

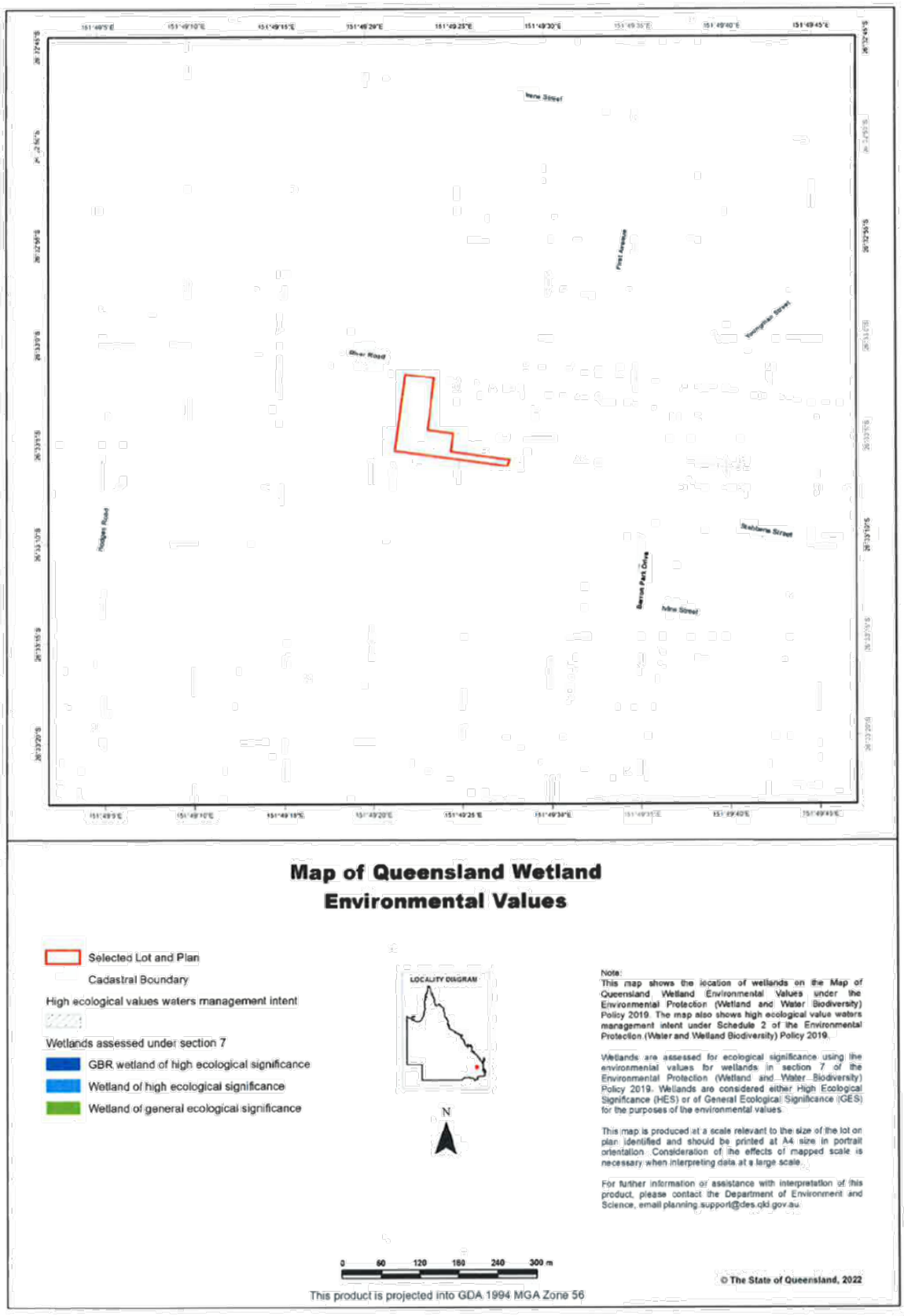
The Department of State Development, Manufacturing, Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Science is a technical agency.

The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *State Code 9 : Great Barrier Reef Wetland Protection Areas*.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science, email planning.support@des.qld.gov.au.

Map requested: 22/03/2022 08:20:29 Centred on: Lot: 5 Plan: SP249675



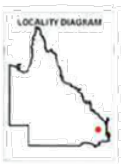
21/03/2022 16:39:39
Lot: 5 Plan: SP249675

Protected Plants Flora Survey Trigger Map

Legend

- Selected Lot and Plan
- High risk area
- Other land parcel boundaries
- Freeways / motorways / highways
- Secondary roads / streets

LOCALITY DIAGRAM



This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@des.qld.gov.au

N

0 40 80 120 160 200 m

This product is projected into: GDA 1994 Queensland Albers

Protected plants flora survey trigger map

The protected plants flora survey trigger map identifies 'high risk areas' where endangered, vulnerable or near threatened plants are known to exist or are likely to exist. Under the *Nature Conservation Act 1992* (the Act) it is an offence to clear protected plants that are 'in the wild' unless you are authorised or the clearing is exempt, for more information see section 89 of the Act.

Please see the Department of Environment and Science webpage on the clearing of protected plants for information on what exemptions may apply in your circumstances, whether you may need to undertake a flora survey, and whether you may need a protected plants clearing permit.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the clearing of protected plants for more information.

Australian Government
Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 21-Mar-2022

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	39
Listed Migratory Species:	14

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	20
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	5
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community may occur within area	In buffer area only
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community likely to occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Weeping Myall Woodlands	Endangered	Community may occur within area	In buffer area only
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat known to occur within area	In feature area
MAMMAL			
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area	In feature area
Nyctophilus corbeni			
Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans			
Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat may occur within area	In feature area
Petrogale penicillata			
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
PLANT			
Arthraxon hispidus			
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Bertya opponens			
[13792]	Vulnerable	Species or species habitat known to occur within area	In feature area
Cadellia pentastylis			
Ooline [9828]	Vulnerable	Species or species habitat may occur within area	In feature area
Cossinia australiana			
Cossinia [3066]	Endangered	Species or species habitat known to occur within area	In feature area