



## Regional Development Assessment Panel Agenda

**Meeting Date and Time:** Wednesday, 14 May 2025; 1:00pm  
**Meeting Number:** RDAP/42  
**Meeting Venue:** 140 William Street, Perth

A live stream will be available at the time of the meeting, via the following link:  
[RDAP/42 - 14 May 2025 - Shire of Chapman Valley - Shire of Manjimup](#)

### PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Members on Leave of Absence
4. Noting of Minutes

### PART B – SHIRE OF CHAPMAN VALLEY

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
  - 3.1 2017 (Lot 11 and Lot 12) North West Coastal Highway, Oakajee-Proposed Industry – DAP/25/02856
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

### PART C – SHIRE OF MANJIMUP

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
  - 3.1 Lots 174, - 176 (Nos.13 -17) Rose Street, Manjimup - Proposed Motel – DAP/24/02783
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

### PART D – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. Meeting Closure

*Please note, presentations for each item will be invited prior to the items noted on the agenda and the presentation details will be contained within the related information documentation*



<b>ATTENDANCE</b>	
<i>Specialist DAP Members</i>	<i>DAP Secretariat</i>
Clayton Higham (Presiding Member)	Kristen Parker
Karen Hyde (Deputy Presiding Member)	Ashlee Kelly
Neema Premji	
<i>Part C – Shire of Manjimup</i>	
Cr Jennifer Willcox (Local Government DAP Member, Shire of Manjimup)	
Cr Donnelle Buegge (Local Government DAP Member, Shire of Manjimup)	





## **PART A – INTRODUCTION**

- 1. Opening of Meeting, Welcome and Acknowledgement**
- 2. Apologies**
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## **PART B – SHIRE OF CHAPMAN VALLEY**

**1. Declarations of Due Consideration**

**2. Disclosure of Interests**

**3. Form 1 DAP Applications**

- 3.1 2017 (Lot 11 and Lot 12) North West Coastal Highway, Oakajee-  
Proposed Industry – DAP/25/02856

**4. Form 2 DAP Applications**

Nil.

**5. Section 31 SAT Reconsiderations**

Nil.

**PART B - Item 3.1 - 2017 (LOTS 11 & 12) NORTH WEST COASTAL HIGHWAY, OAKAJEE -  
PROPOSED INDUSTRY**

**Form 1 – Responsible Authority Report**  
(Regulation 12)

<b>DAP Name:</b>	Regional	
<b>Local Government Area:</b>	Shire of Chapman Valley	
<b>Applicant:</b>	GHD for Blue Diamond Australia Pty Ltd	
<b>Owner:</b>	Development WA	
<b>Value of Development:</b>	\$15 million <input type="checkbox"/> Mandatory (Regulation 5) <input checked="" type="checkbox"/> Opt In (Regulation 6)	
<b>Responsible Authority:</b>	Shire of Chapman Valley	
<b>Authorising Officer:</b>	Simon Lancaster	
<b>LG Reference:</b>	A2111	
<b>DAP File No:</b>	DAP/25/02856	
<b>Application Received Date:</b>	12 February 2025	
<b>Report Due Date:</b>	5 May 2025	
<b>Application Statutory Process Timeframe:</b>	90 Days	
<b>Attachment(s):</b>	1. Application Report 2. Application Technical Appendices 3. Received Submissions 4. Schedule of Submissions	
<b>Is the Responsible Authority Recommendation the same as the Officer Recommendation?</b>	<input checked="" type="checkbox"/> Yes	Complete Responsible Authority Recommendation section <i>(alternative also provided following conclusion of report)</i>
	<input type="checkbox"/> No	Complete Responsible Authority and Officer Recommendation sections

**Responsible Authority Recommendation**

The Shire of Chapman Council resolved at its 28 April 2025 meeting as follows:

“Council advise the Development Assessment Panel that it considers determination on the development of an Industry (Ammonium Nitrate Storage and Ammonium Nitrate Emulsion Manufacturing) upon Lots 11 & 12 North West Coastal Highway, Oakajee should be **deferred** pending receipt of the following:

- 1 Comment from the Department of Energy, Mines, Industry Regulation and Safety’s Dangerous Goods/ Resources Safety Section upon the application.
- 2 Submission by the applicant of a risk analysis for the proposed storage of ammonium nitrate and ammonium nitrate emulsion that includes modelling of potential scenarios and their preventative and response management, and also for the transportation of ammonium nitrate and ammonium nitrate emulsion along the proposed routes.”

“Council write to the Minister for Transport seeking an update on the progress of the Dongara-Geraldton-Northampton Route Alignment Study and to raise the increasing need for the Oakajee-Narngulu Infrastructure Corridor section of this route (road, rail and services corridor width) to be purchased and constructed to provide certainty to landowners, industry proponents and transport operators.”

### **Reasons for Responsible Authority Recommendation**

It is recognised that the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) have regulatory oversight of the transport, storage and manufacture of dangerous goods under separate legislation and the Department of Water and Environmental Regulation (DWER) have regulatory oversight of environmental impacts under separate legislation. However, it is also recognised that a planning decision is to have due regard for the suitability of the land for the development taking into account the possible risk to human health or safety in accordance with Schedule 2 Part 9 clause 67(2)(r) of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

On this basis Council recommended that DAP delay determination upon this matter pending the receipt of further information from DEMIRS and further information from the applicant that provides risk analysis for the proposed storage of ammonium nitrate and manufacture and storage of ammonium nitrate emulsion that includes modelling of potential scenarios and their management. It is also recommended that the risk analysis give regard for the transportation of ammonium nitrate and ammonium nitrate emulsion along the proposed routes.

This would be consistent with State Planning Policy 4.1 – Industrial Interface (SPP4.1) that references the need for impact modelling for worst-case scenarios, based on non-standard operating conditions including accidents and extreme events, and options to avoid and manage impacts.

The recommendation is in keeping with the precautionary principle as outlined in SPP 4.1 which notes that where it has not been adequately demonstrated that the industrial impacts can be identified and avoided, mitigated or managed, and there is uncertainty regarding the potential risk to health and amenity, a conservative approach should be applied.

### **Details: outline of development application**

Region Scheme	N/A
Region Scheme - Zone/Reserve	N/A
Local Planning Scheme	Shire of Chapman Valley Local Planning Scheme No.3
Local Planning Scheme - Zone/Reserve	Strategic Industry-Oakajee Industrial Zone C (Strategic Industry)
Structure Plan/Precinct Plan	Oakajee Industrial Estate Structure Plan
Structure Plan/Precinct Plan - Land Use Designation	Area C – Strategic Industry
Use Class and permissibility:	A
Lot Size:	Lot 11 - 238.92ha Lot 12 - 263.07ha

Existing Land Use:	Vacant Land
State Heritage Register	N/A
Local Heritage	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Heritage List <input type="checkbox"/> Heritage Area
Design Review	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Local Design Review Panel <input type="checkbox"/> State Design Review Panel <input type="checkbox"/> Other
Bushfire Prone Area	No - Proposed Development Site Yes - Portions of Lot 11 & 12
Swan River Trust Area	N/A

### Proposal:

The applicant is seeking development approval for an Industry (Ammonium Nitrate Storage and Ammonium Nitrate Emulsion Manufacturing and Storage) upon Lots 11 & 12 North West Coastal Highway in the Oakajee Industrial Estate.

Proposed Land Use	Industry
Proposed Net Lettable Area	12ha development footprint within proponent's 48ha land allocation within wider Development WA 6,400ha Oakajee Strategic Industrial Area
Proposed No. Storeys	N/A
Proposed No. Dwellings	N/A

The planning report submitted by the applicant has been provided as **Attachment 1**.

The technical appendices, that included the following management plans/impact assessments, which accompanied the planning report have been provided as **Attachment 2**:

- Traffic Impact Assessment (prepared by GHD);
- Surface Water Management Plan (prepared by GHD);
- Air Quality Impact Assessment (prepared by GHD);
- Waste Management Plan (prepared by GHD);
- Noise Impact Assessment prepared by GHD);
- Bushfire Management Plan (prepared by Linfire Consultancy).

This application was presented to the 28 April 2025 Shire of Chapman Valley Council meeting and the agenda, agenda attachments and minutes from this Council meeting can be viewed at the following link:

<https://www.chapmanvalley.wa.gov.au/council-meetings/past/2025>

### Background:

Lots 11 and 12 are 238.92ha and 263.07ha properties located on the western side of the North West Coastal Highway that form part of the overall 6,400ha Oakajee Strategic Industrial Area (SIA) that is owned by the State Government through Development WA. The Oakajee SIA consists of a 1,134ha heavy industrial core, 1,000ha port area, 196ha industrial support areas and 4,070ha buffer area that were rezoned in 2004.

In 2022 the State Government announced that it had approved land allocations in the Oakajee SIA core area for 6 proponents:

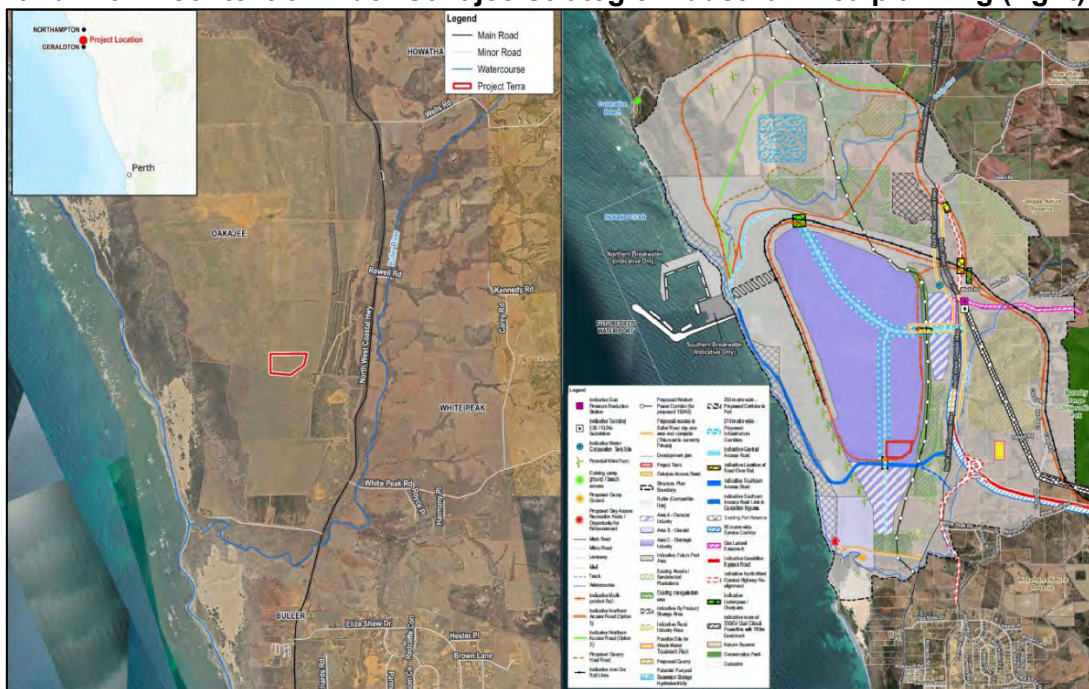
- BP;
- Fortescue Future Industries;
- Copenhagen Infrastructure Partners;
- Green LOHC;
- Kinara Power;
- Blue Diamond Australia.

Blue Diamond Australia have now lodged application to develop 'Project Terra' which consists of the following within a 12ha portion of their 48ha land allocation:

- ammonium nitrate storage facility with a capacity of up to 15,000 tonnes per year;
- ammonium nitrate emulsion manufacturing plant with an initial production capacity of up to 40,000 tonnes per year with the potential for production to increase up to 80,000 tonnes per year over the initial 5 years of operation.

Ammonium nitrate emulsion is used as a blasting agent in mining operations and the WA mining industry uses approximately 1.2 million tonnes of ammonium nitrate annually to deliver over 100 million tonnes sales annually worth approximately \$179 billion annually. Platinum Blasting Services would manage and operate the facility on behalf of Blue Diamond Australia.

**Figure 1 – Location Map of proposed development site on aerial photo (left) and within context of wider Oakajee Strategic Industrial Area planning (right)**



This application is the first to be lodged for an industrial development in the Oakajee SIA.

Lots 11 & 12 are presently leased by Development WA for farming purposes and are largely cleared, excepting remnant coastal vegetation along the western edge and a plantation strip along the eastern/highway edge.

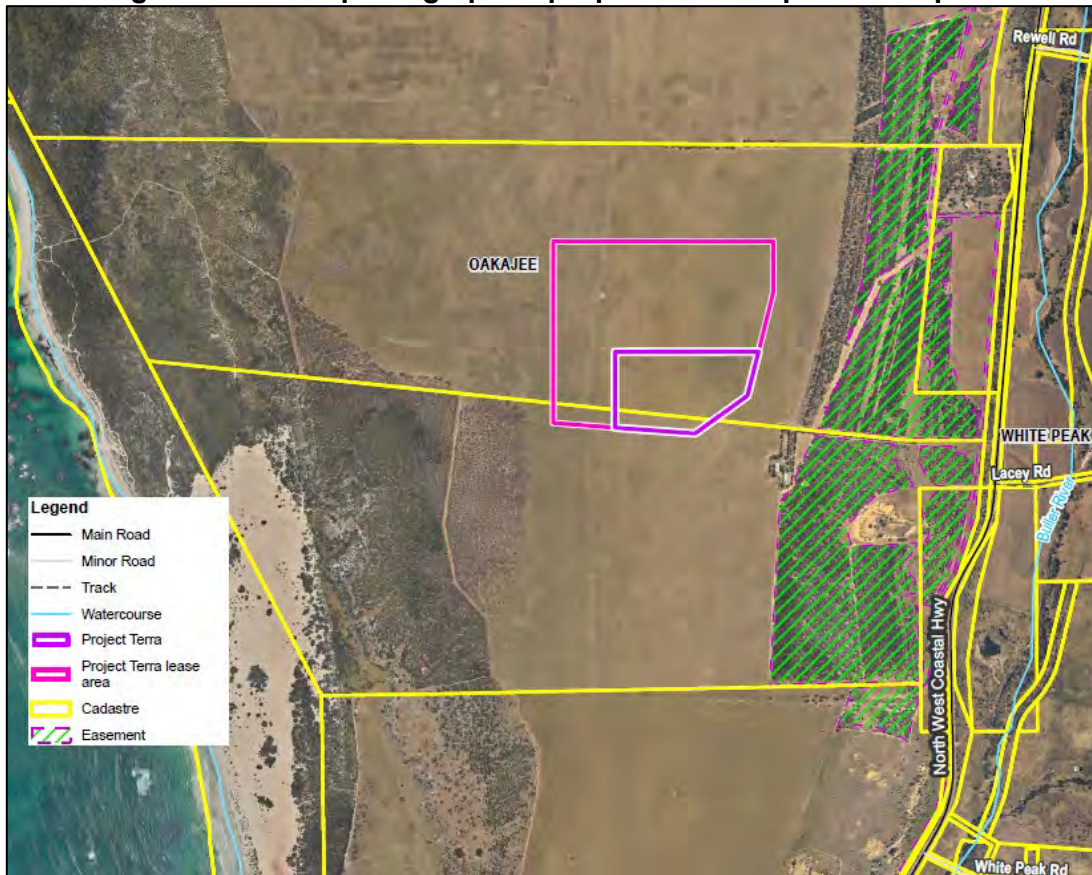


The development is proposed to be sited on a previously cleared and farmed area that slopes from the 88m contour at the eastern edge to the 70m contour at its western edge across an east-west distance of approximately 500m.

The development would be setback approximately 900m west from the North West Coastal Highway.

Approximately 300m south-east of the proposed development is a residence and outbuilding upon Lot 11 (owned by the State Government). It is recommended that any approval of this development be made subject to condition that this residence must be demolished prior to commencement of the use of the development.

**Figure 2 – Aerial photograph of proposed development footprint**



It is proposed that 3,000 tonnes of ammonium nitrate would be imported to Geraldton Port approximately 6 times a year to supply the development. The product is transported on the ship in 1.2 tonne flexible intermediate bulk containers, (more commonly known as 'bulk' or 'bulker/bulka' bags). The bulka bags would be removed via onboard unloading equipment and transferred onto B-Double trucks at the port (typically 36 bulka bags per truck). There would be approximately 60-65 B-Double two-way truck trips from Geraldton Port to the Oakajee facility as unloading occurred over a 24 hour period.

Access to the site would be via the Oakajee Central Access Road that is currently being constructed by Main Roads WA off the North West Coastal Highway approximately 3km north of the development site. Vehicles would then travel south along a 3km long, 8m wide access road constructed by the applicant to reach an access point located at the north-eastern corner of the development site. The internal

vehicle access network would be a 15m wide 2-lane unsealed road around the perimeter of the development site.

The storage facility at Oakajee would have capacity to store up to 15,000 tonnes of ammonium nitrate although the quantity stored would vary dependant on production and import. The ammonium nitrate would be stored in 24 stacks under 2 large dome structures with concrete foundations, at the eastern end of the development site.

**Figure 3 – Proposed development access**



The ammonium nitrate emulsion plant would be located in the north-western area of the development footprint and contained within a 30m x 30m (900m<sup>2</sup>) shed located on a concrete slab. Supporting equipment including generators, boilers and bunded storage tanks would be located to the east of the plant. 6 x 60 tonne ammonium nitrate emulsion tanks would be sited to the west of the plant.

There would be an office, crib hut, toilets, stores and trace manufacture facilities located in the southwest corner of the site.

**Figure 4** illustrates the development layout as originally submitted and advertised.

**Figure 5** provides the amended development layout submitted by the applicant post-advertising that contracts the development footprint.



BOA LAYOUT PROVIDED 13.03.25

DELDNIK AMENDED LAYOUT

29.2

29.8

29.6

29.7

29.1

29.4

N

0 10 20 30 40 50 60 70 80 90 100

SCALE OF METRES 1:500

The production facility would blend diesel and emulsifier to produce the Fuel Phase. Ammonium nitrate is then mixed with water in 'melt tanks' to produce create ammonium nitrate solution (ANSOL). The Fuel Phase and ANSOL are then mixed to create the ammonium nitrate emulsion product which is pumped into storage tanks.

The application does not provide detail on the ammonium nitrate emulsion transport aspects of the development regarding type of number of vehicle movements or anticipated transport routes. It is considered likely that the majority of the product would head north from the site along North West Coastal Highway, although there would likely also be some product movement heading south on the North West Coastal Highway and through Geraldton then east along Geraldton-Mount Magnet Road. No detail on this anticipated movement is provided. The delivery by the State Government of the long delayed Oakajee-Narngulu Infrastructure Corridor/Geraldton Outer Bypass would address this issue.

Further information can also be obtained at the applicant's website:

[Project Terra | Ammonium Nitrate Facility & Mining Support | BDA](#)

## Legislation and Policy:

### Legislation

*Planning and Development Act 2005*

*Planning and Development (Development Assessment Panel) Regulations 2011*

*Planning and Development (Local Planning Schemes) Regulations 2011*

Shire of Chapman Valley Local Planning Scheme No.3

*Environmental Protection Act 1986*

*Environmental Protection Regulations 1987*

*Environmental Protection (Controlled Waste) Regulations 2004*

*Environmental Protection (Noise) Regulations 1997*

*Environmental Protection (Unauthorised Discharges) Regulations 2004*

*Dangerous Goods Safety Act 2004*

*Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007*

*Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007*

*Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007*

The development site is zoned 'Strategic Industry-Oakajee Industrial Zone C (Strategic Industry)' under the Shire of Chapman Valley Local Planning Scheme No.3 ('the Scheme') the objectives for which are listed in Table 1 as being:

- “*To provide for the coordinated development of large-scale, generally capital intensive industries that are of strategic importance to the economic development of the State and Region and which, by their nature, should be isolated from residential areas;*
- *To ensure that should development of a strategic industry proceed, it is contained within a strategic industrial core with appropriate surrounding buffers, and that development adheres to environmental standards and operational criteria approved by the Environmental Protection Authority and the local government;*
- *To prevent the establishment of land-uses more appropriately undertaken in other commercial and/or industrial areas;*
- *To provide for other land-uses compatible with the predominant use of the land.”*

Table 4 of the application report provided as **Attachment 1** addresses the application against these zone objectives.

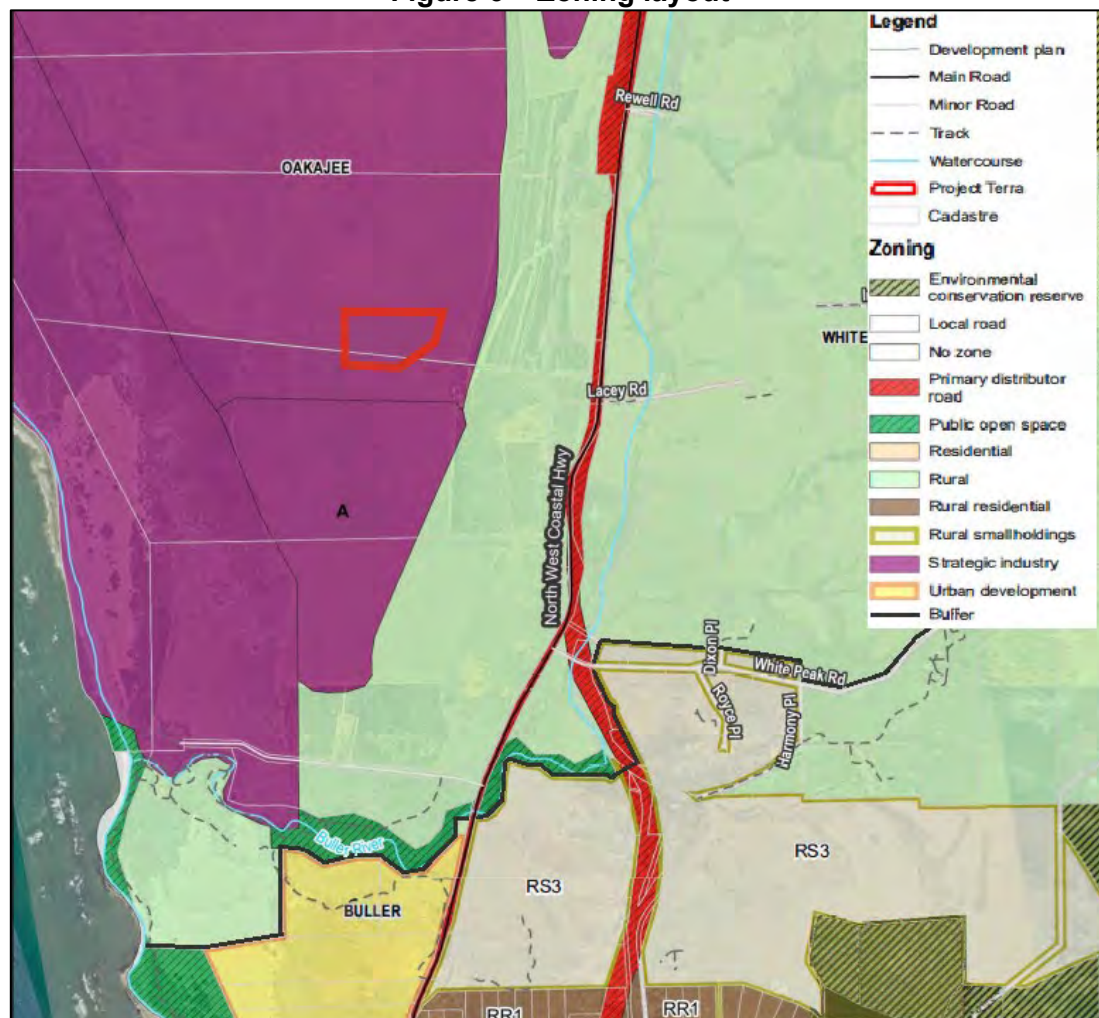
The proposed development meets with the definition of 'Industry' as defined in the Scheme and the *Planning and Development (Local Planning Schemes) Regulations 2015* ('the Regulations') as being:

*"industry means premises used for the manufacture, dismantling, processing, assembly, treating, testing, servicing, maintenance or repairing of goods, products, articles, materials or substances and includes facilities on the premises for any of the following purposes —*

- (a) the storage of goods;*
- (b) the work of administration or accounting;*
- (c) the selling of goods by wholesale or retail;*
- (d) the provision of amenities for employees;*
- (e) incidental purposes"*

'Industry' is listed in the Scheme within the 'Strategic Industry-Oakajee Industrial Zone C (Strategic Industry)' zone as an 'A' application, that is a use that must be advertised for comment prior to determination.

**Figure 6 – Zoning layout**



Schedule 2 Part 9 Clause 67(2) of the deemed provisions of the Regulations provides further guidance in the assessment of this application, and Section 5.1.2 of the applicant's report provides individual comment in regards to these Regulation criteria.

The proposed development is deemed a prescribed premises under Schedule 1 of the *Environmental Protection Regulations 1987*, with a Category 73 (bulk storage of chemicals) and Category 75/33 (chemical blending and mixing) prescribed premises activity, and will therefore also require the applicant to obtain a works approval and licence from DWER.

The application will also need to demonstrate compliance with the *Environmental Protection (Controlled Waste) Regulations 2004*, *Environmental Protection (Noise) Regulations 1997* and *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

Should the applicant seek to obtain groundwater they will need to make licence application to DWER under the *Rights in Water and Irrigation Act 1914*.

The applicant will also need to obtain a Special Berth License from the Mid West Ports Authority to allow the import into, and the transportation of ammonium nitrate from, the Geraldton Port.

The applicant will need to obtain from DEMIRS a Dangerous Goods Licence and Ammonium Nitrate Storage Licence pursuant to the *Dangerous Goods Safety Act 2004* and the *Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007*.

The applicant will also be required to obtain from DEMIRS a Security Sensitive Ammonium Nitrate (SSAN) manufacture licence pursuant to the *Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007* and *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007*.

A dangerous goods licence under the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007* will also be required for the diesel storage (combustible liquid) and other potentially dangerous goods stored onsite

### State Government Policies

State Planning Policy 4.1 – Industrial Interface seeks to guide land use planning for industrial and sensitive land uses and has the following objectives:

- protect industrial areas to improve long-term operational certainty;
- avoid, mitigate or manage potential impacts on the health and amenity of people and the environment;
- promote co-location of like uses to minimise the impact area.

SPP 4.1 notes that strategic industries/major hazard facilities and the resulting impact areas should be located in an appropriate zone such as Strategic Industry.

SPP 4.1 also notes the following in regards to Strategic Industrial Areas:

*“SIAs are areas of significant economic and strategic importance for the State or region. SIAs should incorporate impact areas that require suitable and appropriate integration with surrounding compatible zones, reserves and land uses to ensure the site can:*

- a) *expand and grow over time*

- b) *prevent or minimise the encroachment of incompatible land uses*
- c) *ensure off-site impacts and/or safety risks are managed within a defined area.*

*It is important that proposals within a SIA follow best practice approaches and include appropriate standards according to licences or works approvals from relevant agencies. These are often separate from the planning process and Strategic Industrial Areas."*

*"Where it is anticipated that there will be adverse impacts on nearby sensitive land uses, it will need to be demonstrated that adequate mitigation or management of off-site impacts and/or safety risks can be achieved by way of management plans or similar. This information or assessment should be included as part of a planning proposal. Management and/or mitigation requirements should not be imposed on existing surrounding sensitive land users."*

*"Impact areas should be defined through appropriate consideration of the adverse effects on nearby existing or future sensitive land uses using a combination of monitoring and modelling, technical reporting, risk assessment and the consideration of strategies for the locality. When making a decision it may be appropriate to consider the broader merits of the proposal for the precinct or region, compare likely impacts from similar industrial uses, and apply general risk-based principles, such as the precautionary principle or a risk assessment matrix."*

*"To support the assessment process, applicants may be required to supply the following technical assessments:...*

- ...c) impact modelling illustrating worst-case scenarios, based on non-standard operating conditions including but not limited to:*
  - shutdowns, accidents, start-ups and extreme events*
  - options for avoiding, mitigating or managing the impacts and associated costs, both financial and social*
- d) risk analysis of impacts on sensitive land uses based on:*
  - the type of use (for example, a residential area or school)*
  - population and demographic statistics to determine the number of people potentially affected and their susceptibility*
  - hypothesis of impacts that may be reasonable under non-standard conditions (for example, the number of events exceeding the relevant standard that would be tolerated by those affected)*
- e) risk analysis exploring implications on long-term operations of industry"*

*"The precautionary principle, as defined in this policy, should be applied where there is a proposal involving off-site impacts or risks where inadequate information is known or available about the impacts, and where these impacts are difficult to avoid, mitigate or manage, or where the cost to do so is not commensurate with the risk. This will be particularly important if there are potential significant adverse health and amenity impacts on existing or proposed sensitive land uses within impact areas, where consequences and mitigation measures need to be weighed more carefully.*

*Where it has not been adequately demonstrated that the industrial impacts can be identified and avoided, mitigated or managed, and there is uncertainty regarding the potential risk to health and amenity, a conservative approach to defining the impact area should be applied"*



It is unclear from the information provided in the lodged development application whether the off-site impacts and safety risk can be managed with the Oakajee SIA buffer area.

#### Local Planning Strategy

Lots 11 & 12 North West Coastal Highway, Oakajee are located within Planning Precinct No.6 – Oakajee Industrial Investigation Area' in the Shire of Chapman Valley Local Planning Strategy.

[Shire Of Chapman Valley](#)

The vision for this Precinct is for a:

*“Large-scale regional and significant industry that is developed in the Precinct is protected by a buffer of compatible uses.”*

The proposed development site is identified as 'Strategic Industry' and within the Oakajee Industrial Estate Buffer in the WAPC's Geraldton Region Plan (1999) [Geraldton Region Plan 1999](#) and Greater Geraldton Structure Plan (2011) [Structure Plan Greater Geraldton](#) documents.

The proposed development site is identified as being within 'Strategic Industry Area C' upon the Oakajee Structure Plan which is identified for heavy industry.

[Structure Plan 0303 Chapman Valley Oakajee Industrial Estate Structure Plan](#)

#### Structure Plans/Activity Centre Plans

Oakajee Industrial Estate Structure Plan

#### Local Policies

Council has adopted Shire of Chapman Valley Local Planning Policy 7.6 - Energy & Resource Industry Community Enhancement Local Planning Policy which can be viewed at the below link:

[SoCV LPP 7 6 Energy and Resource Industry Community Enhancement Policy .pdf](#)

The planning system is failing rural and regional communities in regards to large gas, renewable energy, mineral and industrial projects. Whilst it is recognised that these projects may have a wider state benefit, there can be a very limited to negative return for the communities in which these projects operate. It is also recognised that whilst major projects do have an underlying objective of maximising the proponent's financial interests there is still ability for it to have regard and concern for the wider social context of the region in which it is located. Without such regard it might be asked; *if the project were to not proceed would the local community be any the worse off?*, indeed it might be better off as the local community will bear the impacts to its own transport activities and networks, during both the construction and operational phases, the impact on its amenity through visual, noise, dust, light, vibration, waste and other impacts, and the environmental risks both during the operation and post-operation legacy phases when a proponent, who is from outside the region, has made their profits and moved on.

There is no statutory planning mechanism by which a significant applicant must be involved in the local community and to ensure there is some form of social benefit to

those who will bear the impacts and who are already disadvantaged in access to services and facilities compared to urban areas.

The establishment of a mechanism for Developer Agreements is only through discretion and is voluntary as there is no planning legislation at this stage to facilitate Community Enhancement for local communities impacted by industry, gas, mining and renewable projects within Western Australia as there are in other states of Australia.

It is vital that the Western Australian Planning Commission in consultation with the Western Australian Local Government Association develop a mechanism whereby major project proponents are required to engage with local communities to ensure a lasting positive community legacy for their projects. Continuing delay in this area in the face of the current significant activity in the gas, renewable energy and mineral sectors in rural and regional areas is resulting in poor outcomes for these areas that are already disadvantaged in terms of services and access, and reinforces an underlying trend of centralisation.

## **Consultation:**

### Public Consultation

The application was advertised for comment from 12 March 2025 until 26 March 2025 with the Shire undertaking the following actions:

- copy of the application being placed on the Shire website on 10 March 2025;
- public notice in the Mid West Times on 12 March 2025;
- post advising of the application (and where information relating to it could be viewed) being placed on the Shire Facebook page on 10 March 2025 that received 7,110 views;
- follow-up post again advising of the application being placed on the Shire Facebook page on 19 March 2025 that received 536 views;
- correspondence inviting comment being sent to the following 15 government agencies and service authorities:
  - ATCO Gas
  - Australian Gas Infrastructure Group
  - Department of Biosecurity, Conservation & Attractions
  - Department of Fire & Emergency Services
  - Department of Health
  - Department of Jobs, Tourism, Science & Innovation
  - Department of Energy, Mines, Industry Regulation & Safety
  - Department of Planning, Lands & Heritage
  - Department of Primary Industries & Regional Development
  - Department of Water & Environment Regulation
  - Horizon Power
  - Synergy Energy
  - Main Roads WA
  - Telstra
  - Water Corporation
  - Western Power
- correspondence inviting comment being sent to the landowners within 2km of the development site;
- display of the application at the Shire office;
- Shire CEO providing an interview on ABC Mid West & Wheatbelt Radio on 11 March 2025;

- Shire providing information to Geraldton Guardian newspaper and resultant front page and page 4 article in Geraldton Guardian on 14 March 2025;
- Shire providing information to the Mid West Times and resultant article on Mid West Times website on 14 March 2025.

At the conclusion of the advertising period the Shire had received 19 submissions as follows:

- 10 of these were from government agencies either offering no objection or technical comment
- 7 from individuals in objection to the application (noting multiple objections were received from the same property and the 7 objections originated from a total of 4 properties);
- 1 objection was received from a sporting club.
- 1 submission expressing support was received from a landowner.

A copy of the received submissions have been provided as **Attachment 3**.

A Schedule of Submissions that summarises the nature of the received submissions, and provides the applicant's comments upon the raised issues, has been provided as **Attachment 4**.

#### Referrals/consultation with Government/Service Agencies

Refer previous and following sections.

#### **Planning Assessment:**

The application addresses the following aspects.

#### Sensitive Premises

The Environmental Protection Authority's 'Guidance for the Assessment of Environmental Factors-Separation Distances between Industrial and Sensitive Land Uses' lists the buffer distance for ammonium production as being 1km.

There are 2 residences located within 2km of the proposed development, these being 300m to the south-east and 850m to the north-east). Both of these residences are owned by Development WA and are planned to be vacated and demolished as required when industry commences in the Oakajee SIA. It is recommended that any approval for this development be made subject to condition that the landowner must demolish these 2 residences to accord with the EPA Guidelines.

The closest third-party residence is 2.2km from the development site, and there is no ability for further residences to encroach towards the development site as the buffer area for the Oakajee SIA has been purchased by Development WA.

It is recommended that condition be required of Development WA (being the landowner of the development application site) that the following residences must be vacated and demolished prior to the development commencing operation:

- residence at 2017 North West Coastal Highway, Oakajee upon Lot 11 (Plan 18559) that is approximately 300m south-east of the proposed development;
- residence at 2097 North West Coastal Highway, Oakajee upon Lot 2 (Diagram 35736) that is approximately 850m north-east of the proposed development.



1836 North West Coastal Highway, Buller upon Lot 100 (Plan 24143) is 2.1km south-east of the development site and on the opposite side of the highway (and also owned by Development WA) but is not recommended for demolition at this time, although Development WA may wish to do so of its volition.

### Air Quality

The Air Quality Impact Assessment (AQIA) considered nearby sensitive receptors, including tenanted and untenanted lots and residents (it is noted that all of the sites as identified in Table 4.1 of the AQIA are in the buffer and owned by Development WA and scheduled for vacating and demolition as required and would reduce/remove the sensitive receptors).

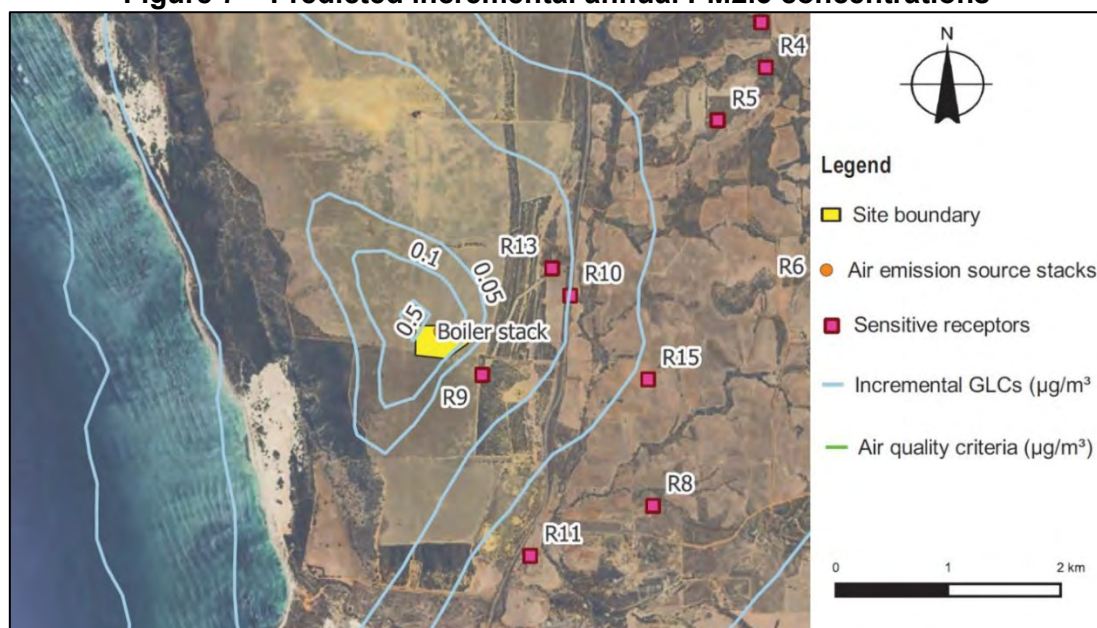
The results of the air dispersion modelling indicated that the development would comply with the relevant air quality criteria for each of the pollutants across all scenarios, with the exception of the cumulative assessment for annual PM<sub>2.5</sub> ground level concentrations, where the contribution of the background concentrations resulted in exceedances for receptors. It is noted, however, that the ambient air quality monitoring for Geraldton recorded the exceedances of 24-hour averaged air pollutants as being associated with high easterly and southerly winds causing dust lift-off and from bushfires and prescribed burns rather than industrial sources.

It is also noted that the assessment undertook a conservative modelling approach that assumed the boiler and diesel generator would be operational continuously year-round, although in reality both would be operational for approximately 8 hours per day.

The assessment notes that the proposed development does not significantly contribute to the increase in annual PM<sub>2.5</sub> average concentrations, as the incremental contribution is approximately 0.01% of the total PM<sub>2.5</sub> concentration, and concludes that the proposed development does not pose a significant threat to air quality in the region.

The DWER Air Quality Branch have reviewed the AQIA and identified limitations in the modelling and requested further information. It is recommended that, in the event of approval, that condition be applied requiring that an Air Quality Management Plan must be prepared by the applicant to the satisfaction of DWER and implemented thereafter.

Separate to the planning process, the applicant must obtain a works approval from DWER pursuant to the *Environmental Protection Regulations 1987*. The DWER Works Approval (if granted) would condition the development's operations including in relation to air quality requirements and DWER will have authority to ensure compliance with statutory requirements.

**Figure 7 – Predicted incremental annual PM2.5 concentrations**

### Noise

The noise emissions from the development will be required to meet the assigned noise levels set by the *Environmental Protection (Noise) Regulations 1997*.

A Noise Impact Assessment (NIA) has been prepared to model the development's expected noise emissions and assess them against the maximum allowable noise levels based on different times of day and receiving land use e.g. noise sensitive premises/residence, commercial and industrial premises.

The NIA adopted a conservative model assumption of a continuously operating plant and truck movements delivering ammonium nitrate to the facility, although the plant is not proposed to operate 24 hours per day all week, rather from Monday to Friday between 6:30am and 5:00pm.

The predicted noise levels from the modelled 'worst case' operational scenario (inclusive of conservative tonal adjustment and 'worst case' meteorological conditions) are expected to comply with the Regulations' Day, Evening and Night noise criteria at all sensitive receivers.

The NIA did not model noise emissions at the 2 closest residences of 2017 North West Coastal Highway, Oakajee and 2097 North West Coastal Highway, Oakajee, as they are both owned by Development WA and can be vacated and demolished thereby removing them as sensitive receptors.

The DWER Environmental Noise Branch has reviewed the NIA and advised that it considers the development will be able to comply with the Noise Regulations.

Separate to the planning process, the applicant must obtain a works approval from DWER pursuant to the *Environmental Protection Regulations 1987*. The DWER Works Approval (if granted) would condition the development's operations including in relation to noise emissions and DWER will have authority to ensure compliance with the *Environmental Protection (Noise) Regulations 1997*.

## Transport

Lots 11 and 12 front the North West Coastal Highway that carries 2,987 vehicles per day, 15.7% of which is commercial in nature, and carries trucks to a 36.5m (RAV8) length. The Transport Impact Assessment (TIA) notes the estimated design capacity of the North West Coastal Highway, as a Primary Distributor Road, is between 8,000 and 12,000 vehicles per day (1,190 vehicles per hour).

The TIA states that during the construction phase, vehicle movements to and from the subject site are expected to generate up to 48 vehicle trips per day (comprising 24 in and 24 out light vehicles per day, and 24 in and 24 out truck vehicles per day) during the peak construction activity period (late 2025/early 2026).

During the operational phase, vehicle trips are expected to be generally 142 vehicles per day (comprising 65 heavy vehicles per day one-way/130 two way and 12 two way light vehicles) during operation at peak activity of ship unloading.

It is recommended that, in the event of approval, that condition be applied requiring that a Traffic Management Plan must be prepared by the applicant to the satisfaction of Main Roads WA and implemented thereafter.

Transport of ammonium nitrate from the Geraldton Port would be via the Willcock Link and North West Coastal Highway until such time as the Geraldton Outer Bypass is constructed.

The Geraldton Outer Bypass would also accommodate transport of ammonium nitrate emulsion to mines to the east, however, in its absence this product must also go through Geraldton to reach Mid West mine sites.

Main Roads WA has completed its alignment selection study and confirmed a corridor for the future Dongara-Geraldton-Northampton route to enable triple road trains to travel between Carnarvon and Muchea, and this route includes the earlier identified Geraldton Outer Bypass/Oakajee-Narngulu Infrastructure Corridor alignment section. Main Roads WA is undertaking the alignment definition phase of the planning process that will inform subsequent land acquisition.

The Dongara-Geraldton-Northampton route study was commenced in 2015 and it is anticipated that the alignment definition study may take Main Roads WA several years more to complete, and at this time there are no funds set aside for land acquisition and construction.

A transport alignment linking the Narngulu industrial estate and Geraldton port with a proposed industrial estate and port at Oakajee, that runs east of the Moresby Range and through the Wokatherra Gap has been identified in the 1976, 1988, 1999 and 2011 versions of the Geraldton Region Plan/Greater Geraldton Structure Plan. It remains the most important strategic planning issue for the Greater Geraldton area, and is now a wider state transport issue given that it is required to enable triple road trains to travel between Carnarvon and Muchea. The delays in the progress of this state project remain a source of frustration and concern for local governments, landowners, transport providers and industry proponents.

**Figure 8 – proposed Geraldton Outer Bypass alignment  
(in context of wider Dongara-Geraldton-Northampton Corridor)**



The transportation of ammonium nitrate and ammonium nitrate emulsion is governed by DEMIRS and requires licensing/approvals under the *Dangerous Goods Safety Act 2004*.

It is recommended that, in the event of approval, that condition be applied requiring that an Emergency Management Plan must be prepared by the applicant to the satisfaction of DEMIRS and the Department of Fire & Emergency Services (DFES) and implemented thereafter.

It is also recommended that the Emergency Management Plan should not only address the operations at the development site itself but also the transportation of, ammonium nitrate to, and ammonium nitrate emulsion from, the development site. The Emergency Management Plan should reference the licensing requirements of DEMIRS, any relevant National Codes of Practice and the recommendations of the DEMIRS Incident Investigation Report - Ammonium Nitrate Emulsion Tanker Trailer Explosion (2023).

### Surface Water

The Surface Water Management Plan (SWMP) identifies that no watercourses travel across the site and the closest watercourse is the Buller River approximately 2.5km to the south of the development site, and there is a tributary approximately 1km from the site to the east on the other side of the North West Coastal Highway.

The flood inundation map shows no accumulation of flood waters within the site due to the absence of depression areas.

The ammonium nitrate storage and emulsion manufacturing facility along with the diesel tank area are proposed to be bunded and managed to separate potentially contaminated runoff from the clean water runoff.

Figure 11 of the SWMP identifies a contaminated catchment area bunded to isolate the runoff and direct it to the water quality basin via a pit and pipe network. The water quality basin would be lined and intercept the first flush runoff (derived from the first 16.7mm rainfall of a storm event which is equivalent to the 1 exceedance per year, 1 hour storm event) with possible contamination from ammonium nitrate spillage within the bunded area. The basin would divert the excess runoff from the storm event to the constructed open channel via a diversion pipe to ensure that the contaminated runoff would be managed within the water quality basin and the overflow diverted to the detention basin to the south-west end via the constructed open channel to capture, filter or treat pollutants.

It is proposed that after each rainfall event, a contamination test be undertaken for the water quality basin to detect for possible contamination. If water quality is found to be noncompliant, the basin would need to be emptied using a licensed waste collector.

In its review of the SWMP DWER noted that as the proposed activities creates a risk of discharge to the environment, the proponent should demonstrate that floor levels for all buildings used for chemical storage or manufacture will be suitably raised above expected flood levels, inclusive of a freeboard to account for location variation in flood levels.

It is recommended that, in the event of approval, that condition be applied requiring that a SWMP must be prepared by the applicant to the satisfaction of DWER and implemented thereafter.

Separate to the planning process, the applicant must obtain a works approval from DWER pursuant to the *Environmental Protection Regulations 1987*. The DWER Works Approval (if granted) would condition the development's operations including in relation to stormwater management and DWER will have authority to ensure compliance.

#### Waste & Effluent Disposal

The proposed development would have dedicated waste storage areas, segregated from each other with signage to manage waste. Different waste streams (hazardous and non-hazardous) are to be appropriately separated and suitably stored in designated sealed receptacles provided by the waste management contractor. Receptacles are to be collected and emptied off-site at a suitable waste collection facility.

Waste storage containers will be suitably enclosed, covered and maintained (such as waste oils stored in under cover self-bunded storage tanks) to prevent polluted wastewater runoff from entering the stormwater system.

Stormwater interception system including diversion drains are proposed to maintained around laydown areas to control discharges, run-offs, or incidental waste spills as per the conceptual drainage plan outlined in the Surface Water Management Plan

Spillages from tanks within a bunded area would need to be trucked out as required for disposal at a licenced facility. This aspect of the development is anticipated to be addressed in the separate Works Approval process the applicant must obtain from DWER.

The primary source of waste from the development is expected to be empty ammonium nitrate bulka bags. The empty bags are proposed to be compacted in a baling machine and the bales disposed through the National Big Bag Scheme. This is a Federal Government funded recycling scheme which must demonstrate all waste collected is 100% recycled and then the recycled products are 100% recyclable. Approximately 62,400 tonnes of waste ammonium nitrate bags would go to recycling (20,800 bags at 3kg per bag).

The applicant proposes to treat and dispose of sewage from the crib room/toilet during the operational phase via a septic system, and approval for this will be required from the Department of Health/Shire of Chapman Valley pursuant to the *Health Act 1911*. Appropriate permits will also be required for collection of sewage and disposal offsite during construction works.

The applicant will be required, separate to the planning process, to obtain from DWER a works approval to construct the development and subsequent licence to operate the development. In addition the proposed development would store and utilise controlled wastes such as waste oil and water, hydrocarbons and water, mixtures or emulsions, industrial solvents etc. Schedule 1 of the *Environmental Protection (Controlled Waste) Regulations 2004* requires that developments handling controlled waste must make application for a DWER licence.

It is recommended that, in the event of approval, that condition be applied requiring that a Waste Management Plan must be prepared by the applicant to the satisfaction of DWER and implemented thereafter.

### Bushfire

The proposed development site is located outside of the bushfire prone area as identified upon the DFES State [Map of Bush Fire Prone Areas](#)

The applicant has nonetheless prepared a Bushfire Management Plan (BMP) assessing the proposed development against State Planning Policy 3.7-Bushfire and the Planning for Bushfire Guidelines.

The proposed development would involve the following dangerous goods that require the applicant to obtain from DEMIRS a Dangerous Goods Licence and Storage Licence:

- Ammonium nitrate (approximate storage capacity of 15,000 tonnes and annual handling of 50,000 tonnes per year) which is Dangerous Good Class 5.1 (oxidising agent) under the Australian Dangerous Goods Code which can melt and if sufficiently heated by external fire, can decompose to release toxic gas, intensify the fire (oxidiser) and detonate if exposed to intense fire. Ammonium nitrate is required to be transported, stored and handled in accordance with relevant Dangerous Goods legislation and the WA Code of Practice for Storage of Solid Ammonium Nitrate, including compliant storage quantities and arrangement, compliant separation distances from onsite and nearby buildings, infrastructure and vehicles, required fire protection equipment, and appropriate emergency management procedures.
- Ammonium nitrate emulsion (initial production capacity of 40,000 tonnes per year with the potential for production to increase up to 80,000 tonnes per year) which is Dangerous Good Class 5.1 (oxidising agent) which is potentially explosive under intense heat, and can also decompose to toxic gases. Similar to potential fire at the ammonium nitrate shed, offsite evacuation and notification of neighbours is required for fire impacting the ammonium nitrate emulsion facility. Ammonium nitrate emulsion is required to be transported, stored and handled in accordance with relevant Dangerous Goods legislation.
- Diesel which is Combustible liquid (C1) and requires moderate to high temperatures to ignite, but once ignited it will continue to burn in an oxygenated environment and release toxic fumes.

The development site is surrounded by cleared, agricultural grassland vegetation in all directions, with the closest non-grassland vegetation being >150m from the proposed development.

The BMP notes that given the proximity to unmanaged vegetation in addition to the long fire runs, fully developed bushfire behaviour could be established, which could

result in an elevated radiant heat and direct flame impingement on the proposed development, if the risk is not managed. It is also noted that given the adjacent vegetation is predominantly grassland it is likely to be moderate radiant heat and minor ember attack, with a quick residence time as the peak bushfire behaviour associated with the grassfire front is expected to be relatively short.

The BMP recommends that bushfire risk to the proposed development posed by these hazards be managed through standard application of Acceptable Solutions under the Guidelines, as well as through a direct bushfire suppression response if required. Bushfire mitigation strategies applicable to the proposed development are addressed in Sections 4.3 and 5.0 of the BMP but in summary the bushfire hazard issues are:

- Management of vegetation to a low threat level and establishment of asset protection zones to ensure sufficient separation between the proposed development and unmanaged vegetation, to limit the impact of bushfire on the development and prevent ignition and spread of a fire from proposed infrastructure. Given the potential hazards associated with onsite Dangerous Goods particular attention will need to be provided to areas where these are manufactured or stored.
- Ensuring sufficient internal vehicular access to, and from, the proposed development to North West Coastal Highway, and within the facility, to enable occupant egress and to facilitate firefighter access.
- Provision of firefighting water supply tanks throughout the site to limit the travel time to water supplies for appliance refills.

It is recommended that, in the event of approval, that condition be applied requiring that a Bushfire Management Plan be prepared and adhered to that is to the satisfaction of DFES, and this plan should detail the ongoing management of fuel load about the development, water supply/access points, access network and firefighting equipment upon the property.

The site is not serviced by reticulated water, and for this reason it is recommended the Bushfire Management Plan should require a minimum set amount of on-site water must be maintained and available for firefighting purposes, that is separate to water required for other purposes.

The applicant will be required to obtain the necessary licences and approvals under the *Dangerous Goods Safety Act 2004* from DEMIRS. The proposed development layout has been informed by the risk assessment that has been undertaken as part of preparation of the dangerous goods licence.

There is currently a direct access from Lot 11 onto the North West Coastal Highway, however, in discussions between the applicant and Main Roads WA the preference of Main Roads WA was for the main access to be via the Oakajee Access Road 3km to the north that they are currently constructing (and an internal track then lead to the site).

The Transport Impact Assessment notes that the existing 'farm gate' access point into Lot 11 presents visibility issues at this location and instead noted that an access location approximately 100m to the north (SLK 20.07-20.14) would offer an improved sight distance (see Figure 16 of TIA).

It is recommended that, in the event of approval, condition be applied requiring that the location for direct access/egress into Lot 11, as identified in the TIA, must be



constructed to a gravel/unsealed standard and gated as an emergency entry/exit point to prevent the site having only one means of access/egress.

### Light

The application does not address the issue of light emission specific to this development.

Section 6.3 of the Landscape Report (prepared by Hasell/Strategen) [Appendix 5 Landscape Report - Hassell Strategen.pdf](#) that was Appendix 5 to Development WA's Oakajee Structure Plan provides design recommendations and light mitigation measures that can guide applicants.

It is recommended that, in the event of approval, that condition be applied requiring that a Lighting Strategy be prepared and adhered to that gives regard for the Oakajee Structure Plan Landscape Report and best practice.

### Visual Impact

The application does not address the issue of visual impact specific to this development.

This could have been addressed though 3-D visual representation of the proposed development from the North West Coastal Highway and the White Peak rural-residential area 3.5km to the south. A Visual Impact Assessment as guided by the WAPC's 'Visual Landscape Planning in Western Australia - A Manual for Evaluation, Assessment, Siting and Design' would also have assisted in this regard.

However, it is acknowledged that this project would ultimately be one of many industrial developments within the Oakajee SIA and the overall area will ultimately undergo a considerable visual change over the longer term. The Oakajee Structure Plan document and the accompanying Landscape Report (prepared by Hasell/Strategen) [Appendix 5 Landscape Report - Hassell Strategen.pdf](#) noted that industrial structures will be evident in the background from elevated viewing locations in the White Peak area.

Landscaping is not recommended specific to this application and site. It is considered that maintaining a vegetation/fuel free area in proximity to the site is a higher priority than landscaping. It is also noted that landscaping is identified in Part 5, Section 49, Table 6, SCA1 (m) of the Scheme as the responsibility of Development WA and this has commenced previously with the plantation strip established parallel to the North West Coastal Highway.

### Risk

The application does not address the issue of risk.

The storage of ammonium nitrate and transport of ammonium nitrate emulsion has resulted in high profile global incidents:

[Beirut Explosion TR 210906.pdf](#)

[West Fertilizer Explosion and Fire | CSB](#)

[Ammonium nitrate emulsion tanker trailer explosion: Incident investigation report](#)



This development application proposes the storage of 15,000 tonnes of ammonium nitrate (and additional quantity of ammonium nitrate emulsion), this is a larger amount than the 2,750 tonnes stored in the Beirut Port warehouse or 60 tonnes stored in West, Texas.

The storage and transport of ammonium nitrate and ammonium nitrate emulsion is regulated by DEMIRS and requires separate approval pursuant to the *Dangerous Goods Safety Act 2004*, *Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007*, *Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007* and *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007*.

Whilst DEMIRS have regulatory oversight of this matter and adopt stricter requirements than have led to incidents elsewhere in the world it should be considered that risk assessment is still a matter that a planning decision has regard for in accordance with Schedule 2 Part 9 clause 67(2)(r) of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

### **Conclusion:**

On this basis it is recommended that DAP advise the applicant that it is unable to provide a determination upon this matter at this time based upon the level of information provided. This would be in keeping with the conservative approach as outlined in SPP4.1 Industrial Interface. It is recommended that the applicant provide a risk analysis for the proposed storage of ammonium nitrate and ammonium nitrate emulsion that includes modelling of potential scenarios and their management. It is also recommended that the risk analysis give regard for the transportation of ammonium nitrate and ammonium nitrate emulsion along the proposed routes.

### **Alternatives:**

In the event that DAP instead consider that development of an Industry (Ammonium Nitrate Storage and Ammonium Nitrate Emulsion Manufacturing and Storage) should be approved upon Lots 11 & 12 North West Coastal Highway, Oakajee then it is suggested that the following conditions and advice notes be considered for inclusion to assist in management of both the construction and operational phases:

#### **Conditions:**

- 1 This decision constitutes planning approval only and is valid for a period of 3 years from the date of approval. If the subject development is not substantially commenced within the 3 year period, the approval shall lapse and be of no further effect.
- 2 The development shall be undertaken in accordance with the approved plans and supporting documents (as provided in Figure 5 and Attachments 1 and 2) including any amendments and additional plans and information arising from the approval conditions.
- 3 The applicant shall prepare a Construction Management Plan to the satisfaction of Development WA and the local government and thereafter implement its recommendations.
- 4 The applicant shall prepare a Bushfire Management Plan to the satisfaction of the Department of Fire and Emergency Services and thereafter implement its recommendations.
- 5 The applicant shall prepare an Emergency Management Plan to the satisfaction of the Department of Fire and Emergency Services and the Department of

- Energy, Mines, Industry Regulation and Safety and thereafter implement its recommendations.
- 6 The applicant shall prepare a Stormwater Management Plan to the satisfaction of the Department of Water and Environmental Regulation and thereafter implement its recommendations.
  - 7 The applicant shall prepare a Waste Management Plan to the satisfaction of the Department of Water and Environmental Regulation and thereafter implement its recommendations.
  - 8 The applicant shall prepare an Air Quality Management Plan to the satisfaction of the Department of Water and Environmental Regulation and thereafter implement its recommendations.
  - 9 The applicant shall prepare a Lighting Strategy to the satisfaction of the local government and thereafter implement its recommendations.
  - 10 The applicant shall prepare a Traffic Management Plan to the satisfaction of Main Roads WA and thereafter implement its recommendations.
  - 11 The applicant shall be responsible for the construction and maintenance of the main access track linking back to the road network to the satisfaction of Development WA and the local government.
  - 12 An emergency entry/exit point onto the North West Coastal Highway and emergency/secondary access track shall be constructed and maintained to prevent the site having only one means of access/egress.
  - 13 All parking of vehicles associated with the development shall be provided for within the property boundary and not the road reserve.
  - 14 The design, location, installation and maintenance of on-site wastewater/effluent systems are to be to the approval of the local government and in accordance with relevant legislative requirements.
  - 15 The landowner shall ensure that the following residences are vacated and demolished prior to commencement of the use of the development:
    - residence at 2017 North West Coastal Highway, Oakajee upon Lot 11 (Plan 18559) that is approximately 300m south-east of the proposed development; &
    - residence at 2097 North West Coastal Highway, Oakajee upon Lot 2 (Diagram 35736) that is approximately 850m north-east of the proposed development;

Advice Notes:

- (a) The proposed development is deemed a prescribed premises under Schedule 1 of the *Environmental Protection Regulations 1987*, with a Category 73 (bulk storage of chemicals) and Category 75/33 (chemical blending and mixing) prescribed premises activity, and will therefore also require the applicant to obtain, separate to this development approval, a works approval and licence from the Department of Water & Environmental Regulations.
- (b) The applicant will need to obtain, separate to this development approval, approvals from the Department of Energy, Mines, Industry Regulation and Safety, including but not limited to, a Dangerous Goods Licence and Ammonium Nitrate Storage Licence pursuant to the *Dangerous Goods Safety Act 2004* and the *Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007*, a Security Sensitive Ammonium Nitrate manufacture licence pursuant to the *Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007* and *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007* and a dangerous goods licence under the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007* will also be required for the diesel storage (combustible liquid) and other potentially dangerous goods stored onsite.

- (c) The applicant will need to consult with the Main Roads WA Heavy Vehicle Services branch to ascertain any approval requirements that may be required for their proposed heavy vehicle combinations, transport routes and operations.
- (d) The applicant/landowner is advised that this determination relates to the granting of development approval only, and does not constitute a building permit and that an application for relevant building permits may be required to be submitted to the local government and be approved before any work requiring a building permit can commence onsite.
- (e) The applicant is advised that the proposed works should occur in a safe manner at all times and in accordance with all applicable legal and safety requirements (including the 'duty of care' under the laws of negligence, Worksafe requirements and guidelines, Australian Standards and Western Power policies and procedures).
- (f) Prior to any ground disturbance of the site, all contractors and operators should be made aware of the obligations under the *Aboriginal Heritage Act 1972* relating to site discovery and reporting protocols. This includes stopping work and seeking the advice of both the Registrar of Aboriginal Sites and Yamatji South Regional Corporation (YSRC) in the event that materials of Aboriginal heritage value are discovered during construction activities.
- (g) The applicant is advised that this planning approval does not negate the requirement for any additional approvals, and adherence to due diligence, which may be required under separate legislation. This including, but not limited to, the obtaining of any required approvals from the Department of Energy, Mines, Industry Regulation & Safety, Department of Water & Environment Regulation, Department of Health, Mid West Ports Authority and Main Roads WA and consulting of Before You Dig Australia. It is the applicant's responsibility to obtain any additional approvals, and undertaking of due diligence, required before the development/use lawfully commences.
- (h) In relation to condition 3 the Construction Management Plan shall address the following associated with the construction of the development or any other matters considered relevant by the local government.
  - i) hours of construction;
  - ii) heritage management protocols to mitigate potential risks linked to the exposure of Aboriginal artefacts during ground-disturbing activities;
  - iii) temporary fencing, hoardings, gantries, and signage;
  - iv) site access and egress;
  - v) construction vehicle route and traffic management;
  - vi) size and frequency of construction vehicles;
  - vii) road upgrades/repairs and timing of works associated with the construction of the development;
  - viii) parking arrangements for staff and contractors;
  - ix) deliveries and storage of construction materials and machinery;
  - x) management of vibration, dust, wind, and erosion;
  - xi) management of any stormwater discharge;
  - xii) management of construction noise and other site generated noise;
  - xiii) waste management, recycling, and removal;
  - xiv) protection of any public realm infrastructure;
  - xv) public communication and complaint handling procedures;
  - xvi) biosecurity protocols.
- (i) In regards to condition 4 the Bushfire Management Plan must ensure there are strict controls on potential ignition sources, storage and handling controls in accordance with the Dangerous Goods legislation and code, relevant Australian Standards and restrictions on hot works and electrical equipment within any on-site hazardous areas. The Bushfire Management Plan must also detail the

ongoing management of fuel load about the development, access points/network, firefighting equipment upon the property and on-site water supply/storage to be maintained to a required level at all times (i.e. the plan shall detail a minimum amount of on-site water to be maintained and available for firefighting purposes, not a total site capacity that would be expected to vary during the industry's operation).

- (j) In regards to condition 5 the Emergency Management Plan must maintain a current manifest and a dangerous goods site plan, to allow an appropriate response by DFES in the event of an emergency, such as a fire. Information retained onsite should include the Emergency Plan, Dangerous Goods Manifest, Register of Dangerous Goods and Hazardous Materials, Safety Data Sheets for bulk products kept on site and dangerous goods site layout plan.
- (k) In regards to condition 5 the Emergency Management Plan shall not just address the operations at the development site but the transportation of, ammonium nitrate to, and ammonium nitrate emulsion from the development site and include reference to the licensing requirements of the Department of Energy, Mines Industry Regulation & Safety (DEMIRS), any relevant National Codes of Practice and the recommendations of the DEMIRS Incident Investigation Report - Ammonium Nitrate Emulsion Tanker Trailer Explosion (2023).
- (l) In regards to condition 6 the Surface Water Management Plan shall include requirement to develop and undertake monitoring of the drainage basins to assess their performance and respond accordingly within the required monitoring period. In the event that testing of stormwater within the basin(s) identifies that it does not meet the water quality criteria or the presence of ammonium nitrate contamination is detected, a licenced contractor shall be engaged to pump out the stormwater storage and dispose of the water at a licenced facility.
- (m) In regards to condition 9 prior to the commencement of operations, certification is to be provided from a suitably qualified person demonstrating the lighting has been installed in accordance with the approved Lighting Strategy to the satisfaction of the local government.
- (n) In regards to condition 11 this will become void/superseded at such time as the internal road reserve network of the Oakajee Strategic Industrial Area has been constructed to connect the development site to the wider road network.
- (o) In regards to condition 12 the emergency entry/exit point shall be constructed to a gravel/unsealed standard and gated, with a gravel/unsealed emergency access alignment linking back to the development site. The emergency entry/exit point shall be located at SLK 20.07-20.14 as identified in Figure 16 of the Transport Impact Assessment, approximately 100m to the north of the existing 'farm gate' vehicle access point into Lot 11. This existing 'farm gate' vehicle access point at SLK19.993 shall be closed/fenced.
- (p) The applicant shall enter into a contribution agreement towards community, social or other infrastructure/programs that will benefit the local community. The agreement should establish the process by which the contributions should be directed by the applicant to local group projects or groups deemed appropriate by the applicant and local government.
- (q) Should the applicant be aggrieved by this determination there is a right (pursuant to the *Planning and Development Act 2005*) to have the decision reviewed by the State Administrative Tribunal. Such application must be lodged within 28 days from the date of determination.



# **Development Application Report Project Terra**


Blue Diamond Australia Pty Ltd

11 March 2025

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# Abbreviations

Table 1      Abbreviations

Abbreviation	Term Referred
AN	Ammonium nitrate
ANE	Ammonium nitrate emulsion
ANF	Ammonium nitrate facility
ANSOL	Ammonium nitrate solution
AQIA	Air quality impact assessment
BDA	Blue Diamond Australia Pty Ltd
BMP	Bushfire management plan
CMP	Construction management plan
DBCA	Department of Biodiversity, Conservation and Attractions
DevWA	DevelopmentWA
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
EP Act	<i>Environmental Protection Act 1986</i>
EPA	Environmental Protection Authority
Kg	Kilograms
LGA	Local government area
LPP	Local planning policy
LPS3	Shire of Chapman Valley Local Planning Scheme No. 3
mAHD	Meters Australian Height Datum
NIA	Noise impact assessment
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997</i>
Oakajee SIA	Oakajee Strategic Industrial Area (Within SP area)
P6	Precinct No. 6 of the Shire of Chapman Valley's Local Planning Strategy
PD Act	<i>Planning and Development Act 2005</i>
PEC	Priority ecological community
SCA	Special control area
SP	Oakajee Industrial Estate Structure Plan
SPP	State planning policy
SWMP	Surface water management plan
t	Tonnes
TIA	Traffic impact assessment
TMP	Traffic management plan
VPD	Vehicles per day
WAPC	Western Australian Planning Commission
WMP	Waste management plan

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# 1. Introduction

GHD Pty Ltd (GHD) acts on behalf of Blue Diamond Australia Pty (BDA), the proponent of a proposed Ammonium Nitrate Facility (ANF), in preparing this application for approval to commence development under the Shire of Chapman Valley's Local Planning Scheme No. 3 (LPS3).

The ANF project is commercially referred to as 'Project Terra'. It is proposed to be located across Lot 11 and 12 on Plan 18559 within the Oakajee Strategic Industrial Area (Oakajee SIA), 20 kilometres north of Geraldton in Western Australia.

Oakajee SIA has been selected as the location of the proposed ANF because of its strategic Mid-West location and future development potential as a hub for heavy industry projects. Oakajee SIA is owned and managed by DevelopmentWA (DevWA), the State Government's development agency.

As of December 2024, the Oakajee SIA remains undeveloped, making Project Terra the first industrial facility development in the SIA that is not only submitted but capable of development imminently. The proposed ANF consists of two core components which are:

- An ammonium nitrate emulsion manufacturing plant with an initial production capacity of up to 40,000 tonnes per year; and,
- An ammonium nitrate storage facility with a capacity of up to 15,000 tonnes per year.

The purpose of the ANF is to produce ammonium nitrate emulsion, which is used as a blasting agent in mining operations. Platinum Blasting Services will manage and operate the facility on behalf of BDA.

This report sets out the context of the proposal and demonstrates its consistent with the planning framework. The report includes description and commentary on the following matters:

- Site details, locational information and context.
- Description of applicable regulatory, planning and environmental attributes.
- Consideration of the proposal against the relevant planning and broad regulatory framework.
- Justification for the proposal against various strategies, policies and regulatory requirements of the State Government and the Shire of Chapman Valley.

## 1.1 Scope and Limitations

*This report has been prepared by GHD for Blue Diamond Australia and may only be used and relied on by Blue Diamond Australia for the purpose agreed between GHD and Blue Diamond Australia.*

*GHD otherwise disclaims responsibility to any person other than Blue Diamond Australia arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

## 1.2 Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request.

## **2. Land and Location**

### **2.1 Regional Context**

The proposal is located in Oakajee SIA in the Western Australian Mid-West region, within the Shire of Chapman Valley local government area.

Oakajee SIA is intended to be a major hub for heavy industry, resources and renewable energy projects. A deep-water port is also planned for the SIA to support downstream processing industries in the Mid-West region. Further contextual discussion on the Oakajee SIA is provided in Section 4.3.4.

The proposal site is approximately 20 kilometres north of the Geraldton townsite, and 390 kilometres northeast of Perth.

Figure 1 below depicts the proposal in its regional context.



Figure 1 Site Location Plan

## 2.2 Local Context and Tenure

Land within the Oakajee SIA is owned and managed by DevWA. DevWA has leased BDA 48 hectares (ha) of land across two lots (refer Table 2) to develop Project Terra.

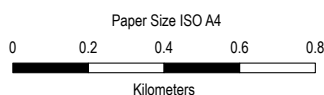
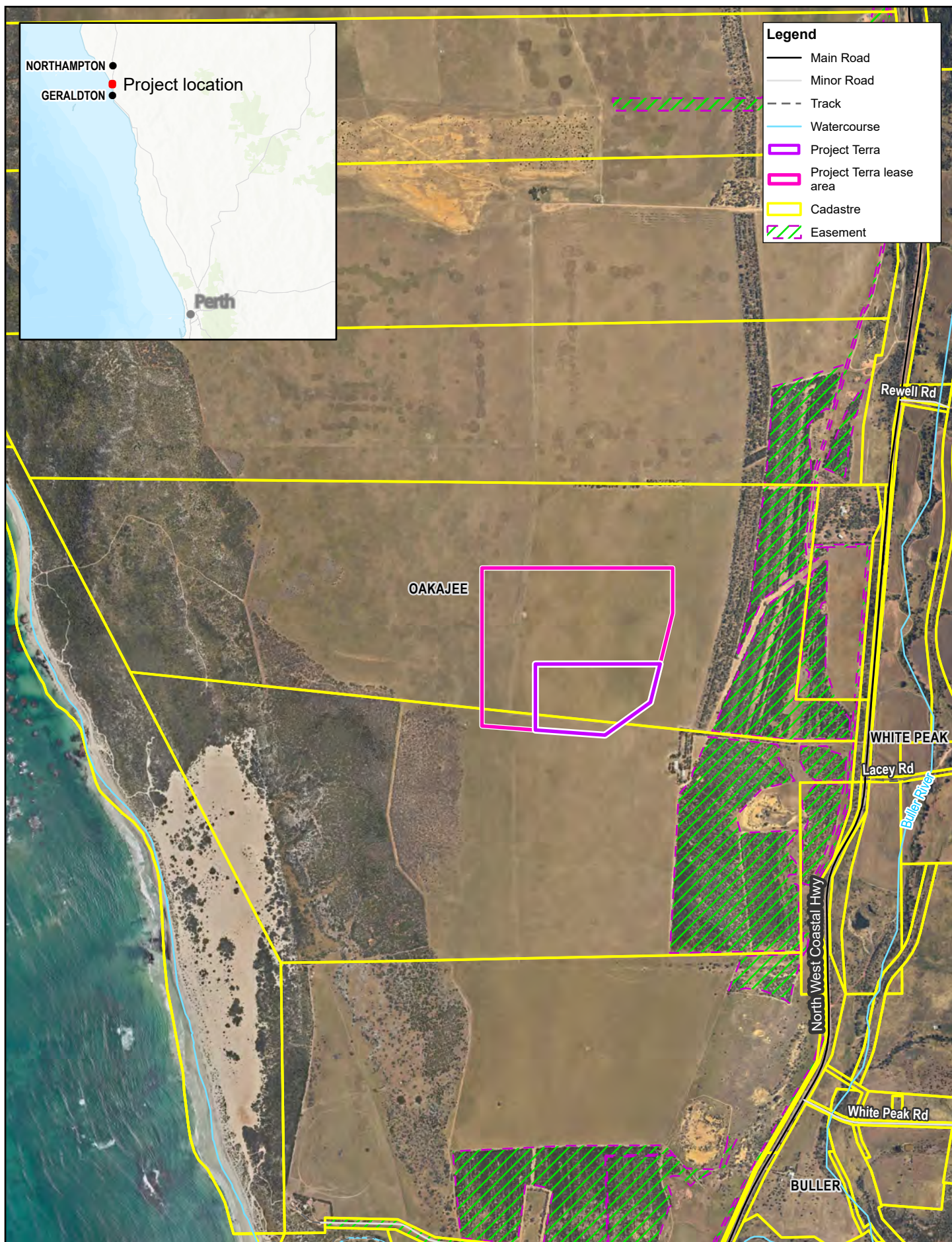
The Project Terra operations itself will only occupy 12 ha of the 48 ha lease area. The project and lease areas are depicted in Figure 2. For clarity, this report and its associated figures focus on the project area only given that is the area that is the subject of the proposed works and land use.

There are several other proponents which have also been allocated land in the Oakajee SIA, including Fortescue Future Industries, Copenhagen Infrastructure Partners and Green LOHC (DevelopmentWA, 2024). BDA's sister company Kinara Power has also been allocated land in the Oakajee SIA area and is planned to develop 'Project Astra' that will be co-located to BDA's Project Terra.

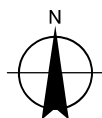
**Table 2**      *Lot Description*

Landgate ID	Lot on Plan	Vol/Folio	Registered Owner	Area (ha)
1731700	PO18559 11	2121/945	Western Aust Land Authority	238.92
1731695	P018559 12	2121/946	Western Aust Land Authority	263.07





Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 MGA Zone 50



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DA & Environmental Approvals Support - Project Terra

Project No. 12631761  
Revision No. 2  
Date 11/03/2025

Local context

**FIGURE 2**



## 2.3 Site Description

The site is vacant and unimproved, consisting of pastoral vegetation. The site is immediately surrounded by pastoral fields in all directions with fencing demarcating individual paddocks which are still being used by caretakers of the land who reside in existing dwellings. 400 metres southeast of the site is the nearest residential dwelling with an adjoining outbuilding. Further east consists of plantations and the North West Costal Highway. To the West is the Indian Ocean.

The site has a moderate east-west slope ranging from approximately 88 to 70 metres Australian Height Datum (mAHD). There are no distinctive landforms within the site or broader area however the Oakajee SIA is characterised by its undulating nature. Figure 3 (Blue Diamond Australia, 2023) and Figure 4 depict the topography of the site and the lay of the land.

The site is currently accessed via an unsealed track that connects onto North West Costal Highway. Future site access in the context of the proposed development is discussed in further detail under Section 5.15.1.



Figure 3 Photograph of Project Terra Site, looking west



Figure 4 Site Contour Map



## 3. Project Terra Description

### 3.1 Proposal Need

Ammonium nitrate emulsion is essential for the Western Australian mining industry due to the high demand for explosives used in mining operations. Ammonium nitrate emulsion is a key component in the explosives that are used as part of the efficient and safe extraction of minerals such as iron ore.

Establishing Project Terra as a local manufacturing plant in the Oakajee SIA ensures a reliable and cost-effective supply of ammonium nitrate to the Mid-West region and thereby reduces dependency on overseas and cross-country imports.

### 3.2 Proposal Description

Project Terra comprises of an emulsion manufacturing plant, storage facility and supporting infrastructure.

The manufacturing plant will have initial capacity to produce up to 40,000 tonnes of ammonium nitrate emulsion (ANE) per year, with the potential for production to increase up to 80,000 tonnes per year over the initial five years of operation. The storage facility will house up to 15,000 tonnes of ammonium nitrate (AN).

The ANE plant is located to the northern extent of the site and will be contained within a steel shed approximately 30 x 30 metres in size and located on a concrete slab. Supporting equipment including generators, boilers and bunded storage tanks are located to the east of the plant. To the west of the plant are six 60 tonne ANE tanks with HESCO barriers<sup>1</sup>. Firewater tanks are located throughout the site.

Ammonium nitrate bagged product will be stored in stacks under two large dome structures with concrete foundations, as well as an unsealed hardstand area adjacent to the domes. Waste water treatment plant, office, crib hut, W/C, stores and trace manufacturers are located to the southwest corner of the site. The facility is serviced by a 15-metre-wide two-lane unsealed road which follows the perimeter of the site.

During standard manufacturing operations the facility will operate from Monday to Friday between 6.30am and 5.00pm, with up to six personnel on site at any one time overseeing facility operations. During normal operations, only the northern (IN) and southern (OUT) access lanes are utilised.

During import operations, when bulk AN feedstock is delivered to site, all access lanes within the facility are utilised to ease in product offloading processes. During this time, the facility will be operational for a 48-hour period so as to minimise any disruption to the normal operation of the facility. Import operations will only occur approximately six times per year.

Access and egress to the Site is proposed via two access points located along the eastern end of the site. The access points connect to a proposed north-south access road that will extend north, connecting onto the central access road which is currently being built as part of Main Roads WA (MRWA) North West Coastal Highway upgrades<sup>2</sup> which are due for completion in late 2025.

It is understood that DevWA are currently developing a road network design for the Oakajee SIA with respect to an outer ring road. Logically, access roads to / from the Project Terra site should align with future road network plans for the wider Oakajee SIA. However, due to the infancy of the outer ring road design, it is anticipated that site access connection will be subject to further negotiations and approval from DevWA. Further discussion on site access is provided in Section 5.1.

The target date for the facility to become operational is Q4 2025.

Development Plans illustrating the above are contained in Appendix A of this report.

---

<sup>1</sup> HESCO barrier is made of collapsible wire mesh and a heavy-duty fabric liner used to fill with sand, soil or gravel.

<sup>2</sup> [North West Coastal Highway Upgrades | Main Roads Western Australia](#)

### 3.3 Process Description

The ANE process involves creating a stable mixture of ammonium nitrate, water, and oil. The emulsification process involves the use of an emulsifier to help stabilise the ammonium nitrate solution (AN and water mixture) when it is mixed with an oil. The emulsifier prevents the oil and water from separating.

The resultant product is a viscous, stable emulsion that is stable and water resistant, making it ideal for use in dry and wet conditions. A simplified production process of ammonium nitrate emulsion is depicted in Figure 5 below.

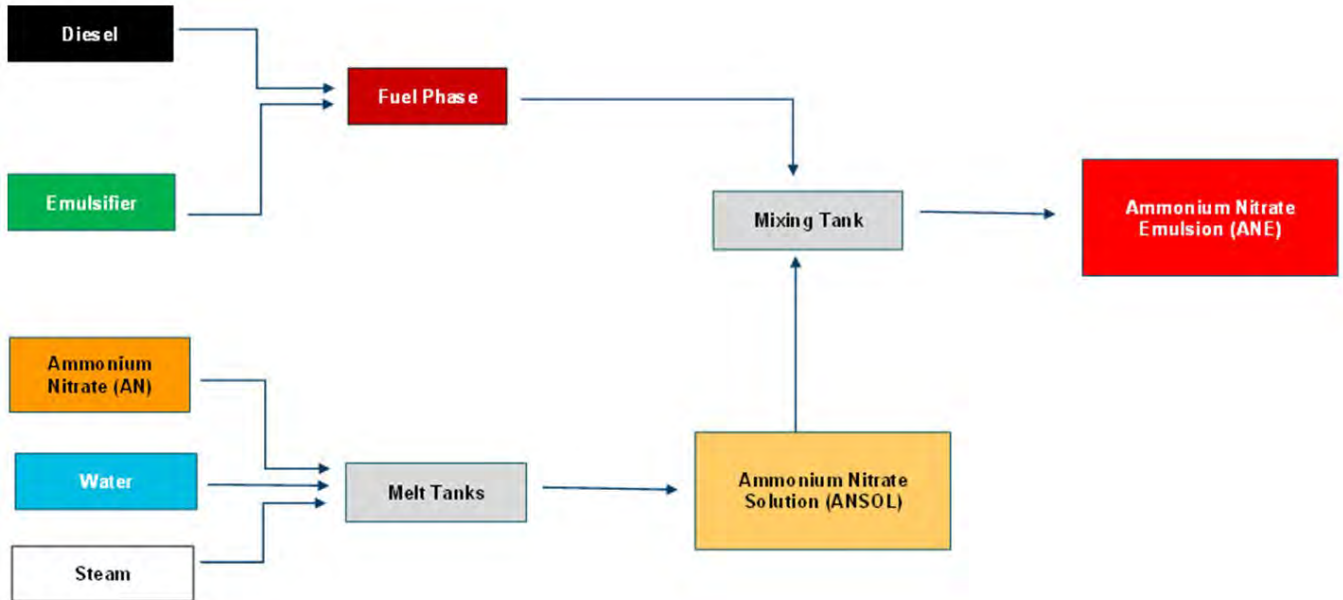


Figure 5 Simplified Manufacturing Flowchart

## 4. Planning Framework

### 4.1 Legislative Context

#### 4.1.1 Planning and Development Act 2005

The Planning and Development Act 2005 (PD Act) controls use and works on land throughout Western Australia. In the context of this proposal, the PD Act provides for the application of State planning policies and the Shire's local planning framework, as discussed in sections 4.2 and 4.3.

#### 4.1.2 Environmental Protection (Noise) Regulations 1997

The *Environmental Protection (Noise) Regulations 1997* (Noise Regulations) is a Western Australian regulation that sets standards and guidelines for acceptable levels of noise in different environments. Its objective is to prevent noise pollution from affecting human health and wellbeing, and it establishes penalties for non-compliance. A Noise Impact Assessment has been prepared, where noise modelling has been undertaken to demonstrate the extent of predicted compliance with the Noise Regulations and is detailed in Section 5.5 of the report.

#### 4.1.3 Aboriginal Heritage Act 1972

The proposal is located on the traditional lands of the Naaguja people. Places of Aboriginal Heritage that are located in proximity to the subject site identified on the Department of Planning Lands and Heritage's (DPLH) *Aboriginal Heritage Inquiry System* are set out in Table 3 below.

No known aboriginal sites intersect the proposed Project Terra site.

Table 3      *Aboriginal Cultural Heritage Places*

ID	Name	Status	Type	Culturally Sensitive	Restricted Place
4532	Buller River North Reburial	Registered Site	Burial	Yes	Yes
16114	Oakajee Industrial Estate 01	Historic	Artefacts/Scatter	No	No
16115	Oakajee Industrial Estate 02	Historic	Artefacts/Scatter	No	No
16129	Oakajee Industrial Estate 16	Historic	Artefacts/Scatter	No	No

DPLH was contacted for comment with respect to the Aboriginal Cultural Heritage Places surrounding the Proposal. DPLH advised that:

- Place 4532 is culturally sensitive and the actual boundary of the place is not publicly available;
- Review of internal DPLH records show that the subject land area does not intersect with the actual boundary of the Place 4532;
- Places 16114, 16115 and 16129 have been determined by the Aboriginal Cultural Heritage Committee as not being a 'site' under section 5 of the *Aboriginal Heritage Act 1972*; and
- In consideration of the above, no approvals under the Aboriginal Cultural Heritage Act are required for the proposed development.

Correspondence received from DPLH is contained at Appendix C of this report.

## **4.2 State Planning Framework**

### **4.2.1 State Planning Policy 3.7 – Planning in bushfire prone areas**

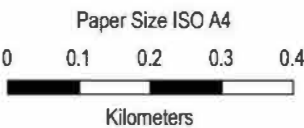
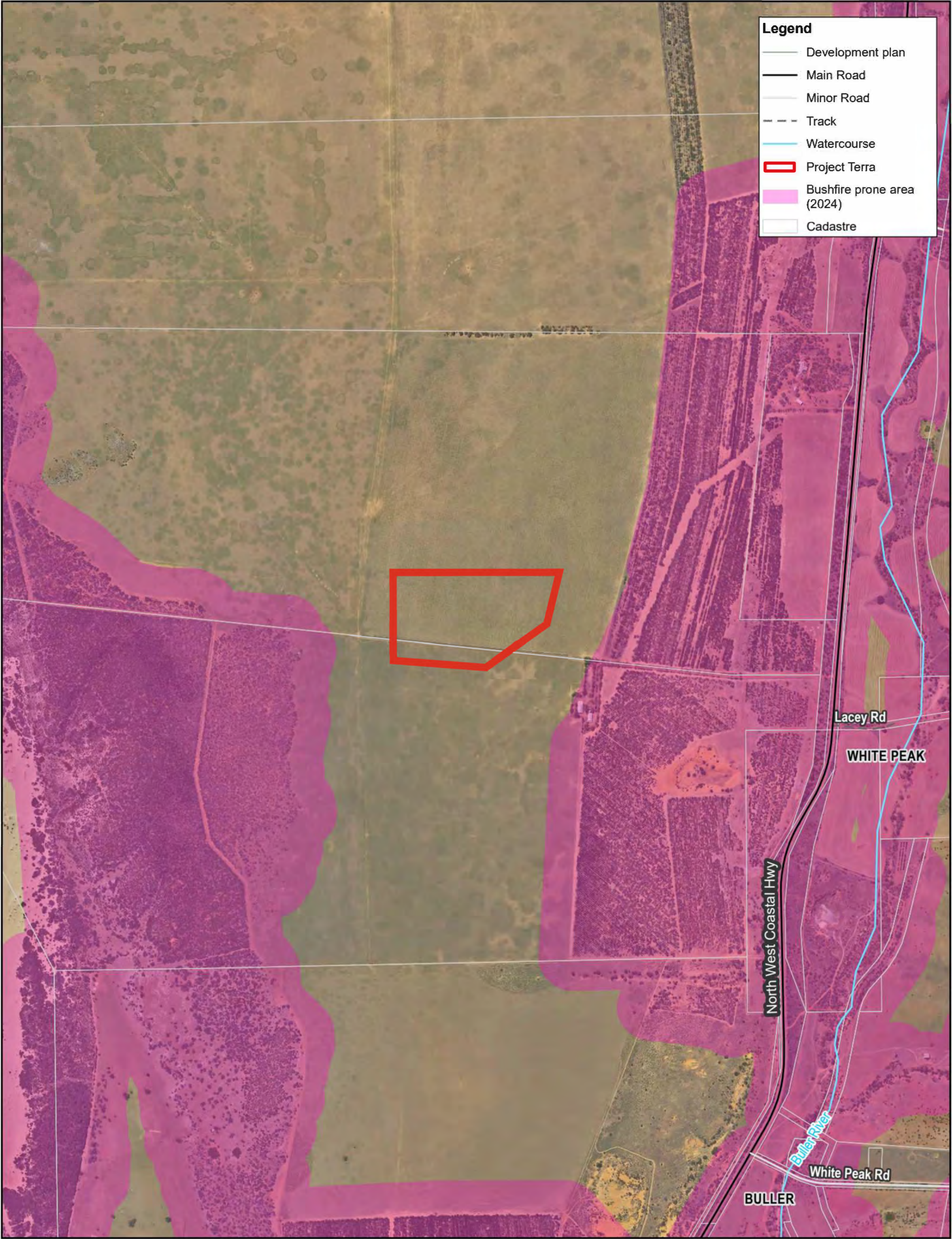
SPP3.7 directs how land use should address bushfire risk management in Western Australia. It applies to all land designated as bushfire prone. SPP3.7 seeks to guide the implementation of effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.

During the course of DA preparation, the WAPC released amended versions of SPP3.7 and the bushfire Guidelines. Concurrently, DFES amended the designated bushfire prone area mapping. The amended SPP3.7 sets out that assessment against the policy is only required where habitable buildings are sited in a designed bushfire prone area.

Project Terra does not trigger this statutory requirement because as shown in Figure 6, the entire facility is not located within any designated bushfire prone areas. However, as the facility is situated on lots that include portions of land classified as bushfire-prone, and surrounding agricultural land has the potential to burn in the event of a bushfire, BDA has elected to voluntarily respond to the bushfire risk.

BDA has commissioned a Bushfire Management Plan (BMP) to demonstrate Project Terra's compliance with SPP 3.7 and the bushfire Guidelines as much as practical. Further detail regarding the BMP is contained in 5.6 and a copy of the BMP is contained in Appendix I of this report.





Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 MGA Zone 50



Blue Diamond Australia Pty Ltd  
DA & Environmental Approvals Support - Project Terra

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Date 23/01/2025

Bushfire prone areas

FIGURE 6



## 4.3 Local Planning Framework

### 4.3.1 Shire of Chapman Valley Local Planning Strategy

The Shire's Local Planning Strategy was gazetted in 2008. It provides high level direction on land use planning in the Shire. The strategy establishes 10 precincts within the locality. The proposal is located in Precinct No. 6 (P6) Oakajee Industrial Investigation Area.

At the time of gazettal there was no established structure plan and consequently the strategy simply provides general objectives for the area. However, the Oakajee Industrial Estate Structure Plan was since adopted by the Shire in 2012 which is discussed in further detail in section 4.3.4 of this report.

Notwithstanding, the proposal is consistent with the original intent of P6 and is aligned with objective 6.2.3 *Facilitate employment and wealth generation through development associated with industry and a deep-water port*. The proposal is the first development to not only be submitted but have an imminent operational timeframe which is considered to be a critical milestone for the wider OIA to begin to form, thereby contributing to the region's economy and industry growth.

### 4.3.2 Shire of Chapman Valley Local Planning Scheme No. 3

LPS3 controls how land can be used and developed across the Shire. LPS3 sets out specific requirements for development applications depending on the intended land use and existing zoning. LPS3 was gazetted in July 2019. It contains a range of objectives, zoning and development provisions that apply to the proposal which are discussed in the following sections.

#### 4.3.2.1 Land Use and Zoning

Project Terra involves the processing and storage of physical materials for the manufacturing of ammonium nitrate emulsion. This includes the delivery of materials to the site, which are processed, stored and then distributed. Project Terra is therefore considered to best align with the land use term 'Industry' which is defined in Clause 51 of the Shire's LPS3 as follows:

*Industry means premises used for the manufacture, dismantling, processing, assembly, treating, testing, servicing, maintenance or repairing of goods, products, articles, materials or substances and includes facilities on the premises for any of the following purposes —*

- (a) the storage of goods;*
- (b) the work of administration or accounting;*
- (c) the selling of goods by wholesale or retail;*
- (d) the provision of amenities for employees;*
- (e) incidental purposes;*

**(Emphasis added)**

The site is zoned 'Strategic Industry - C' under LPS3 (Refer Figure 7). Permissibility of Industry land use is controlled by 'Table 3 – Zoning Table' under LPS3. Industry land use within zone 'Strategic Industry – C' is an 'A' use. This means that the use is not permitted, unless the local government has exercised its direction by granting development approval after giving notice in accordance with clause 64 of the deemed provisions.

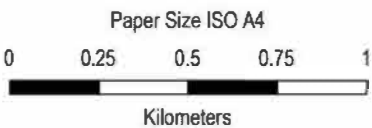
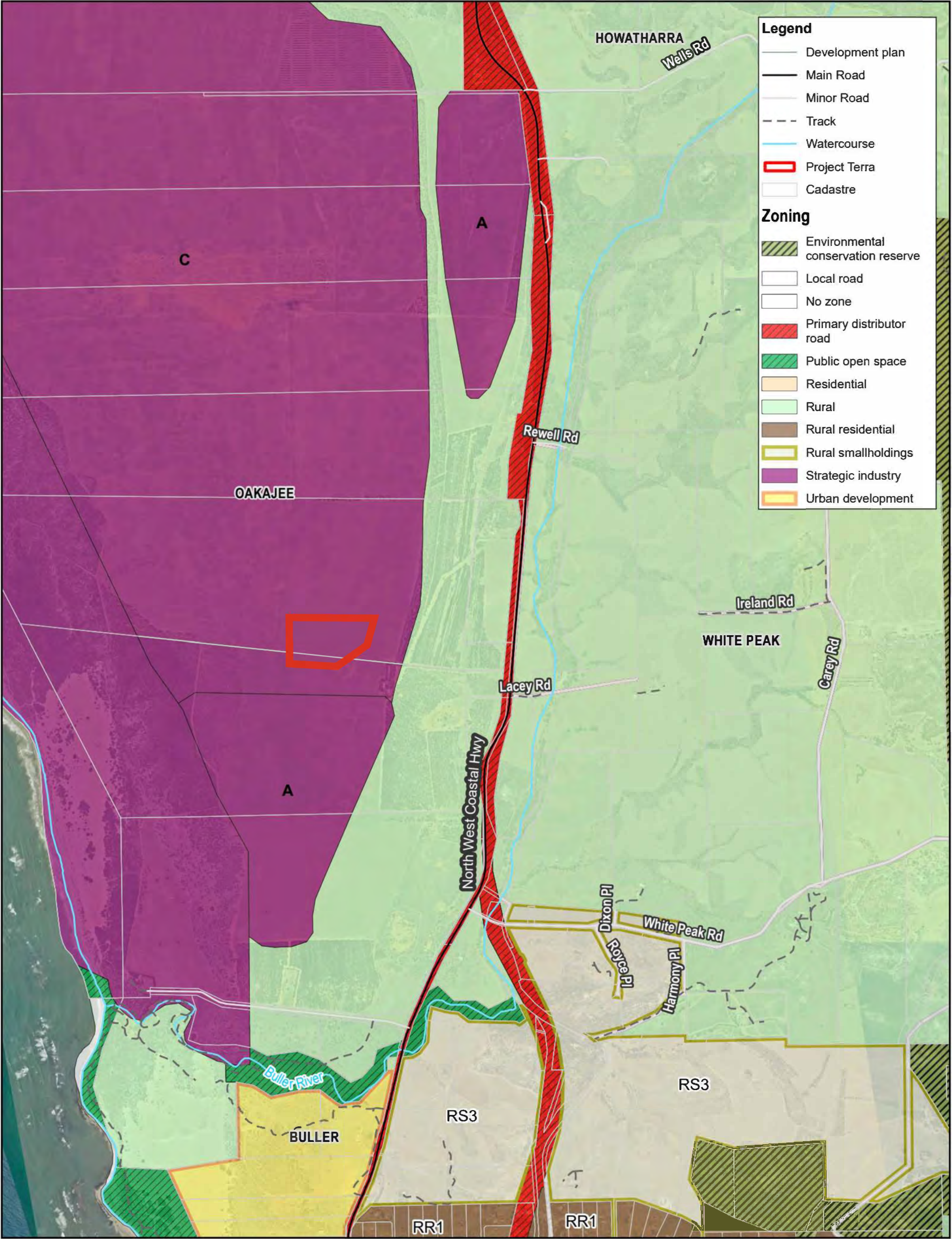
Clause 16 of LPS3 sets out the objectives of Strategic Industry – C zone which are described in Table 4 below, along with comments on the consistency of the proposal with each objective.



**Table 4** Strategic Industry – C zone objectives

Objective	Comment
<i>To provide for the coordinated development of large-scale, generally capital-intensive industries that are of strategic importance to the economic development of the State and Region and which, by their nature, should be isolated from residential areas;</i>	<p>The Proposal is of strategic importance to the State because ammonium nitrate is an essential substance used in mining operations throughout Western Australia. It is also noted that DevWA has provided BDA with a lease option for the facility, indicating provisional State support for the proposal.</p> <p>The proposal is isolated and buffered from residential areas through the provision of the Oakajee SIA and Special Control Area. These planning instruments manage and prohibit sensitive land uses being in proximity to large scale industry uses.</p> <p>The residential dwelling located approximately 265 metres south-east of the Proposal is owned and managed by DevWA.</p> <p>It is understood that DevWA will coordinate the vacating of any tenants within residential dwellings as necessary based on further discussions on Project timing with BDA.</p> <p>There are no other residential dwellings within proximity of the site.</p>
<i>To ensure that should development of a strategic industry proceed, it is contained within a strategic industrial core with appropriate surrounding buffers, and that development adheres to environmental standards and operational criteria approved by the Environmental Protection Authority and the local government;</i>	<p>The proposal is located wholly within the Area C – Strategic Industry which is the inner core of the Oakajee SIA. The proposal abuts the same zoning to the north, industry protection zone to the east and general industry zone to the south. The proposal is significantly isolated from sensitive land uses as noted above.</p> <p>The proponent is seeking the necessary environmental approvals for the proposal.</p>
<i>To prevent the establishment of land-uses more appropriately undertaken in other commercial and/or industrial areas;</i>	<p>The proposal as an Industry land use is suitable to the strategic industrial area because it aligns with the objectives of the subject zone and the structure plan, as detailed in Section 4.3.2.</p>
<i>To provide for other land-uses compatible with the predominant use of the land.</i>	<p>The proposed use would be compatible with future land uses as guided by the Oakajee SIA SP, which is discussed further in Section 4.3.4.</p>





Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 MGA Zone 50



Blue Diamond Australia Pty Ltd  
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Date 23/01/2025

Zoning

FIGURE 7



#### 4.3.2.2 Special Control Area

The site is located within Special Control Area 1 – Oakajee Industrial Zone and Buffer (SCA1) under LPS3. A special control area sets out provisions which apply in addition to general requirements of a zone. The purpose and objectives of SCA1 are to:

- Provide for appropriate environmental and planning controls pertaining to the development of an industrial estate housing industries of strategic economic value to the State and Region, and which require separation from sensitive land-uses; and
- Provide for a buffer surrounding the industrial estate within which land-uses incomparable with the purpose of the industrial estate are not permitted.
- Support continued broad-acre agriculture on larger land holdings and the strategic placement and stockpiling of raw or manufactured materials (other than hazardous materials) subject to environmental and visual considerations.

SCA1 prescribes several additional provisions which are described in Table 5 below along with comments on the consistency of the proposal with each of these provisions.

SCA1 restricts the introduction of sensitive land uses with proximity to industrial land use within the Oakajee SIA. SCA1 ensures that all proposed development aligns with provisions of the SIA, considers impact to vegetation and ensures that the amenity of the locality is preserved as the Estate undergoes development. The proposed ANF is consistent with the objectives of SCA1 in that:

Development approval for the proposed facility is being sought given the land use permissibility.

The proposal does not contain any residential or other sensitive land use components.

The proposal would not adversely impact future industrial developments within the SIA because of its scale, location and access arrangements.

**Table 5** Special Control Area 1 – Oakajee Industrial Zone and Buffer

Additional Provisions	Comment
a) <i>All development proposed must be in accordance with an approved structure plan or plans prepared in accordance with Part 4 of the deemed provisions.</i>	The Proposal is in accordance with the structure plan as detailed in Section 4.3.4.
b) <i>Notwithstanding any other provision contained within this Scheme, no residential use, temporary or permanent, including a single house, shall be permitted on land within the Special Control Area. Specific exception may be made to accommodate temporary camp accommodation for workers prior to the establishment of the first industry within the Strategic Industry zone.</i>	N/A – The proposal does not contain any residential components.
c) <i>All development applications considered by the local government to be of environmental significance within the strategic industrial core (Area C) shall be referred to the Environmental Protection Authority.</i>	There are no environmental approvals triggered by the proposal aside from a works approval and licence from DWER.
d) <i>Prior to any clearing of remnant vegetation, searches shall be undertaken to identify significant flora on the site. Flora management strategies will be prepared for areas of significant flora.</i>	The development is occurring in an extensively cleared environment. No clearing of vegetation is required in the proposed site location.
e) <i>The Estate Manager will be required to establish a noise monitoring program before the establishment of the first industrial activity to monitor the cumulative impact of noise generated by industries in the estate, in consultation with the Department of Water and Environmental Regulation, to determine whether Environmental Protection Authority Regulations are being met within the special control area boundary.</i>	The proposal will not generate noise beyond the requirements of the Noise Regulations. An acoustic report has been prepared in support of the project and is contained as Appendix H of this report.
f) <i>The Estate Manager will be required to review proponent air emissions modelling to confirm compatibility with air quality modelling used to define the buffer boundary and report results to the Department of Water and Environmental Regulation and</i>	The proposal will not generate air emissions beyond the prescribed standards.

Additional Provisions	Comment
<i>Conservation and the Office of the Environmental Protection Authority.</i>	An air quality impact assessment has been prepared in support of the project and is contained as Appendix F of this report.
g) <i>The Estate Manager will be required to establish a program before the establishment of the first industrial activity for collection of baseline data and undertake air quality monitoring for dust and particle emissions to the satisfaction of the Department of Water and Environmental Regulation.</i>	The Estate Manager can refer to the findings of the aforementioned air quality impact assessment – refer Appendix F.
h) <i>The Estate Manager will be required to review proponent quantitative risk assessment to confirm compatibility with quantitative risk assessment used to define the buffer boundary and report results to the Department of Water and Environmental Regulation and the Office of the Environmental Protection Authority</i>	The proposal will not generate any risk beyond the prescribed standards.  A dangerous goods licence has separately been submitted by BDA to DEMIRS and is currently under assessment. The proposed ANE facility layout that forms part of this application has been informed by the risk assessment that has been undertaken as part of preparation of the dangerous goods licence.
i) <i>The Estate Manager will be required to establish a monitoring program, before the establishment of the first industrial activity, for groundwater to collect baseline data and to the satisfaction of the Department of Water and Environmental Regulation and the Office of the Environmental Protection Authority.</i>	A surface water management plan has been prepared in support of the project and is contained as Appendix E of this report.
j) <i>The Estate Manager will be required to establish a rainfall monitoring program before the establishment of the first industrial activity and is to report results to the Department of Water and Environmental Regulation and the Office of the Environmental Protection Authority.</i>	N/A – Estate Manager responsibility.
k) <i>Notwithstanding the provisions contained within Part 3, should the cumulative environmental impacts of incremental industrial development exceed the Environmental Protection Authority criteria, the Estate Manager is required to make suitable arrangements for occupants of residences within the Oakajee Industrial Zone buffer to vacate that residence.</i>	N/A – Estate Manager responsibility.
l) <i>Individual industries will be required to provide drainage plans to the satisfaction of the local government prior to undertaking any construction.</i>	A surface water management plan has been prepared in support of the project and is contained as Appendix E of this report.
m) <i>The Estate Manager will be required to prepare an overall Oakajee Landscape Master Plan with performance timetables to ensure nominated actions are completed within time. This Master Plan is to be prepared prior to commencement of construction of the first industry</i>	N/A – Estate Manager responsibility.  No Landscaping Master Plan has been published by DevWA at the time of writing this report.
n) <i>Individual industries will comply with Landscape Master Plan requirements and submit individual landscape plans and implementation timetables with their development applications. Landscape plans shall be designed and implemented to the satisfaction of the local government.</i>	N/A  No Landscaping Master Plan has been produced at the time of writing this report.
o) <i>Provisions shall be made for the protection and management of two European heritage sites illustrated on the structure plan. All development applications shall also be required to address aboriginal heritage issues in accordance with Aboriginal Heritage Management Plan/s approved by the state government agency responsible for the protection of aboriginal heritage.</i>	Proposal does not impact the two European heritage sites within the Oakajee SIA.  Refer to Section 4.1.3 which addresses Aboriginal Cultural Heritages Places in the vicinity of the Proposal.
p) <i>The following provisions apply to that part of Special Control Area 1 shown on the Scheme Maps as Industrial Zone (Area C):</i>  i. <i>All major development shall be subject to approved environmental management criteria governing layout, manner of</i>	A Waste Management Plan has been prepared which includes detail on how hazardous materials and waste will be controlled at the facility – refer Appendix G of this report.

Additional Provisions	Comment
<i>development and ongoing management of proposed operations, including safety and satisfactory storage or disposal of noxious or hazardous materials or wastes.</i> <i>ii. All major development shall be subject to an environmental impact statement if requested by the Local Government</i>	An environmental impact statement is not necessary in this instance given the cleared nature of the site.

### 4.3.2.3 Additional Site and Development Requirements

Schedule 3 and Schedule 4 of LPS3 sets out additional site and development requirements that apply to specific zones and land uses throughout the scheme area. The requirements applicable to the proposal are described in Table 6 below.

**Table 6** Zone and Land Use Requirements

Minimum lot area (m2)	Minimum effective frontage (m)	Maximum site coverage (%)	Maximum plot ratio	Minimum boundary setbacks (m)			Minimum Carparking Spaces	Minimum landscaping (% of site area)
				Front	Rear	Side		
Required								
50,000	80	50	0.8	20	10	30	1 per 100m2 gross floor area (gfa)	10
Proposed								
Lot 11: 2,389,186 Lot 12: 2,630,728 Leased area: 120,000	N/A – Lot 11, Lot 12 and the leased site area do not intersect any road reserves.	16.7	0.13	East: 522m	West: 910m	North: 120m South: 875m	gfa: 1,180m2.  Required bays: 12. Proposed bays: 6.	-
<b>Note:</b> 1. Gross floor area comprises of office, crib hut, W/C, store and emulsion plant. 2. Boundary setbacks have been measured from lots 11 & 12								

The minimum number of carparking bays required under LPS3 is 12 bays. The proposed carparking hardstand area will be designed to accommodate a maximum of six light vehicles, with a proposed shortfall of 6 bays.

The proposed shortfall is acceptable because the facility does not require the 6 additional bays to operate. This is due to the only essential facility personnel being based onsite. Visitors will be infrequent, and the general public will not be permitted access.

Furthermore, the proposed carparking hardstand area can be extended should parking demand generated by the site increase in the future (e.g. when operations intensify). Noting the location and land use of the site, the proposed shortfall will not result in any offsite amenity impacts and is considered acceptable.

## 4.3.3 Local Planning Policy 4.1

LPP4.1 – ‘Development adjacent to the proposed Oakajee to Narngulu Infrastructure Corridor and the Oakajee to Talling Peak Rail Corridor’ applies to applications for development within 200m of the of the proposed Oakajee to Narngulu Infrastructure Corridor, and the proposed Oakajee to Talling Peak Rail Corridor. The lots on which the proposal is sited are within the Oakajee to Narngulu Infrastructure Corridor area as depicted in Figure 8 below.

The proposal is significantly set back from the western boundary of the proposed rail alignment and as a result will not impact the proposed rail corridor; no further consideration is required.

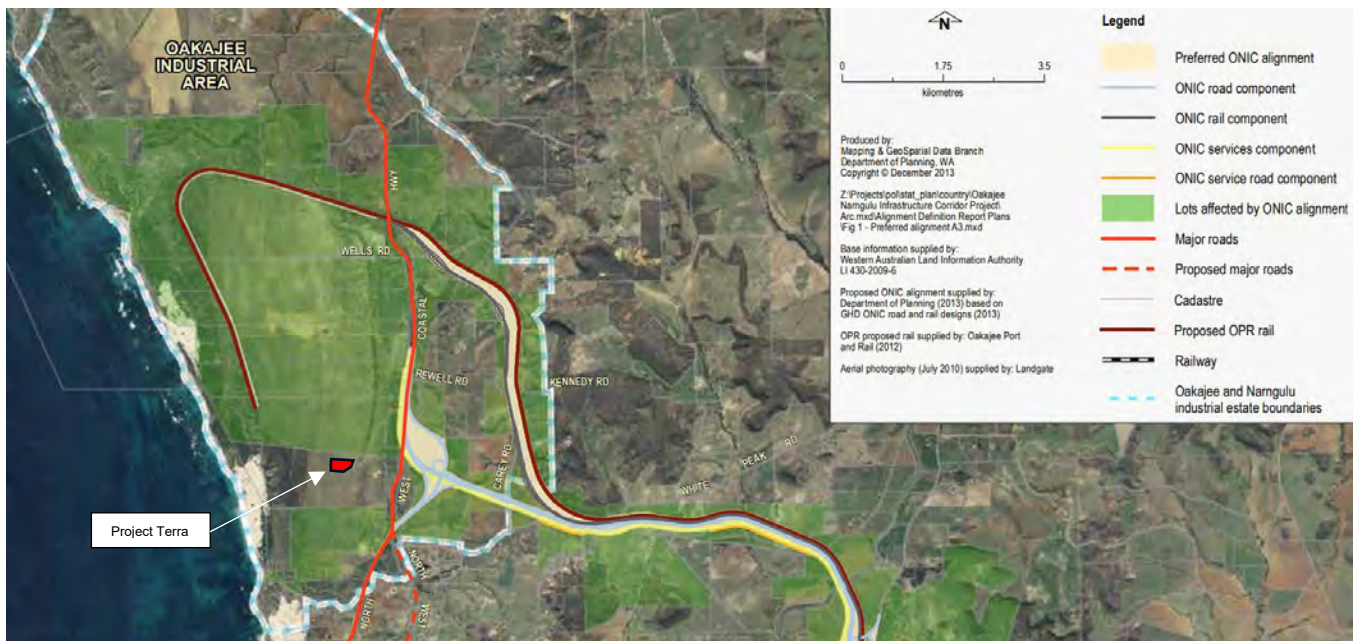


Figure 8 Rail Corridor Map

### 4.3.4 Oakajee Industrial Estate Structure Plan

The Oakajee Industrial Estate Structure Plan (SP) was gazetted in 2012. Its purpose is to guide the strategic long-term industrial development of Oakajee. The SP's objectives are to facilitate the development of heavy industry, a deep-water port and an integrated road and rail transport network to link industrial uses within the Estate.

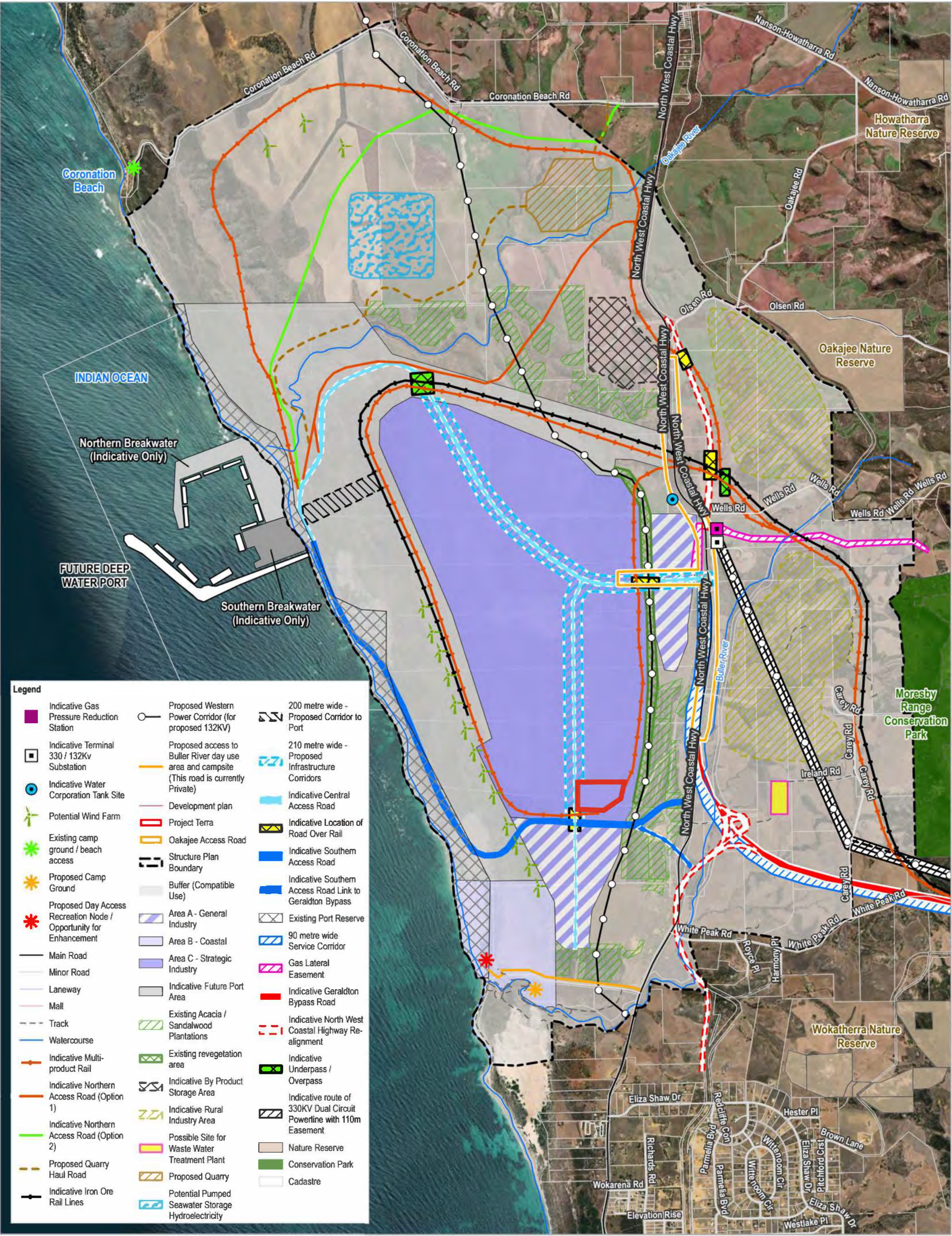
The SP also aims to manage the compatibility of developments and provide a buffer from sensitive land uses which surround the industrial estate. The SP comprises of 6,400 hectares of greenfield land and is categorised into four precincts which are:

- Two General Industry Areas (Area A)
- Coastal/Port Precinct (Area B)
- Strategic Industry Area (Area C)
- Buffer Area

The project is located within the Strategic Industry Area C, which forms part of the inner core of the SP (Refer Figure 9). The SP identifies Area C as having potential to develop strategic resources processing industries. At the time of preparing the SP, the Shire was in the process of preparing a new Scheme. The new Scheme incorporates similar provisions contained in TPS1 introduced via Amendment No.18. – That is to say, SP areas A, B and C align with the zoning provisions of LPS3.

DevWA is the Estate Manager of the SIA. DevWA has identified six proponents (including BDA) that have been allocated land parcels subject to negotiation and agreement. With a target commission date of Q4 2025, Project Terra is the first major development within the SIA to progress significantly.







#### 4.3.4.1 Land Use

The SP identifies that Area C can accommodate the following land uses:

- Industry - Noxious
- Industry - Hazardous
- Industry - Resource Processing

The proposal would align with the land use definition of 'Industry – Hazardous' under the SP and is therefore a land use that is preferred for the area. Land use classes available within the WA planning framework have since been rationalised since the SP gazettal by way of amendments to Schedule 1 — Model Provisions for local planning schemes under the Regulations.

Several industrial land use classes including 'Industry – Hazardous' have been amalgamated into one broad 'Industry' land use class. The Shire's LPS3 adheres to the Model Provisions in this respect and the proposal has been assessed against this land use under LPS3 in Section 4.3.2.1 accordingly.

The proposed ANF will be compatible with other future land uses earmarked for the SP. This is because the site area adjoins land parcels with comparable zoning. For each of the industrial-type zones, the SP identifies the following possible land uses as shown in Table 7.

**Table 7** *Industry Land Uses*

<b>Area A: General Industry</b>	<b>Area B: Costal</b>	<b>Area C: Strategic Industry</b>
<ul style="list-style-type: none"><li>– Public Utility</li><li>– Temporary and Permanent Storage</li><li>– Convenience Store</li><li>– Fuel Depot</li><li>– Factory Showrooms</li><li>– Power Generation</li><li>– Office</li></ul>	<ul style="list-style-type: none"><li>– Public Recreation</li><li>– Fuel Depot</li><li>– Harbour Installations</li><li>– Marine Collectors Yard</li><li>– Public Utility</li><li>– Marina</li><li>– Marine Filling Station</li></ul>	<ul style="list-style-type: none"><li>– Industry – Noxious</li><li>– Industry – Resource Processing</li><li>– Industry – Hazardous</li><li>– Industry – Extractive</li><li>– Power Generation</li><li>– Fuel Depot</li><li>– Public Utility</li></ul>

North of the site remains the same type of zoning being Strategic Industry - Area C. The site is setback approximately 175 metres south from adjoining Strategic Industry - Area A, set back 275 metres east from Rural zoning, and set back 850 metres west from Strategic Industry - Area B. The rural zoned land is controlled through SCA1 under LPS3, which provides a buffer by prohibiting sensitive land uses in proximity to industrial land uses within the SIA. The location of the facility means that the site does not abut any zone which could introduce conflicting land use. To this end, the Proposal will not jeopardise future development potential of the SP, or broader Oakajee locality.

#### 4.3.4.2 Transport Network

The SP proposes a multi-modal system with road, rail and services corridors to connect industrial land uses with a future port and existing transport networks including the North West Costal Highway which can be seen in Figure 9 above.

South of the Proposal is an indicative Southern Access Road which is proposed to link to the North West Costal Highway. At the time of this report, this road has not been constructed. Access to the site is instead to be provided via a North South orientated road which is discussed further in Section 5.1. It is expected that future development of the wider Oakajee SIA will plan their respective access requirements against road connections established by Project Terra.

#### 4.3.4.3 Landscaping

The SP contains a Landscaping Report which appraises potential visual impact of development within the SP area, and provides a Landscape Management Plan to guide future development within the SP area. The Landscaping Report focuses predominately on treatments for the broader estate area. It however does include some recommendations for individual industrial allotments. The report recommends that landscaping be implemented to enhance high traffic areas such as entry points, office/administration and crib huts.

#### 4.3.4.4 Structure Plan Status

The current SP is due to expire on 19 October 2025. It is understood that the SP is currently being review by DevWA.

## 4.4 Planning and Development (Local Planning Schemes) Regulations 2015

Clause 67 of the Regulations sets out the matters to be considered by local government when determining a development application. Table 8 demonstrates the consistency of the proposal with the relevant criteria.

**Table 8** *Matters to be considered when determining a development application*

Sub-Clause	Comments
<i>(a) the aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area.</i>	Refer to comments in Section 4.3.2.
<i>(b) the requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving.</i>	There are no draft or proposed local planning schemes or other proposed planning instruments that apply to the proposal.
<i>(c) any approved State Planning Policy.</i>	Refer to comments in Section 4.2.
<i>(d) any environmental protection policy approved under the Environmental Protection Act 1986 section 31(d).</i>	None applicable.
<i>(e) any policy of the Commission.</i>	None applicable.
<i>(f) any policy of the State</i>	None applicable.
<i>(fa) any local planning strategy for this Scheme endorsed by the Commission.</i>	Refer to comments in Section 4.3.1.
<i>(g) any local planning policy for the Scheme area.</i>	Refer to comments in Section 4.3.
<i>(h) any structure plan or local development plan that relates to the development.</i>	Refer to comments in Section 4.3.4.
<i>(i) any report of the review of the local planning scheme that has been published under the Planning and Development (Local Planning Schemes) Regulations 2015.</i>	None applicable.
<i>(j) in the case of land reserved under this Scheme, the objectives for the reserve and the additional and permitted uses identified in this Scheme for the reserve.</i>	The proposal does not relate to land reserved under LPS3.
<i>(k) the built heritage conservation of any place that is of cultural significance.</i>	There are no heritage protected places or structures within or nearby the site area.
<i>(l) the effect of the proposal on the cultural heritage significance of the area in which the development is located.</i>	Proposal does not impact the two European heritage sites within the Oakajee SIA. Refer to Section 4.1.3 which addresses Aboriginal Cultural Heritages Places in the vicinity of the Proposal.
<i>(m) the compatibility of the development with its setting, including – (i) the compatibility of the development with the desired future character of its setting; and (ii) the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development.</i>	The proposal is isolated from surrounding sensitive land uses and does not result in significant air or noise emissions, or traffic volumes that may impact surrounding land development as identified in the supporting technical reports. The proposal is located approximately 3.5 kilometres from Whitepeak township and would not be visible from residential dwellings therein. The proposal is located over one kilometre east from the North West Costal Highway and would be obscured by dense vegetation as viewed from the road. In considering these factors it is anticipated that the proposal would not generate adverse impacts to the visual amenity of

Sub-Clause	Comments
	the public realm. The proposal would align with expectations of the type and scale of industrial developments within the SP area.
<i>(o) the likely effect of the development on the natural environment or water resources and any means that are proposed to protect or to mitigate impacts on the natural environment or the water resource.</i>	Technical reports contained in Section 5 address the proposal's potential environmental impacts and mitigation strategies.
<i>(p) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation of the land should be preserved</i>	The proposal is located in a strategic industrial estate with the site itself largely cleared of any vegetation. Any future landscaping can be considered but will be limited to around office crib areas only.
<i>(q) the suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bush fire, soil erosion, land degradation or any other risk.</i>	The proposal is supported by several studies demonstrating management / mitigation of environmental risks relevant to the site: <ul style="list-style-type: none"> <li>– Surface Water Management Plan (Appendix E)</li> <li>– Air Quality Impact Assessment (Appendix F)</li> </ul> The contents of these reports are summarised in respective bodies within Section 5.
<i>(r) the suitability of the land for the development taking into account the possible risk to human health or safety.</i>	From a land use permissibility perspective, the site is suitable for the proposal. This is because site is located in Area C – Strategic Industry under the Oakajee SP. The SP identifies that in Area C, 'Industry – Hazardous' land use can be accommodated. The proponent is seeking the necessary licences and approvals under the <i>Dangerous Goods Safety Act 2004</i> .
<i>(s) the adequacy of —</i> <i>(i) the proposed means of access to and egress from the site; and</i> <i>(ii) arrangements for the loading, unloading, manoeuvring and parking of vehicles</i> <i>(t) the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety.</i>	The proposal is supported by a Traffic Impact Assessment (Appendix D). The report details the potential impact on site access arrangements, vehicle movements as well as entry and egress points. The assessment also describes the predicted volumes of traffic generated by the proposed development. The proposal will not generate volumes of traffic that exceed the capacity of the road network
<i>(u) the availability and adequacy for the development of the following —</i> <i>(i) public transport services;</i> <i>(ii) public utility services;</i> <i>(iii) storage, management and collection of waste;</i> <i>(iv) access for pedestrians and cyclists (including end of trip storage, toilet and shower facilities);</i> <i>(v) access by older people and people with disability</i>	The proposal is not readily accessible by public transport, bicycles or pedestrian routes. The site will be accessed by authorised personnel only. The site will not be accessible to the public. Refer to Section 5.4 which provides detail on the storage, management and collection of waste. A Waste Management Plan is provided as Appendix G.
<i>(v) the potential loss of any community service or benefit resulting from the development other than potential loss that may result from economic competition between new and existing businesses.</i>	Post-construction, the proposal is not expected to result in the loss of any community service of benefit. The proposal does not generate undesirable economic competition between existing businesses.
<i>(x) the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals.</i>	The proposal will not impact upon any communities within the region. This is because the proposal is located in an industrial estate which is isolated from nearby townships and residential areas. Further, the proposal's future potential to impact communities managed through the SP buffer area, and SCA1. These planning instruments ensure that any sensitive land uses are managed in a way that they are not unduly impacted by existing or future industrial uses within the Oakajee SIA.

## 5. Technical Studies

A suite of technical studies was commissioned in support of the proposal and in accordance with the provisions of the planning framework.

It is pertinent to note that technical studies were commissioned early during the project design phase with the findings and recommendations informing a number of design and layout updates of the project. The development plans that form part of this application for development approval is the culmination of these technical studies.

Importantly, any discrepancies in the plans are deemed minor in nature and the project design used in the preparation of technical studies were in-fact based on a slightly larger facility. The development plans that form part of this application for development approval is smaller and as such, do not materially affect the studies' conclusions.

### 5.1 Traffic Impact Assessment

A Traffic Impact Assessment (TIA) has been prepared in accordance with the West Australian Planning Commission's Transport Impact Assessment Guidelines. The TIA has identified the following key considerations:

- Construction phase is forecast to generate up to 48 vpd two-way during the peak construction activity period (late 2025/early 2026), comprising 24 vpd in and 24 vpd out. 24 light vehicles per day, two-way and 24 trucks per day two-way. Prior to construction activities, for the earthworks, 40 tipper trucks per day (40 in/40 out) are forecast to access the site.
- As the capacity of the surrounding road network is not forecast to be exceeded by the Proposal, no mid-block upgrade measures are proposed to NWCH.
- All parking associated with construction of the Proposal will be provided on site.
- Detailed design drawings should be prepared for Main Roads WA approval for the construction access.
- Any impacts associated with construction traffic can be managed through the preparation of a Traffic Management Plan (TMP), if required by MRWA. A TMP typically establishes safe working parameters at the site access to ensure any potential impacts are ameliorated.
- Forecast traffic volumes during operation of the development, 142 vpd, added to current volumes on NWCH are significantly below the maximum capacity of the existing road network. No mid-block upgrade measures are proposed for the road network, including NWCH, to support operations. Peak hour traffic movements are forecast to be 10-12 vph during operation at peak activity (eight in/two out AM, two in/eight out PM).
- All parking associated with the operation of the Proposal will be provided on site.
- A new access from the current Main Roads WA access under construction, to serve the operation of the development will use an internal north-south road connection some 3 km long. The specific location of the road is still to be determined. The road will be 8 m wide (or as agreed with DevWA) and designed to accommodate B-Doubles.
- As is standard practice, detailed design and/or road safety audits can be undertaken at the relevant design stages post-development approval.

Further detail including stakeholder engagement and options analysis is contained in the TIA at Appendix D of this report.

### 5.2 Surface Water Management Plan

A Surface Water Management Plan (SWMP) was prepared to investigate flood risk and storm water management at the proposed site. Flood modelling was undertaken to determine flood depths, water levels and velocities. The modelling considers site characteristics including climate, topography, soil, ground water and surface water.

The key findings of the modelling are summarised as follows:

- The maximum flood depth for the entire site is predicted to be within 0.05m to 0.10m, except for the south-west corner where it is predicted to be within 0.10m to 0.25m. There are no accumulation of flood waters within the site due to the absence of depression areas.

- The majority of the site drains in the south-west direction and approximately half of the site drains towards the well-defined overland flow path that runs along the western boundary. The runoff from a portion of the north-east location of the site drains to the north off the hilly area with a maximum elevation of 88 mAHD.
- There is potential for contaminated stormwater runoff to be generated from the AN emulsion plant, container stacks, domes and diesel tank area. To mitigate potential environmental impacts arising from this, a conceptual drainage arrangement was produced illustrating how impacts can be suitably managed. The drainage plan and stormwater management measures are described in detail in the SWMP.

A copy of the SWMP is contained as Appendix E of this report.

## 5.3 Air Quality Impact Assessment

An Air Quality Impact Assessment (AQIA) was prepared to investigate the emission impacts of the proposed ANF.

As part of the assessment, air quality dispersion modelling was undertaken to predict air quality impacts from standard operation of the ANF. The modelling considers meteorological data and emissions profiles of onsite equipment. A single scenario was modelled for this assessment, representing typical facility operations.

The primary pollutants identified were NO<sub>2</sub>, SO<sub>2</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub> and volatile organic compounds as benzene. A cumulative assessment for PM<sub>10</sub> and PM<sub>2.5</sub> was also undertaken.

The results of the air dispersion modelling indicate that the Project will comply with the relevant air quality criteria for each of the pollutants across all scenarios, with the exception of the cumulative assessment for annual PM<sub>2.5</sub> ground level concentrations, where the contribution of the background concentrations resulted in exceedances for all receptors. However, the proposed activities do not significantly contribute to the increase in annual PM<sub>2.5</sub> average concentrations, as the incremental contribution is approximately 0.01% of the total PM<sub>2.5</sub> concentration.

Overall, the proposed project does not pose a significant threat to air quality in the region.

A copy of the AQIA is contained as Appendix F of this report.

## 5.4 Waste Management Plan

A Waste Management Plan (WMP) has been prepared to demonstrate how waste from the ANF will be identified, recorded and appropriately managed. The WMP is for the operational phase only and does not consider construction waste.

The WMP applies objectives and principles for the *Waste Avoidance and Resources Recovery Act 2007* and the Waste Avoidance and Resource Recovery Strategy 2030. The WMP identifies key hazardous and non-hazardous waste streams and how they are processed to minimise and management potential environmental impacts. The WMP also addresses waste storage, transportation and monitoring practices.

A summary of the waste management practices identified in the WMP is provided as follows:

- The ANF will have dedicated waste storage areas which can accommodate sufficient bin/s to manage waste generation.
- Different waste streams (hazardous and non-hazardous) are to be appropriately separated and suitably stored in designated sealed receptacles provided by the waste management contractor. Receptacles are to be maintained in good working condition and will be repaired as required. Receptacles are to be collected and emptied off-site at a suitable waste collection facility.
- Waste storage containers will be suitably enclosed, covered and maintained (such as waste oils stored in under cover self-bunded storage tanks) to prevent polluted wastewater runoff from entering the stormwater system.
- Each storage area should be segregated from other areas with signage.
- Stormwater interception system including diversion drains should be maintained around laydown areas to control discharges, run-offs, or incidental waste spills as per the conceptual drainage plan outlined in the Surface Water Management Plan
- Tanks should be design in accordance with the relevant Australian Standards. Bunded compounds should extend sufficiently beyond the plan perimeter of the tank (when projected down to the bund) so that a jet of



liquid from any perforation of the tank or process equipment will be contained. The bunded compound should have sufficient capacity to fully contain leakage from storage tanks and not be overtopped during extreme rainfall events.

A copy of the WMP is contained as Appendix G of this report.

## 5.5 Noise Impact Assessment

Facility equipment, including the emulsion manufacturing plant, pumps, heating and cooling systems as well as onsite vehicles have the potential to generate noise emissions. To understand the extent of these emissions and demonstrate potential to comply with the provisions of the Noise Regulations, a Noise Impact Assessment (NIA) has been prepared.

The NIA modelled one typical operational scenario which is:

- Major noise sources including continuously operating plant and truck movements delivering AN to the facility (10 heavy vehicles per day one way, typical. 20 two way of normal operation).

The NIA applied the modelling assumption to estimate the noise levels at four sensitive receivers surrounding the site. A detailed description of the assumptions, including metrological conditions is contained in the assessment.

The predicted noise levels from the modelled scenario are expected to comply with the 'Day', 'Evening' and 'Night' noise criteria at all sensitive receivers. Put simply, the ANF operational noise impacts are expected to comply with the Regulations.

## 5.6 Bushfire Management Plan

Linfire Consultancy has prepared a Bushfire Management Plan (BMP) to demonstrate how Project Terra meets the requirements of SPP3.7 and the associated guidelines. The BMP assesses native vegetation, topography, and on-site hazards to develop a detailed approach to managing bushfire risk. Key elements of the BMP include:

- Bushfire Attack Level contour assessment which considers vegetation classification, effective slope, separation distances, and fire danger rating to inform risk mitigation measures.
- Risk mitigation measures which include management of all on-site vegetation to a low threat level and establishment of asset protection zones surrounding key infrastructure such as habitable buildings, plant equipment, and materials storage.
- Provision of firefighting water supply tanks throughout the site. Guidance on access, size, construction, and fittings is provided to ensure compliance with relevant Australian Standards.
- Considerations for training, procedures, and protocols for facility shutdowns in response to bushfire events.
- Requirements for vehicular access including emergency access routes, road widths, passing areas, maintenance, roadside vegetation clearing and firewater tank access.
- Explanation and guidance on fire danger ratings, total fire bans, and bushfire seasons and what actions are recommended with respect to each.

A copy of the BMP is contained in Appendix I of this report.

## 6. Summary

Blue Diamond Australia proposes the development of an ANE Facility with this report and accompanying information providing rationale in support of the project.

The proposed facility is located across two lots within the Oakajee Strategic Industrial Area, 20 km north of Geraldton, Western Australia. The facility will be managed by Platinum Blasting Services who are highly experienced in running ammonium nitrate facilities across Australia.

Project Terra will have capacity to produce up to 40,000 tonnes of ammonium nitrate emulsion each year, with potential to increase production capacity as industry demand grows.

The proposal aligns with local and State planning policies, frameworks and regulations, and will be the first major industrial facility in Oakajee SIA, marking an important milestone for the region.

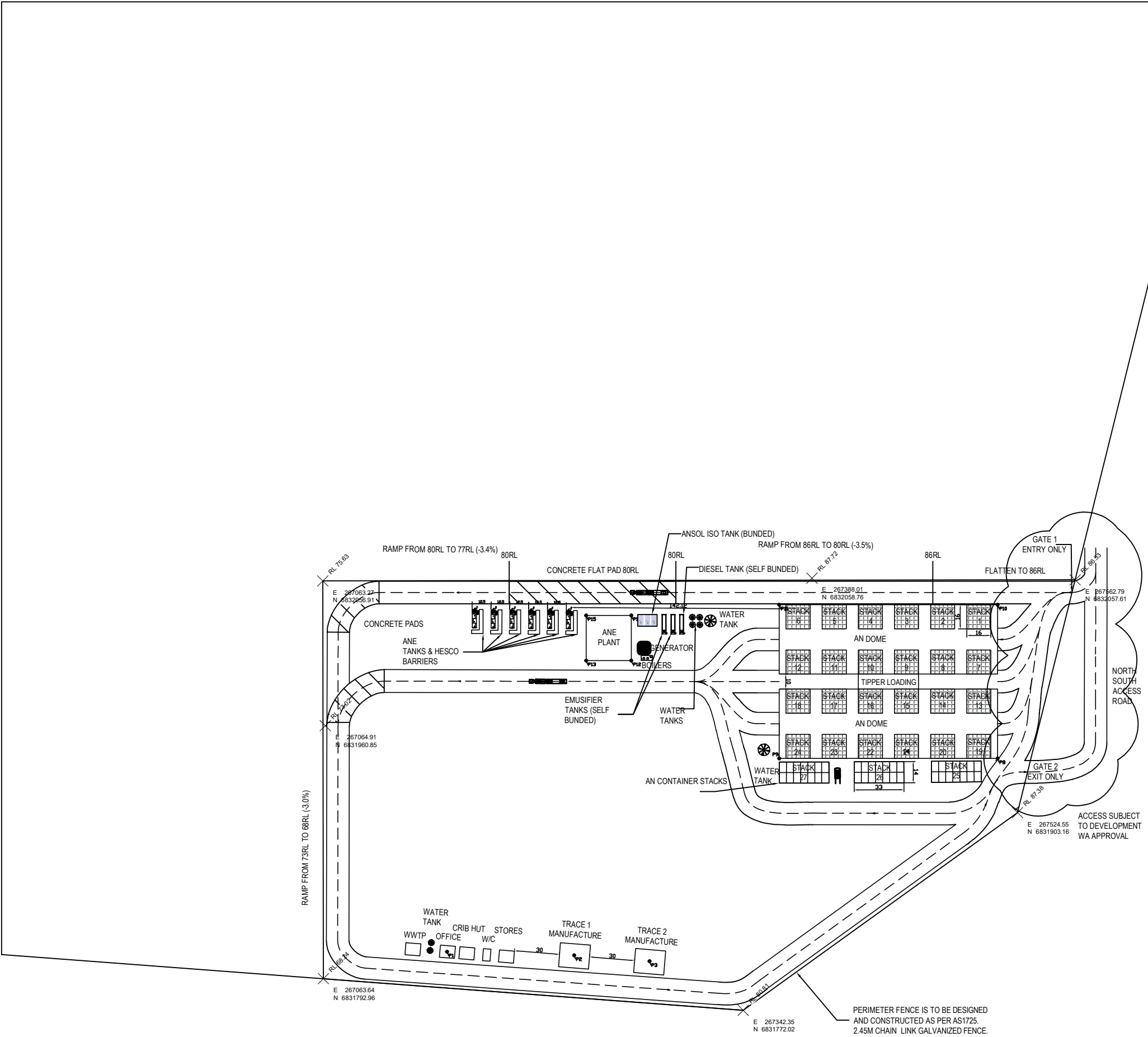
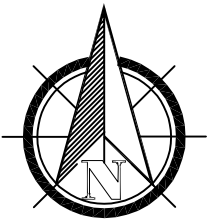
As demonstrated in the preceding sections above, the proposal is considered to warrant favourable consideration by decisions makers on the basis that the land use is appropriate for the locality and potential impacts on amenity or existing land uses can be mitigated through the development design and/or appropriate conditions of approval. The proposal is consistent with the objectives of LPS3 and the broader principles of orderly and proper planning.

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# Appendix A

## Development Plans



ALL DIMENSIONS SHOWN ARE IN METRES (m)  
UNLESS NOTED OTHERWISE.  
ALL ROADS BITUMEN UNLESS NOTED OTHERWISE.  
NATURAL SURFACE CONTOUR INTERVAL = 0.2M  
DATUM:

REV	DESCRIPTION	DRN	CKD	APP	DATE	REV	DESCRIPTION	DRN	CKD	APP	DATE



DRN	LAJ	29/01/25
CKD		
APP		
SCALE		
JOB		

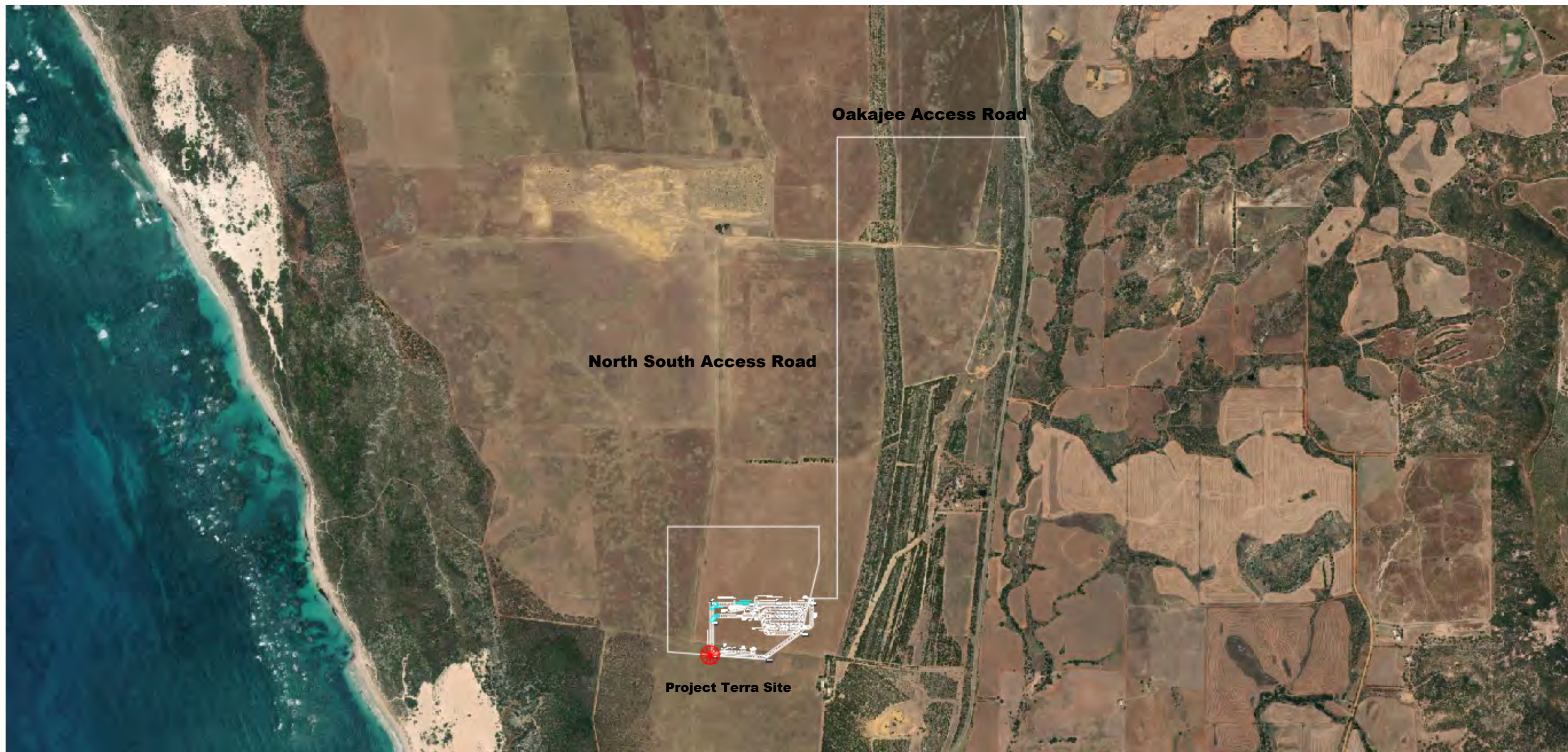
PROJECT TERRA  
PLATINUM BLASTING SERVICES  
GENERAL ARRANGEMENT


Platinum Blasting Services Pty Ltd  
ABN 67 600 020 488  
12/500 Queen Street, Brisbane City

DRAWING NUMBER

REV  
A





ALL DIMENSIONS SHOWN ARE IN METRES (m) UNLESS NOTED OTHERWISE. ALL ROADS BITUMEN UNLESS NOTED OTHERWISE. NATURAL SURFACE CONTOUR INTERVAL = 0.2M DATUM:																DRN	LAJ	29/01/25	PROJECT TERRA PLATINUM BLASTING SERVICES GENERAL ARRANGEMENT				Platinum Blasting Services Pty Ltd ABN 67 600 020 488 12/500 Queen Street, Brisbane City		A3
																CKD									
																APP									
																SCALE									
																JOB									
REV	DESCRIPTION					DRN	CKD	APP	DATE	REV	DESCRIPTION					DRN	CKD	APP	DATE	DRAWING NUMBER		REV A			
1	2	3	4	5	6	7	8	9	10	11	12														



# **Appendix B**

## **Certificates of Title**

WESTERN



AUSTRALIA

TITLE NUMBER

Volume Folio

**2121 945**

## RECORD OF CERTIFICATE OF TITLE

### UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

*BGRoberts*  
REGISTRAR OF TITLES



#### LAND DESCRIPTION:

LOT 11 ON PLAN 18559

#### REGISTERED PROPRIETOR: (FIRST SCHEDULE)

WESTERN AUSTRALIAN LAND AUTHORITY OF LEVEL 3, 40 THE ESPLANADE, PERTH  
(A G672722 ) REGISTERED 23/12/1997

#### LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS: (SECOND SCHEDULE)

1. THE RIGHT TO MINES OF COAL OR OTHER MINERALS BEING EXCLUDED FROM PORTION OF THE SAID LAND
2. K824961 PROFIT A' PRENDRE. CERTAIN RIGHTS AND INTERESTS TO GENERAL MANAGER FOREST PRODUCTS COMMISSION OF 117 GREAT EASTERN HIGHWAY, RIVERVALE FOR A PERIOD OF 40 YEARS FROM AND INCLUDING 1.6.2008 AS TO PORTION ONLY - SEE DEPOSITED PLAN 56409 REGISTERED 14/1/2009.
3. L603247 EASEMENT TO WATER CORPORATION FOR WATER PIPELINE PURPOSES SEE DEPOSITED PLAN 60009. REGISTERED 14/4/2011.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.  
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

#### STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	2121-945 (11/P18559)
PREVIOUS TITLE:	1950-288
PROPERTY STREET ADDRESS:	2017 NORTH WEST COASTAL HWY, OAKAJEE.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF CHAPMAN VALLEY
RESPONSIBLE AGENCY:	WESTERN AUSTRALIAN LAND AUTHORITY

ORIGINAL—NOT TO BE REMOVED FROM DEPARTMENT OF LAND ADMINISTRATION

WESTERN



AUSTRALIA

REGISTER BOOK  
VOL. FOL.

Application G672722

Volume 1950 Folio 288

**CERTIFICATE OF TITLE**

UNDER THE "TRANSFER OF LAND ACT, 1893" AS AMENDED

**CT 2121 945**Page 1 (of 2 pages) 2121 945  
VOL. FOL.

I certify that the person described in the First Schedule hereto is the registered proprietor of the undermentioned estate in the undermentioned land subject to the easements and encumbrances shown in the Second Schedule hereto.

*John Hutton*  
REGISTRAR OF TITLES

Dated 23rd December, 1997

ESTATE AND LAND REFERRED TO

Estate in fee simple in portion of Victoria Locations 2656, 3094 and 3522, and being Lot 11 on Plan 18559, delineated on the map in the Third Schedule hereto, the right to mines of coal or other minerals being excluded from portion of the said land.

As to the said Location 3522 only: limited however to the natural surface and therefrom to a depth of 60.96 metres.

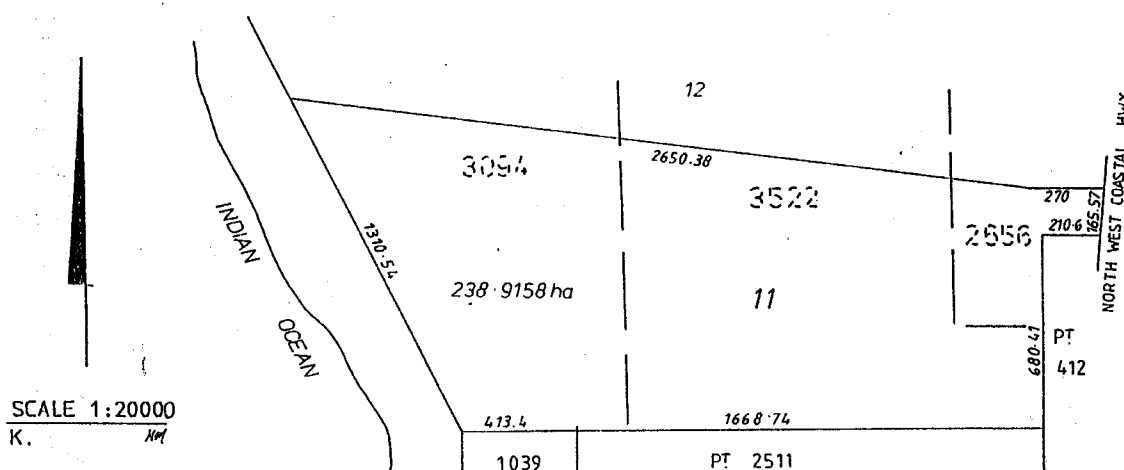
As to the said Location 3094 only: limited however in a similar manner to a depth of 12.19 metres.

FIRST SCHEDULE (continued overleaf)

Western Australian Land Authority of 8 Davidson Terrace, Joondalup.

SECOND SCHEDULE (continued overleaf)

NIL

THIRD SCHEDULE

NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

[illegible][illegible]

CERTIFICATE OF TITLE VOL. 2121 FOL. 945



WESTERN



AUSTRALIA

TITLE NUMBER

Volume

Folio

2121

946

## RECORD OF CERTIFICATE OF TITLE

### UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

*BGRoberts*  
REGISTRAR OF TITLES



#### LAND DESCRIPTION:

LOT 12 ON PLAN 18559

#### REGISTERED PROPRIETOR: (FIRST SCHEDULE)

WESTERN AUSTRALIAN LAND AUTHORITY OF LEVEL 3, 40 THE ESPLANADE, PERTH  
(A G672722 ) REGISTERED 23/12/1997

#### LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS: (SECOND SCHEDULE)

1. THE RIGHT TO MINES OF COAL OR OTHER MINERALS BEING EXCLUDED FROM PORTION OF THE SAID LAND
2. K824961 PROFIT A' PRENDRE. CERTAIN RIGHTS AND INTERESTS TO GENERAL MANAGER FOREST PRODUCTS COMMISSION OF 117 GREAT EASTERN HIGHWAY, RIVERVALE FOR A PERIOD OF 40 YEARS FROM AND INCLUDING 1.6.2008 AS TO PORTION ONLY - SEE DEPOSITED PLAN 56409 REGISTERED 14/1/2009.
3. L603247 EASEMENT TO WATER CORPORATION FOR WATER PIPELINE PURPOSES SEE DEPOSITED PLAN 60010. REGISTERED 14/4/2011.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.  
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

#### STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	2121-946 (12/P18559)
PREVIOUS TITLE:	1950-289
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF CHAPMAN VALLEY
RESPONSIBLE AGENCY:	WESTERN AUSTRALIAN LAND AUTHORITY

ORIGINAL—NOT TO BE REMOVED FROM DEPARTMENT OF LAND ADMINISTRATION

WESTERN

AUSTRALIA

REGISTER BOOK  
VOL. FOL.

Application G672722

Volume 1950 Folio 289

**CERTIFICATE OF TITLE**

UNDER THE "TRANSFER OF LAND ACT, 1893" AS AMENDED

CT 2121 946  
VOL. FOL.

I certify that the person described in the First Schedule hereto is the registered proprietor of the undermentioned estate in the undermentioned land subject to the easements and encumbrances shown in the Second Schedule hereto.

*John Hatterson*  
REGISTRAR OF TITLES



Dated 23rd December, 1997

ESTATE AND LAND REFERRED TO

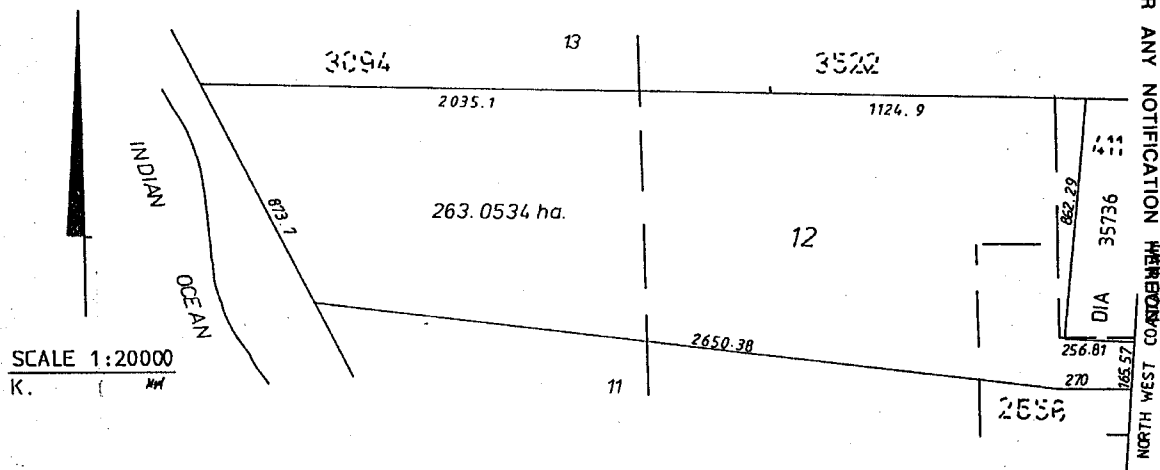
Estate in fee simple in portion of Victoria Locations 411, 2656, 3094 and 3522, and being Lot 12 on Plan 18559, delineated on the map in the Third Schedule hereto, the right to mines of coal or other minerals being excluded from portion of the said land.  
As to the said Location 3522 only: limited however to the natural surface and therefrom to a depth of 60.96 metres.  
As to the said Location 3094 only: limited however in a similar manner to a depth of 12.19 metres.

FIRST SCHEDULE (continued overleaf)

Western Australian Land Authority of 8 Davidson Terrace, Joondalup.

SECOND SCHEDULE (continued overleaf)

NIL

THIRD SCHEDULE

NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

Superseded - Copy for Sketch Only

Page 1 (of 2 pages) 2121 946  
VOL. FOL.

REGISTERED PROPRIETOR	INSTRUMENT		REGISTERED	TIME	SEAL	CERT. OFFICER
	NATURE	NUMBER				

[illegible]

CERTIFICATE OF TITLE VOL. 2121 FOL. 946

# **Appendix C**

## **DPLH Correspondence**



Department of **Planning,**  
**Lands and Heritage**

OFFICIAL

Your ref: ADV-10005491 / CAS-98527-D7S9D3

Our ref: A00007-24

Enquiries: [jemma.hallett@dplh.wa.gov.au](mailto:jemma.hallett@dplh.wa.gov.au)

Naomi Thomas  
GHD

Via Email: [Naomi.Thomas@ghd.com](mailto:Naomi.Thomas@ghd.com)

Dear Naomi

**ABORIGINAL HERITAGE ENQUIRY – PROPOSED DEVELOPMENT WITHIN  
LOT 11 AND LOT 12 ON P018559, NORTH WEST COSTAL HIGHWAY,  
OAKAJEE**

Thank you for your request dated 02/08/2024 seeking comment from the Department of Planning, Lands and Heritage (DPLH), Aboriginal Heritage Conservation, regarding the proposed development at Lot 11 and Lot 12 on P018559, North West Coastal Highway, Oakajee, within the provided shapefile area.

A review of the Register of Places and Objects, as well as the DPLH Aboriginal Heritage Database, concludes that the subject area is within the public boundary of Registered Aboriginal Heritage Site Buller River North Reburial (ID 4532).

Registered Aboriginal Heritage Site Buller River North Reburial (ID 4532) is culturally sensitive in nature, therefore the actual boundary of the Place is not publicly available. As such, a dithered boundary is represented on the publicly accessible Aboriginal Cultural Heritage Inquiry System (ACHIS) to protect the actual location. However, the subject land does not intersect with the actual boundary the Place.

Therefore, based on the current information held by DPLH, no approvals under the *Aboriginal Heritage Act 1972* (AHA) are required in this instance. Please note that limited Aboriginal heritage surveys may have been completed over the subject land and, as such, it is unknown if there is Aboriginal cultural heritage present. Therefore, GHD needs to be made aware of its obligations under the AHA.



The subject area also intersects with the following Historic Aboriginal Heritage Places:

- Oakajee Industrial Estate 01 (ID 16114)
- Oakajee Industrial Estate 02 (ID 16115)
- Oakajee Industrial Estate 16 (ID 16129)

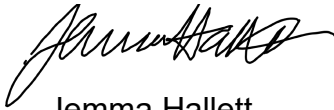
However, these Places have been assessed by the Aboriginal Cultural Heritage Committee as not being a site as they do not meet section 5 of the *Aboriginal Heritage Act 1972*.

DPLH advises that GHD regularly checks ACHIS should new Aboriginal Heritage be reported within your subject area. You can search ACHIS by using the following link:

[Aboriginal Cultural Heritage Inquiry System \(dplh.wa.gov.au\)](https://dplh.wa.gov.au)

If you have any further questions regarding the AHA, please submit your enquiry via the ACHknowledge Portal at [Home - ACHknowledge Portal \(dplh.wa.gov.au\)](https://dplh.wa.gov.au)

Yours sincerely



Jemma Hallett  
**HERITAGE SUPPORT OFFICER**

14/08/2024

# Appendices

# **Appendix D**

## **Traffic Impact Assessment**



# Transport Impact Assessment

**Project Terra – Ammonium Nitrate Facility**


Blue Diamond Australia

11 March 2025

→ **The Power of Commitment**





<b>Project name</b>		DA & Environmental Approvals Support – Project Terra					
<b>Document title</b>		Transport Impact Assessment   Project Terra – Ammonium Nitrate Facility					
<b>Project number</b>		12631761					
<b>Document number</b>		12609060-REP-0_Project Terra – Transport Impact Assessment					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	0	S McDermott	S Barlow		H Shigeyoshi	On file	13.12.2024
S4	1	E George	S Barlow	On File	H Shigeyoshi	On file	11.03.2025

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# Abbreviations

Abbreviation	Term referred
AHD	Australian Height Datum
ANE	Ammonium nitrate emulsion
ANF	Ammonium nitrate facility
BDA	Blue Diamond Australia
CARS	Main Roads WA Crash Analysis Reporting System
DE	Development envelope
DevWA	Development WA
HWL	High wide load
Km/h	Kilometres per hour
LPP	Local Planning Policy
MRWA	Main Roads Western Australia
NWCH	North West Coastal Highway
OIE	Oakajee Industrial Estate
ONIC	Oakajee Narngulu Infrastructure Corridor
OSOM	Over size over mass
PD Act	<i>Planning and Development Act 2005</i>
RAV	Restricted Access Vehicle
SIA	Strategic Industry Area
SIE	Strategic Industrial Estate
SLK	Straight Line Kilometre
SPP	State Planning Policy
TIA	Transport Impact Assessment
TIS	Transport Impact Statement
vph	Vehicles per hour
vpd	Vehicles per day
WA	Western Australia
WAPC	Western Australian Planning Commission

# 1. Introduction

Blue Diamond Australia (BDA) is planning to construct and operate an ammonium nitrate facility (ANF), commercially referred to as Project Terra (Proposal). GHD is acting on behalf of BDA in preparing an application for development approval for the Proposal.

Project Terra is proposed to be located within the Oakajee Strategic Industrial Area (SIA), which is 20 kilometres (km) north of Geraldton in the Mid-West region of Western Australia.

The proposed facility comprises of an emulsion manufacturing plant, storage facility and supporting infrastructure. The plant will have capacity to produce up to 40,000 tonnes of ammonium nitrate emulsion (ANE) per year, and the storage facility will house up to 15,000 tonnes of AN.

## 1.1 Purpose of this report

The purpose of this report is to demonstrate how the project is consistent with the Western Australian Planning Commission's (WAPC) *Transport Impact Assessment Guidelines (Volume 4 – Individual developments)*. The report considers:

- Site access arrangements.
- Construction and operational traffic impacts.
- Current and future transport networks.

## 1.2 Level of Transport Impact Assessment

This assessment has been prepared in accordance with the WAPC's *Transport Impact Assessment Guidelines (Volume 4 – Individual developments)*.

Given the Proposal is forecast to generate less than 100 vehicle trips at its operational peak hour, it is deemed to have a moderate level of transport impact, meaning the level of assessment required by the WAPC Guidelines is a Transport Impact Statement (TIS). This is outlined in Figure 1, being an excerpt from the abovementioned WAPC Guidelines.

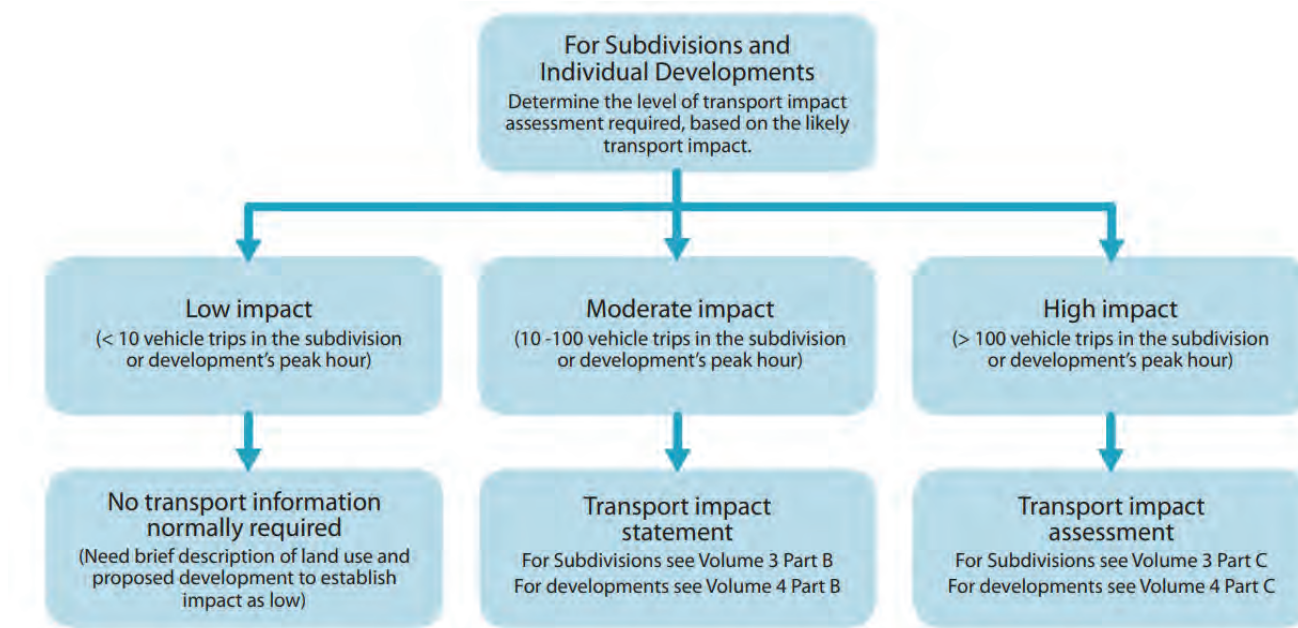


Figure 1 Level of assessment required chart (source: WAPC)

In accordance with the WAPC Guidelines, this TIS will address the following key considerations:

- Proposed development;
- Vehicle access and parking;
- Provision for service vehicles;
- Hours of operation;
- Daily traffic volumes and vehicle types;
- Traffic management on frontage streets;
- Public transport access;
- Pedestrian access;
- Cycle access and end of trip facilities;
- Site specific issues; and
- Safety issues.

## 1.3 Scope and limitations

*This report has been prepared by GHD for Blue Diamond Australia and may only be used and relied on by Blue Diamond Australia for the purpose agreed between GHD and Blue Diamond Australia. GHD otherwise disclaims responsibility to any person other than Blue Diamond Australia arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared. GHD disclaims liability arising from any of the assumptions being incorrect.*

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## 1.4 Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request.

## 2. Land, location and layout

Project Terra is proposed to be in Oakajee Strategic Industrial Area (SIA) which is in the Mid-West region of Western Australia, in the Shire of Chapman Valley (the Shire).

Land within the Oakajee SIA is owned and managed by DevelopmentWA (DevWA). DevWA has leased BDA 48 hectares (ha) of land across two lots described in section 2.1 to develop Project Terra.

Project Terra operations will occupy 12 ha of the 48 ha lease area. The regional context of the site is shown in Figure 2 and the lease area is depicted in Figure 3. The site layout is shown in Figure 4.

### 2.1 Land

The 48 ha of land allocated to BDA is located across the following parcels of land:

- Lot 11 on plan 18559 being the whole of the land in Certificate of Title Volume 2121 Folio 945, Land ID: 1731700.
- Lot 12 on plan 18559 being the whole of the land in Certificate of Title Volume 2121 Folio 946, Land ID: 1731695.

It is noted that Project Terra is located predominantly on Lot 12.







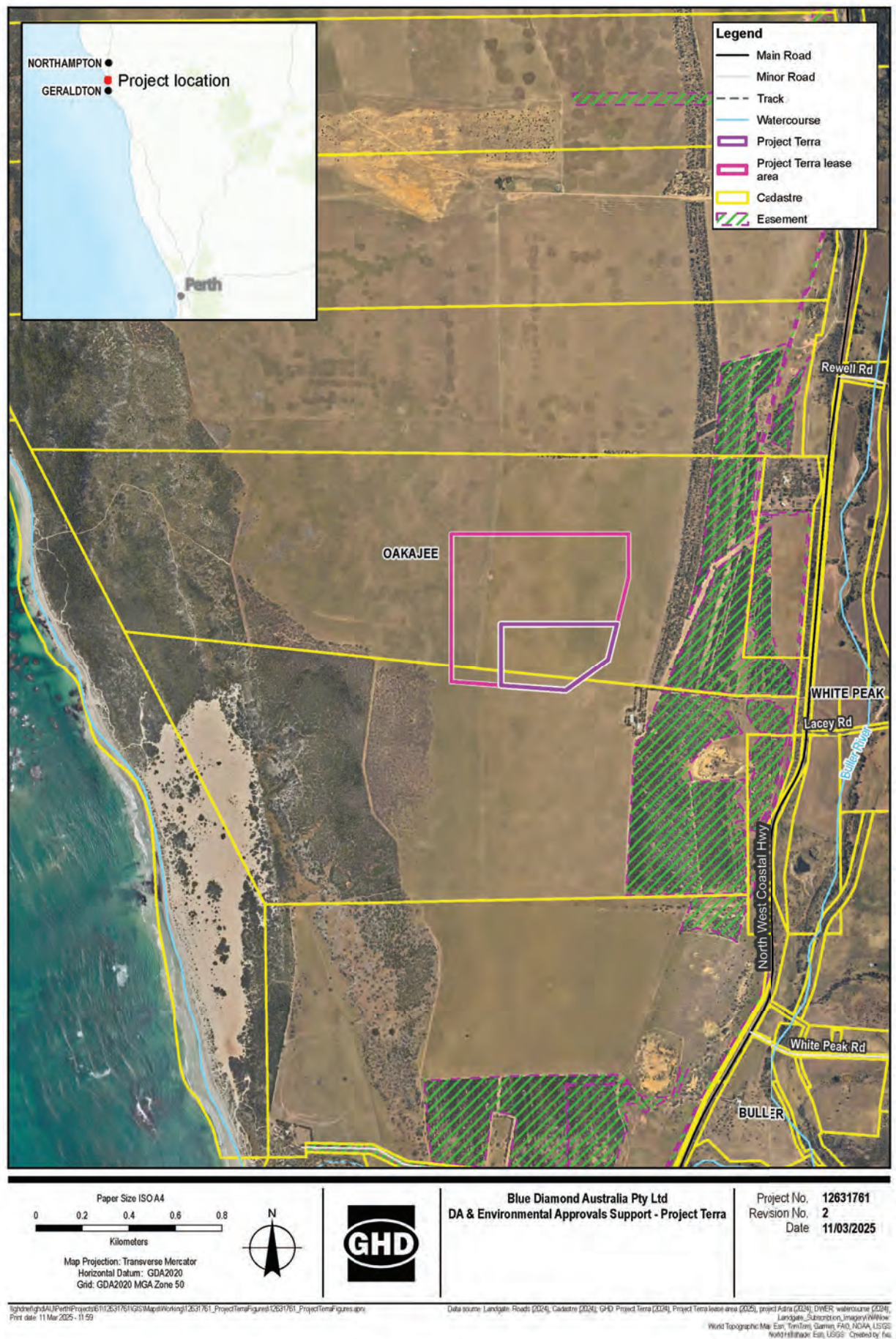


Figure 3 Local context

## 2.2 Layout

The current proposed Project Terra site layout is shown in Figure 4.

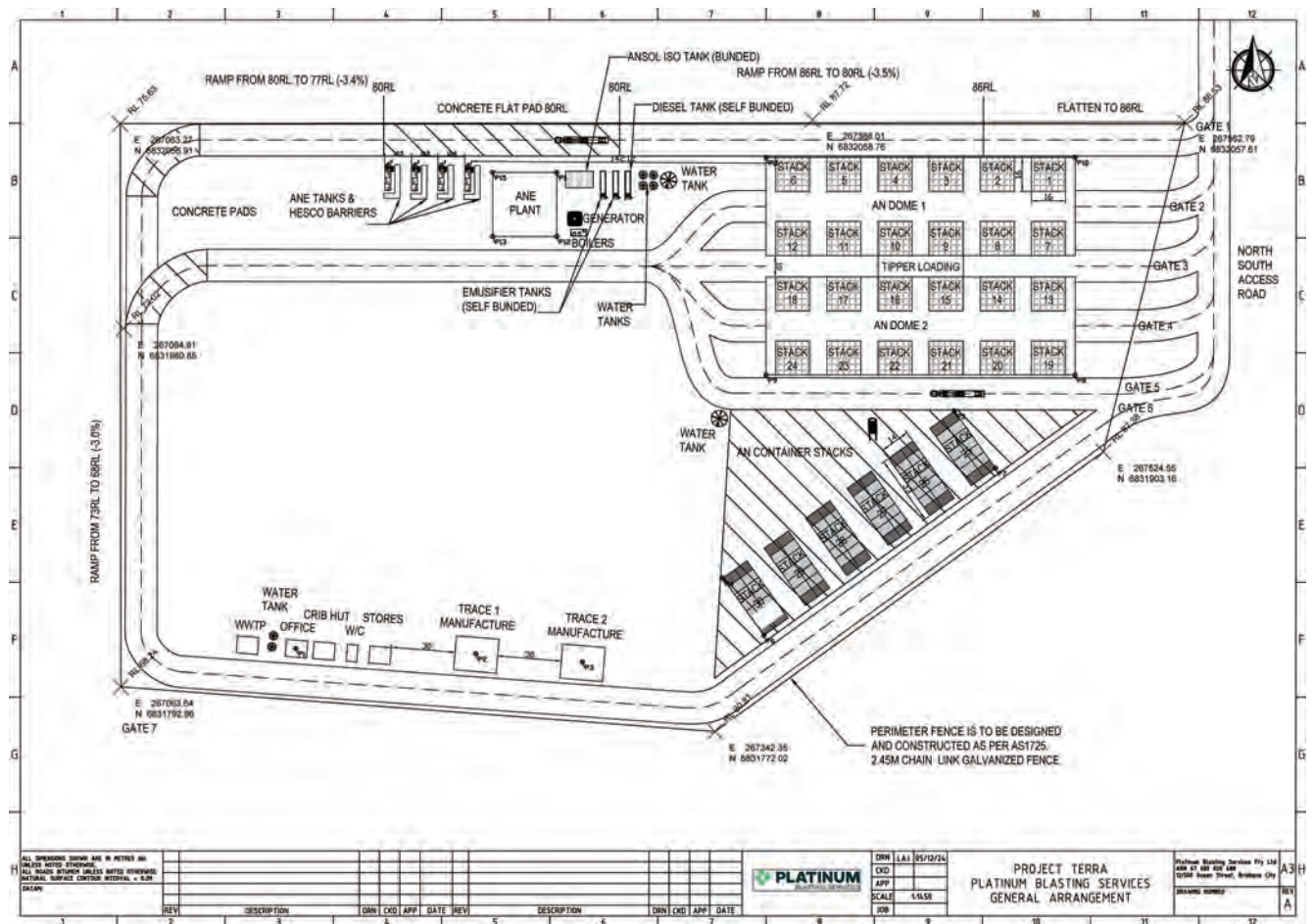


Figure 4 Site layout (Source: Blue Diamond Australia)



## 3. Proposal description

### 3.1 Facility overview

The ANF comprises of an emulsion manufacturing plant and a storage facility. The manufacturing plant will have capacity to produce up to 40,000 tonnes of ANE per year, and the storage facility will house up to 15,000 tonnes of AN. The detailed layout of the facility is depicted in the development plans, which are contained in Appendix A. The target commissioning date of the facility is Q4 of 2025.

### 3.2 Construction overview

The project will comprise several key phases during its 10-month development schedule that is based around a December 2025 commissioning target. An indicative construction schedule is summarised in Table 1.

*Table 1 Construction schedule by phase*

Construction item	Timing / Month works commencing	Duration
North-south access road off the new central road	March / Apr 2025	4 weeks
Facility civils – roads, hardstands, dams and drainage	Apr 2025	8 to 10 weeks
AN Dome	July 2025	3 months
Emulsion Plant	July 2025	6 months
Other / balance items – admin, crib rooms, fencing, light etc	July 2025	2 to 6 weeks

### 3.3 Workforce

#### 3.3.1 Construction workforce

Construction is scheduled to commence in early 2025. The Proposal is expected to generate a peak construction workforce of 12 personnel and an average construction workforce of six personnel. Peak construction workforce is anticipated during civil works.

#### 3.3.2 Operational workforce

The facility is scheduled to be commissioned by December 2025. During standard manufacturing operations, the facility will have a maximum of six personnel onsite. When the facility is receiving deliveries of manufacturing consumables, there will be five personnel on 12-hour shifts comprising of permanent and casual staff.

### 3.4 Construction traffic characteristics

#### 3.4.1 Building schedule

Construction is scheduled to commence in the first quarter of 2025. Construction hours will be 7.00 am to 5.00 pm Monday to Friday.

### 3.4.2 Construction phase car parking

A vehicle parking area will be allocated during the construction phase along the lease boundary and will have a ten-car capacity. The parking area will be unsealed hardstand.

### 3.4.3 Over-size and over-mass vehicles (construction)

The proposal will require nil over-size and over-mass (OSOM) vehicles to access the site for the purpose of construction. All material and equipment will be delivered to site in a manner that will not require oversize permits.

### 3.4.4 Workforce and construction traffic

General construction traffic characteristics are summarised in Table 2.

Table 2 Construction characteristics by phase

Construction item	Vehicle Movements / Characteristic	Duration
North-south access road off the new central road	<ul style="list-style-type: none"><li>Material transported to the access road area in 6 x 6 in two articulated dump trucks.</li><li>Earthmoving equipment estimated at six to seven float / low loader trips to site.</li><li>Number of vehicle movements for materials, total and daily estimates 10-12 road train movements per day (gravel) (7500T) (13 days), and ten semi water cart movements per day 3-4 weeks.</li><li>Quantity of imported material 7500T of laterite gravel.</li><li>Type of trucks will typically be B-Doubles, Pocket Road Trains.</li></ul>	4 weeks
Facility civils – roads, hardstands, dams and drainage	<ul style="list-style-type: none"><li>Quantity of imported materials 20,000T for roadways (gravel) all other quantities cut to fill onsite.</li><li>Number of truck movements daily for imported material 40 loads for ten days - will stockpile at east end of site with road trains then will need to re-load into a dump truck.</li><li>Number of loads of equipment to complete the civil works estimated at 15.</li><li>If water is required on site, will be additional 15-20 semi loads.</li></ul>	8 to 10 weeks
AN dome	<ul style="list-style-type: none"><li>Up to 12 light vehicles per day, 24 two way.</li><li>Equipment will be transported from Geraldton.</li><li>Materials will be sourced in Geraldton.</li><li>Manufacturing equipment will be sourced in Perth.</li><li>Materials and equipment will be delivered to site in B-Doubles.</li><li>No over-size / over-mass (OSOM) vehicles forecast during construction phase.</li></ul>	3 months
Emulsion plant		6 months
Other / balance items – admin, crib rooms, fencing, light etc		2 to 6 weeks

## 3.5 Operational traffic characteristics

General operational traffic characteristics are described below.

### 3.5.1 Site layout and arrangement

A draft site design has been prepared and is attached as Appendix A of this TIA. Regarding the proposed car parking facilities on site, the development will feature the following:

- The car park facilities will be designed to accommodate the maximum number of personnel.
- The car park will be located near the office in the southwest corner of the site.
- The carpark will be demarcated unsealed hardstand.

### 3.5.2 Day/time of operation

The facility will typically operate Monday to Friday 6.30 am to 5.00 pm. During import operations, the site will operate 24 hours for approximately two days.

Import operations are planned to occur approximately six times per year.

### 3.5.3 Forecast daily traffic generation during operation, number and size & type of vehicles

The project is expected to generate the following operational traffic characteristics:

- Five to six light vehicles per day will access the site during normal operations.
- Five to ten heavy vehicles (B-Doubles) per day during normal operations.
- 60 to 65 heavy vehicles (B-Doubles) per 24-hour period during import operations.

The following heavy vehicle types are expected to access the site during normal operations:

- B-Double emulsion tankers.
- B-Double diesel tankers.
- B-Double tippers.
- B-Double flat top trailers.

The proposal will require nil OSOM vehicles to access the site for the purpose of regular facility operation. All materials, consumables and equipment will be delivered to site in a manner that will not require oversize permits.

### 3.5.4 Frequency of facility maintenance

Routine maintenance is to be conducted monthly. Major maintenance shut down is to occur annually.



## 4. Existing transport network

### 4.1 Road hierarchy

The road hierarchy surrounding the proposal has been obtained from the Main Roads WA (MRWA) *Road Information Mapping System* and is shown in Figure 5. North West Coastal Highway (NWCH) is a Primary Distributor Road under the control of MRWA.



Figure 5 Road hierarchy (source: MRWA)

## 4.2 Speed limits

The speed limit on roads surrounding the proposal has been obtained from the MRWA *Road Information Mapping System* and is shown in Figure 6. The speed limit on NWCH near the site ranges between 100 kilometres per hour (km/h) to 110 km/h (shown in red and blue respectively in Figure 6. Adjacent to the site, the speed limit on NWCH is 110 km/h.

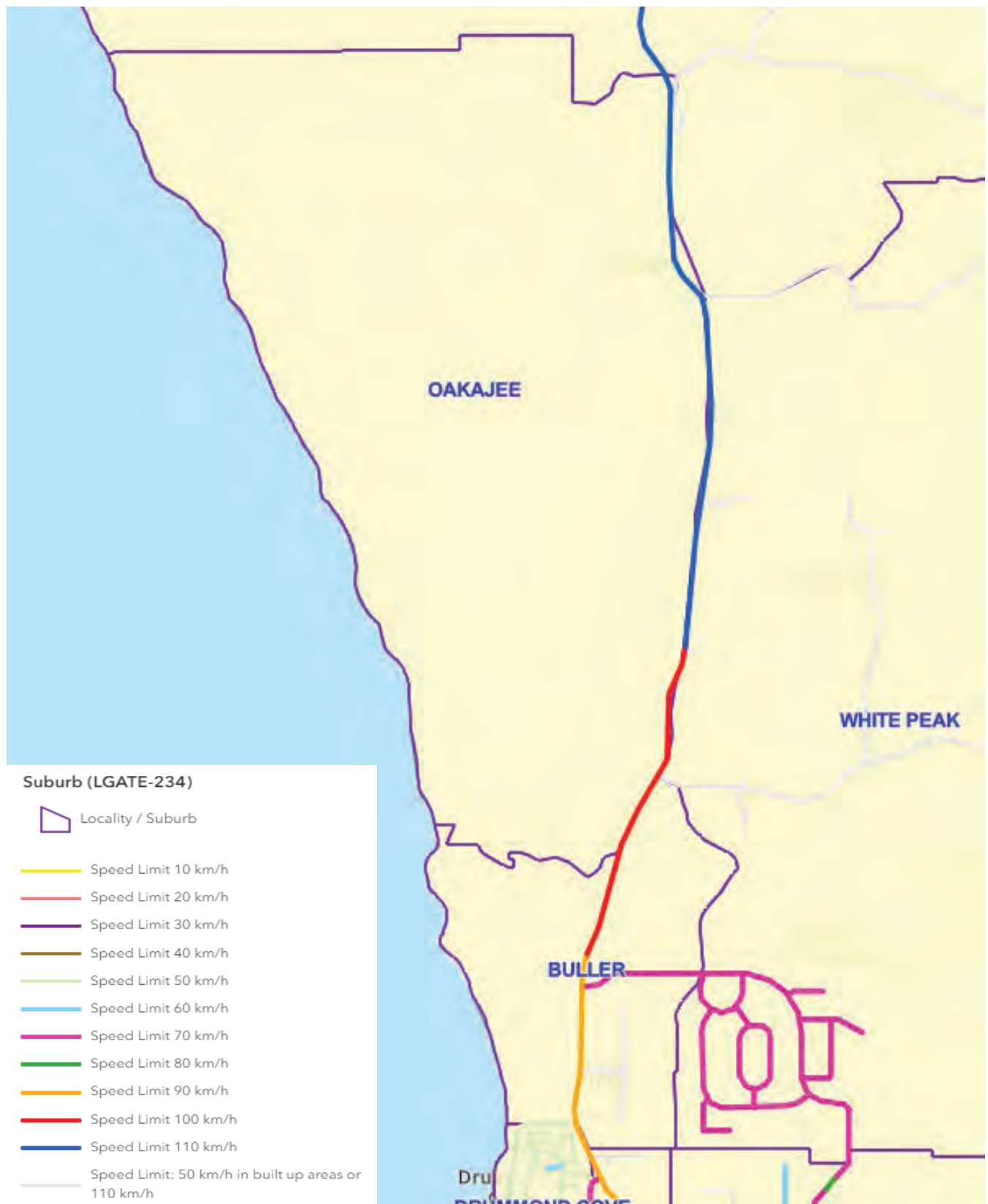
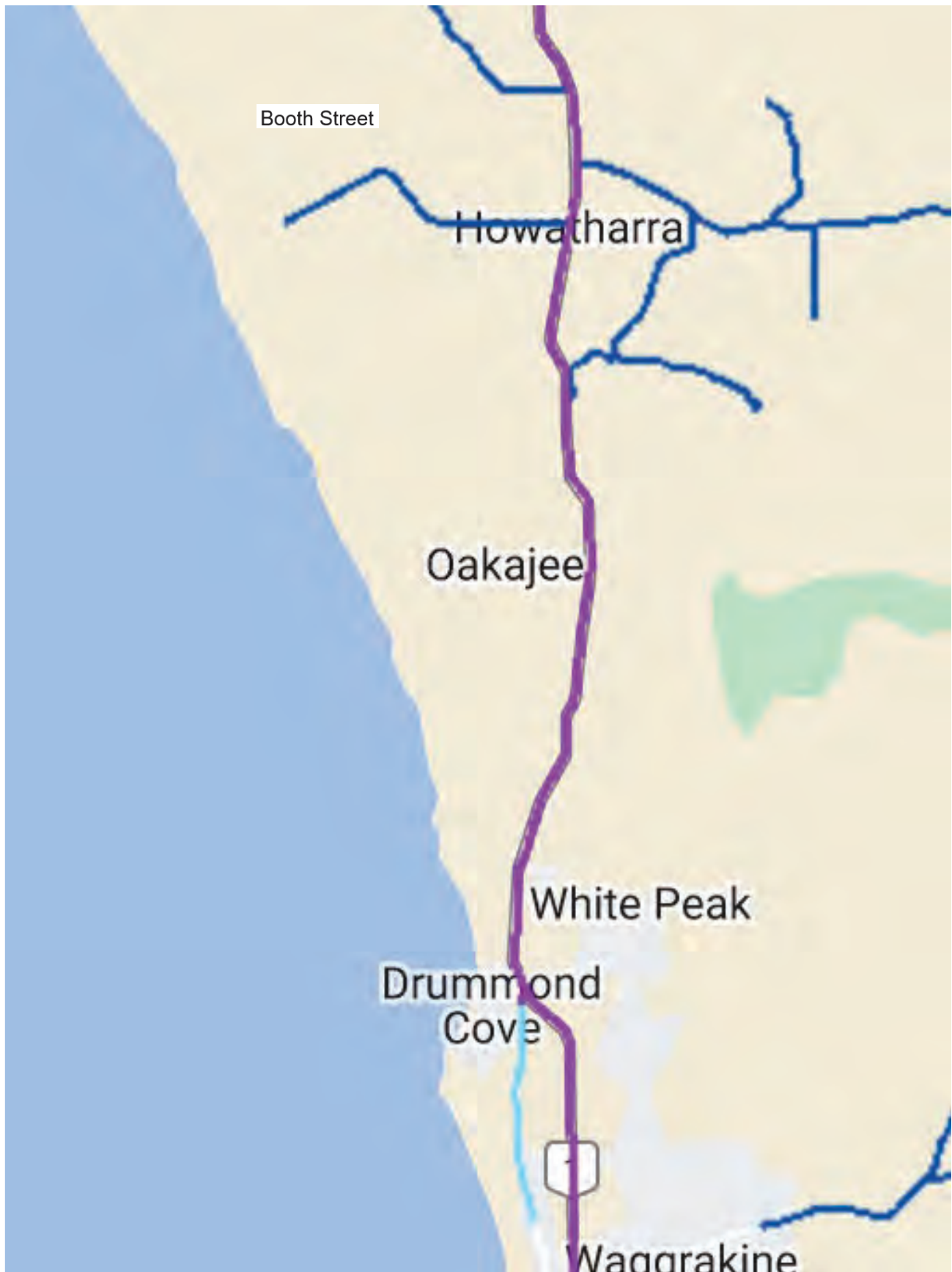


Figure 6 Road speed limits (source: MRWA)

## 4.3 Restricted access vehicle (RAV) network





A review of the MRWA RAV Network Map identifies the RAV network surrounding the site, as shown in Figure 7.



**Figure 7** RAV network (Tandem Drive Network 8 North West Coastal Highway (source: MRWA))

NWCH carries trucks to 36.5 metres (m) in length, as shown in Table 3.

**Table 3** Tandem drive truck, trailer combinations (Source: Main Roads WA)

Heavy Vehicle Services May 2022		Tandem Drive Truck, Trailer Combinations Restricted Access Vehicle (RAV) Categories				
RAV Category	RAV Description	Max. Length	Max. Mass	Approved Network		
Category 1	1A – Rigid Truck	1A	12.5 m	28.5 t		N1
	1B – Rigid Truck towing a Pig Trailer or Dolly	1B	20 m	46.5 t		
	1C – Truck towing a 4 or 5 Axle Dog Trailer	1C	20 m	50 t		
	1D – Car Carrier Truck & Trailer	1D	20 m	45 t		
Category 2	2A – Rigid Truck towing a 6 Axle Dog Trailer	2A	25 m	68.5		N2
	2B – Car Carrier Truck & Trailer	2B	25 m	45 t		
	2C – Rigid Truck towing a 4 or 5 Axle Dog Trailer	2C	25 m	65 t		
Category 3	Refer to Tandem Drive Prime Mover, Trailer Combinations.					
Category 4	Refer to Tandem Drive Prime Mover, Trailer Combinations.					
Category 5	Refer to Tandem Drive Prime Mover, Trailer Combinations.					
Category 6	Refer to Tandem Drive Prime Mover, Trailer Combinations.					
Category 7	7A – Rigid Truck Towing two Dog Trailers		36.5 m	108.5 t		N7
Category 8	8A – Rigid Truck Towing two Dog Trailers		36.5 m	108.5 t		
Category 9	The Cat 8A RAV has more optional axles than the Cat 7A RAV. Refer to the Operating Conditions.					
Category 10	Refer to Tandem Drive Prime Mover, Trailer Combinations.					

## 4.4 Road description

### 4.4.1 North West Coastal Highway

NWCH is single carriageway, seven metres wide with one lane in each direction. A double barrier line and edge lines are in place. Shoulders are unsealed. Figure 8 and Figure 9 provide an aerial and street level image respectively of NWCH adjacent to the site.





**Figure 8**      *Aerial view of NWCH adjacent to site (source: Google Maps)*



**Figure 9**      *NWCH – View to south from access track SLK19.993 (Source: GHD)*



#### 4.4.2 Unsealed access road

There is an unsealed access track to the east of the proposed site as shown in Figure 10.

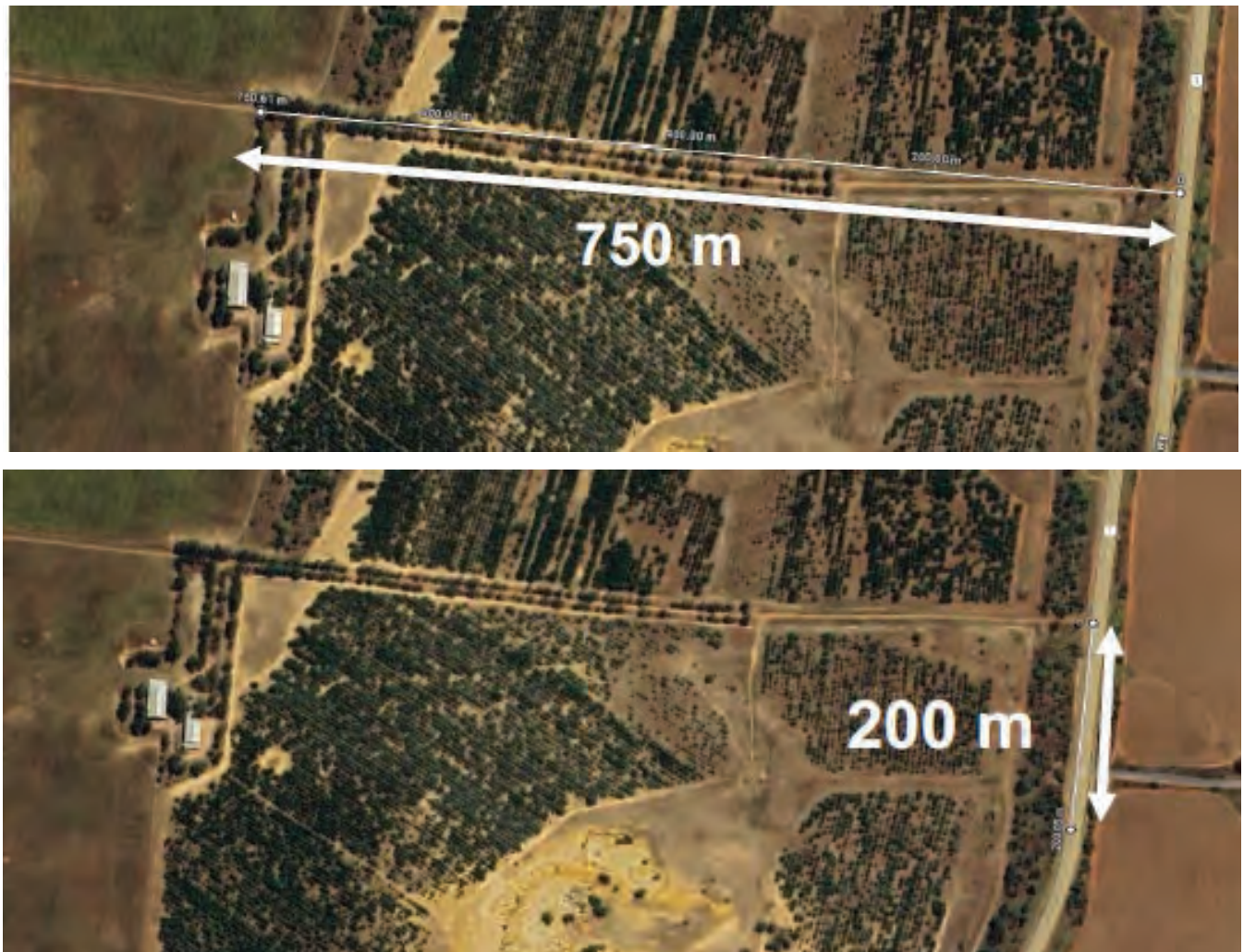


Figure 10 Access track (Source: Blue Diamond Australia)

#### 4.5 Existing traffic volumes

Traffic volumes for the surrounding transport network were compiled from publicly available MRWA traffic count data. This indicates an average of 2,987 vehicles per day (vpd) (2020) Monday-Sunday and 2,946 vpd Monday-Friday on NWCH (refer Figure 11 and Table 4). The data provides a total count of vehicles traveling in both directions (i.e. two-way), based on average Monday to Sunday counts.



Figure 11 Existing traffic volumes (source: MRWA)










Table 4 NWCH - Hourly traffic volumes (weekday)

## Hourly Volume

North West Coastal Hwy (H007)

North of Eliza Shaw Dr (SLK 17.20)

2020/21  
Monday to Friday

	 All Vehicles			 Heavy Vehicles			
	 NB	 SB	 Both	 NB	 SB	 Both	 %
00:00	8	4	12	5	1	6	50.0
01:00	4	2	6	2	1	3	50.0
02:00	3	1	4	0	0	0	0.0
03:00	3	2	5	1	0	1	20.0
04:00	11	5	16	5	3	8	50.0
05:00	18	13	31	7	2	9	29.0
06:00	45	30	75	16	5	21	28.0
07:00	71	69	140	15	14	29	20.7
08:00	104	107	211	20	11	31	14.7
09:00	129	130	259	18	20	38	14.7
10:00	127	154	281	19	20	39	13.9
11:00	131	143	274	20	24	44	16.1
12:00	122	122	244	16	18	34	13.9
13:00	120	119	239	16	19	35	14.6
14:00	121	125	246	15	19	34	13.8
15:00	123	120	243	16	22	38	15.6
16:00	109	106	215	17	21	38	17.7
17:00	89	83	172	11	16	27	15.7
18:00	49	53	102	7	10	17	16.7
19:00	29	31	60	6	7	13	21.7
20:00	22	24	46	4	6	10	21.7
21:00	18	13	31	3	2	5	16.1
22:00	13	8	21	4	2	6	28.6
23:00	8	5	13	3	2	5	38.5
TOTAL	1477	1469	2946	246	245	491	16.7

## 4.6 Safety issues - crash analysis

A review of the MRWA *Crash Analysis Reporting System* (CARS) for the five-year period from 1 January 2019 to 31 December 2023 found two reported crashes in the vicinity of the site: one hospital and one property damage only (PDO) minor. One occurred at night. Details are shown in Table 5 and Figure 12.



Table 5 Crash summary (source: MRWA)

Severity	No.	%
Fatal	0	0
Hospital	1	50.00
Medical	0	0
PDO Major	0	0
PDO Minor	1	50.00
Year	No.	%
2022	1	50.00
2023	1	50.00
Nature	No.	%
Head On	0	0
Hit Animal	0	0
Hit Object	1	50.00
Hit Pedestrian	0	0
Non Collision	0	0
Not Known	0	0
Rear End	0	0
Right Angle	0	0
Right Turn Thru	0	0
Sideswipe Opposite Dirn	0	0
Sideswipe Same Dirn	1	50.00
Light	No.	%
Dark - Street Lights Not Provided	1	50.00
Dark - Street Lights Off	0	0
Dark - Street Lights On	0	0
Dawn Or Dusk	0	0
Daylight	0	0
Not Known	0	0
Other / Unknown	1	50.00
Conditions	No.	%
Dry	2	100.00
Not Known	0	0
Wet	0	0
Alignment	No.	%
Curve	1	50.00
Not Known	0	0
Other / Unknown	1	50.00
Straight	0	0
<b>Total</b>	<b>2</b>	

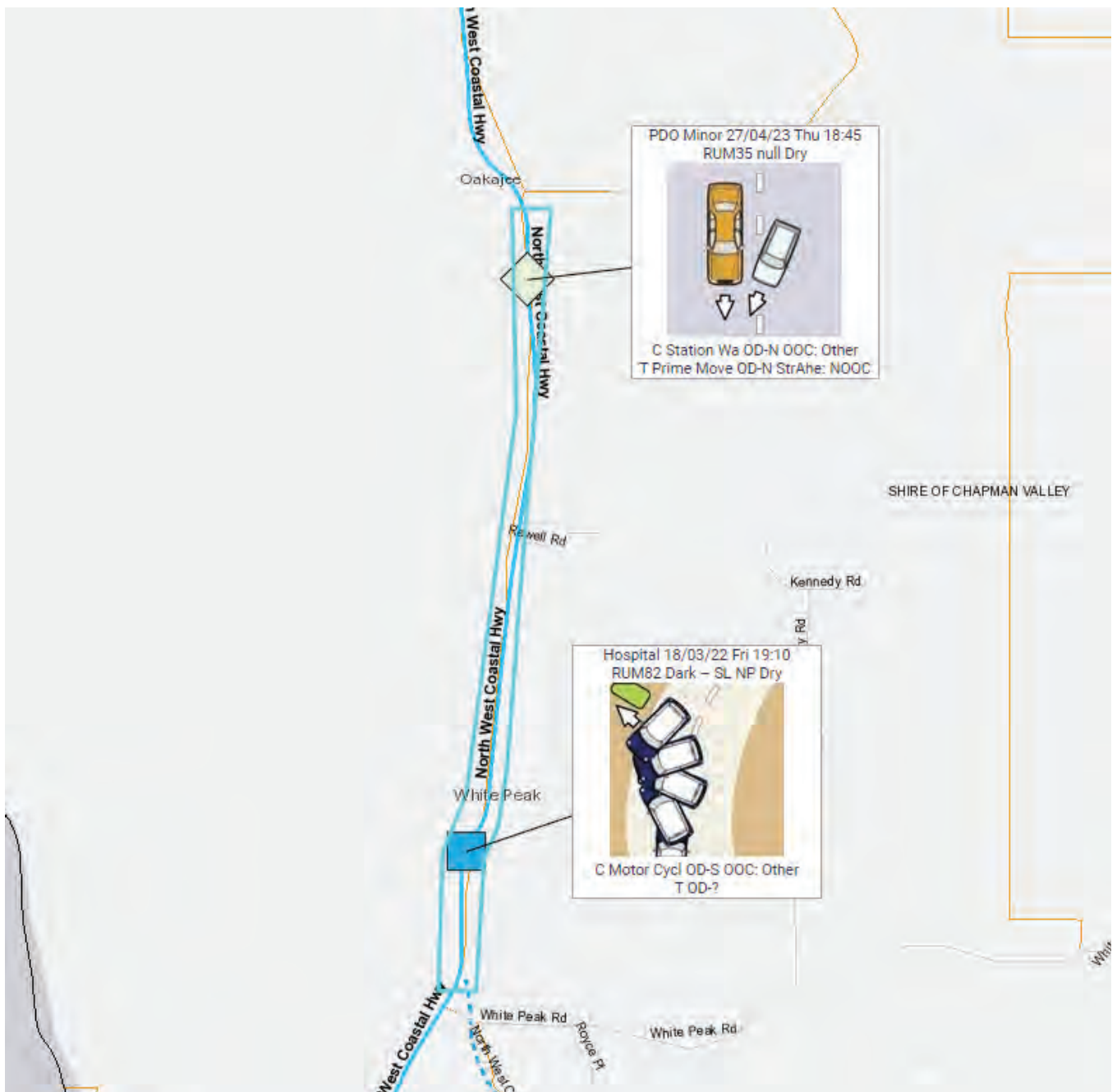


Figure 12 Collision diagram (source: MRWA)

The crash history does not indicate a significant safety issue on the road network surrounding the site.

## 4.7 Pedestrian and cycling network

There are no bicycle or pedestrian paths adjacent to the project.

## 4.8 Public transport network

There is no direct public transport service to the project area. Bus service 850 currently operates from Geraldton to Drummond Cove via Chapman Road (to Drummond Cove). It operates two-hourly in the AM peak hours and is also a school service. To Geraldton, it operates every ten minutes in peak hours. A route map is shown in Figure 13.



Figure 13 Route 850 (Source: Transregional)

## 5. Stakeholder engagement

### 5.1 DevelopmentWA

DevWA was contacted in August 2024 by email, seeking input regarding the timing of other developments in the area along with forecast traffic numbers. Subsequent liaison identified the following:

- Planning for internal road connection unknown at this stage, funded by proponents or State Government. No decisions by State Government likely prior to the 2025 election.
- Project Terra southern access could be a future Bush Fire Emergency Access, which could support its temporary use as an access now.
- The planned desalination plant location is uncertain at the moment. If it is located to the north, access will be from Coronation Beach Road. If it is located to the south, then access will be from the Project Terra access.
- In view of likely major upgrade to this Project Terra intersection with NWCH and associated cost, it may be cost effective to construct an internal connection from the new Main Roads WA central access.

Estimates of traffic movements for future proponents in the Oakajee SIA is provided in Appendix B.

### 5.2 Main Roads WA

A Main Roads WA press release on 2 August 2024 indicates the following announcement:

*“The Cook Labor Government has reached a major milestone towards developing a job-creating clean energy hub at Oakajee, with the contract awarded to deliver the new precinct access road.*

*The project includes a new intersection at North West Coastal Highway, construction of the first stage of the access road, and around four kilometres of highway widening in the area, with new acceleration and deceleration lanes to be built.*

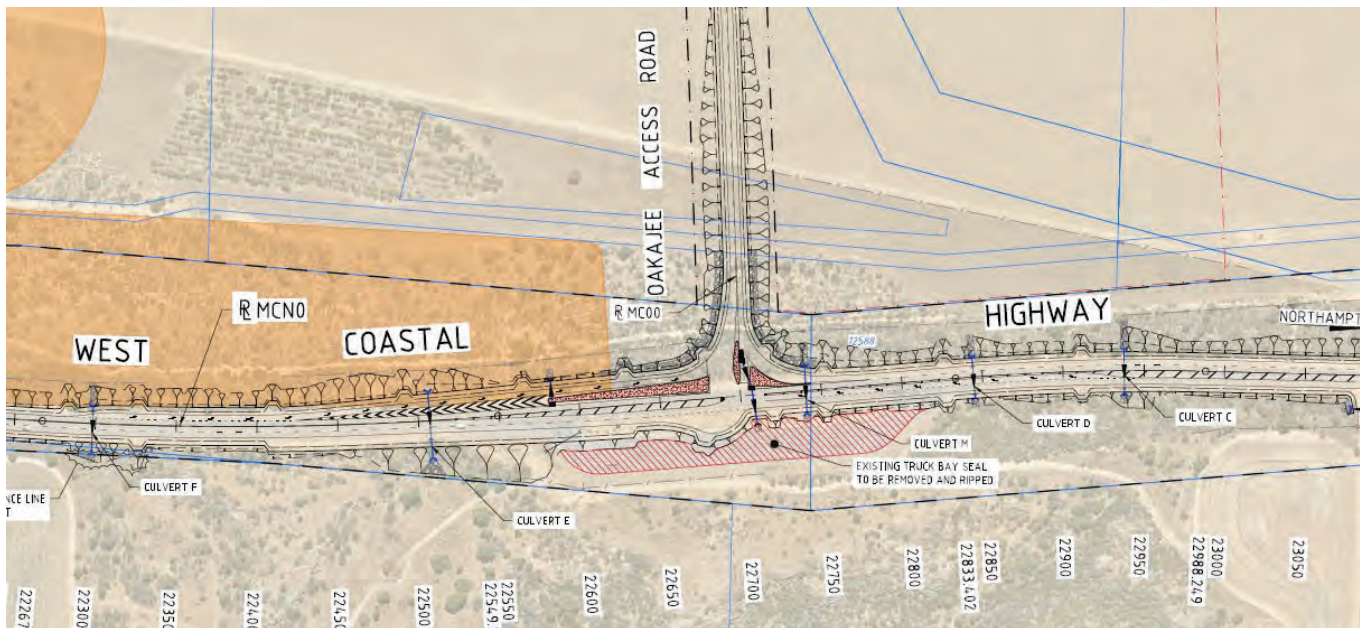
*The upgrades will support heavy freight movements in and out of the industrial area and are due for completion later in 2025”.*

Figure 14 shows the location of the new intersection. A design image of the proposed intersection currently under construction is shown in Figure 15.





Figure 14 Main Roads WA - New construction access road location



**Figure 15** NWCH/OIE intersection – under construction (Source: Main Roads WA September 2024)

On 3 September 2024, a site meeting was held with Main Roads WA, BDA and GHD to consider access to the development during construction and operation. It was also discussed and agreed that the TIA would cover both construction requirements and operational requirements.

## Construction

- Potential use of the of the existing track (SLK19.993) was discussed, to be used to include bell mouth improvements only at the intersection with NWCH, to accommodate swept path requirements for the design vehicle (B-Double). Refer to 7.1.1.
- No turn lanes are required for construction traffic.
- Traffic control will be required at the intersection during construction.
- An existing culvert will need to be extended.
- An option for the construction access is for it to be moved approximately 100 m to the north (SLK 20.127).

## Operation

- An option for the operational access is for it to be moved approximately 100 m to the north (SLK 20.127), i.e., just over a crest, to improve sight distance and minimize works on NWCH including to minimise clearing. The indicative option is shown in Figure 16.



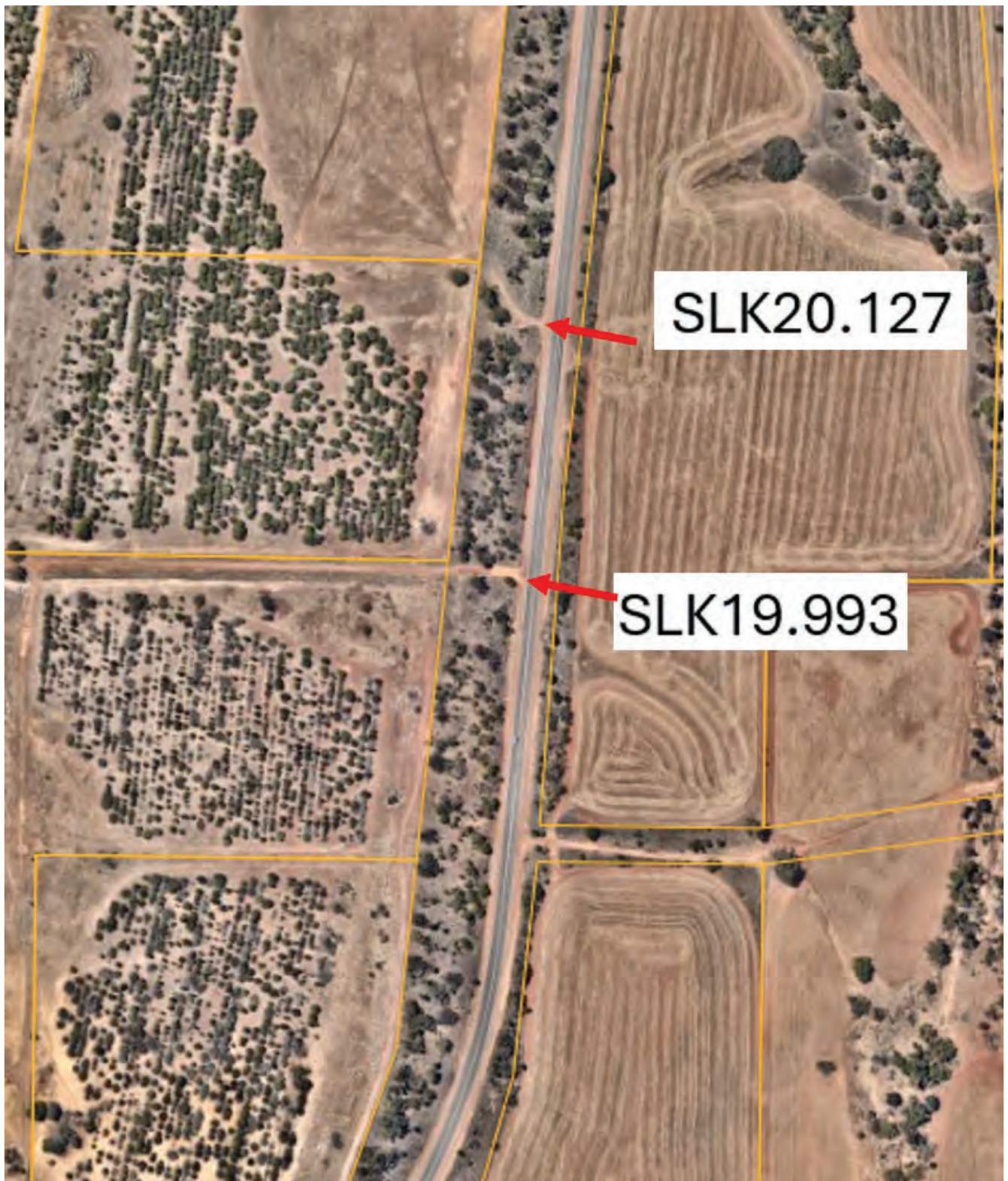


Figure 16 Access options (source: Google Maps)

- It was noted that if the construction access (SLK19.993) is used for operation, there will be drainage works required to achieve a left turn pocket and additional clearing.
- A new access for the operation approximately 134 m to the north will require a left turn pocket.
- Any new access for the operation is likely to require a 12-month Main Roads WA approval time, which is too late for BDA.
- A second option for the operation is to use the new access Main Roads WA is currently constructing and construct the internal road (north-south) to service the site. This is likely to be preferable to minimise the timeline for approvals, etc.



Following the site meeting, further input from Main Roads WA was received on 27 September 2024 to advise that Main Roads WA had assessed the proposed Project Terra access and it was determined that the location of the existing access track at SLK19.993 was not the preferred location for construction traffic access. Preference is that all construction and operational traffic access NWCH at a location that provides adequate sight distance. Main Roads WA provided an aerial image of a suitable location, shown in Figure 17.



**Figure 17** Aerial image of potential suitable location identified by MRWA (source: MRWA)

Main Roads WA advised that the process for obtaining approval for a new access is detailed in the *Main Roads WA Driveways Policy*. The first step is to complete an application to work in the road reserve and submit it to Main Roads WA via email (MWGApplications@mainroads.wa.gov.au). With the application, Main Roads WA requires a traffic impact statement detailing both the construction and operational traffic scenarios.

The information provided in the application will inform the technical requirements of the driveway (*Driveway Policy - Section 4*) which Main Roads WA will detail in an agreement that outlines the design and construction requirements of the proposed access. Once these requirements have been satisfied and an approved Traffic Management Plan has been issued, the construction within the road reserve may commence.

### **5.3 Meeting with BDA, Main Roads WA, Red Dust Holdings Contractor, GHD on 9 October 2024**

A meeting was held with the above stakeholders to discuss access to NWCH, including the opportunity to use the new intersection with NWCH (that is currently under construction) for construction access for the new north-south internal road and construction of Project Terra.

Main Roads WA expressed preference for construction access not to be at SLK 19.993 due to its proximity to the bend to the south and the marginal sight distance available. It was noted that the access is existing and can be used by light vehicles and as-of-right-vehicles but requires upgrade to accommodate semis / B-Doubles.

The timing for Main Roads WA approvals was also discussed.



## **5.4 Meeting with BDA, Main Roads WA, Red Dust Holdings Contractor, Superintendent for Main Roads WA Contractor, DevelopmentWA and GHD on 22 October 2024**

A meeting was held with the above stakeholders to discuss the opportunity to use the new intersection with NWCH (currently under construction) for construction access for the new north-south internal road and construction of Project Terra. Outcomes of the meeting were:

- Main Roads WA needs to see the vehicle breakdown and timing for both construction of the internal access road and Project Terra before a decision can be made.
- BDA to provide a breakdown of vehicle numbers and timing for construction of the plant, including earthworks, emulsion plant and storage facility. Also truck numbers for construction of the access road.
- Main Roads WA advised a variation to the Highway Construction contract would be required if Project Terra trucks are to be accommodated.
- A development application for Project Terra will be submitted by BDA by the end of 2024.
- Project Terra operations need to commence in Q4 2025 and as such, road and site works must commence as soon as possible.
- Main Roads WA advised the side road/through lanes at the new intersection will be available in May 2025 and full completion by July 2025.

## 6. Road network review

### 6.1 Dongara-Geraldton-Northampton Route (12 February 2024)

Main Roads WA has completed an alignment selection study and confirmed a corridor for a future Dongara-Geraldton-Northampton (DGN) route. Consultation with landowners and the broader community, as well as assessments of options against social, cultural, environmental and economic criteria, have helped Main Roads WA confirm a route corridor alignment that will divert heavy vehicles away from regional townsites, minimise conflicts with local traffic and contribute to greater freight efficiency by enabling triple road trains to travel between Carnarvon and Muchea.

This alignment selection study is the culmination of many years of comprehensive planning by Main Roads WA and key stakeholders.

Main Roads WA is now transitioning to the alignment definition phase of the planning process. This will involve more conversations with landowners and key stakeholders and detailed planning investigations to narrow down the corridor to define a preliminary road layout (also known as ultimate planning concept design) and future road reservation.

It is important to note that this is a high-level planning study and there are currently no funds available for project development and construction. The route to the north of Geraldton is considered a priority and no construction is currently expected to be required in the section between Dongara and Geraldton in the short to medium-term.

A map of the DGN corridor is shown in Figure 18. Project Terra site is indicated.

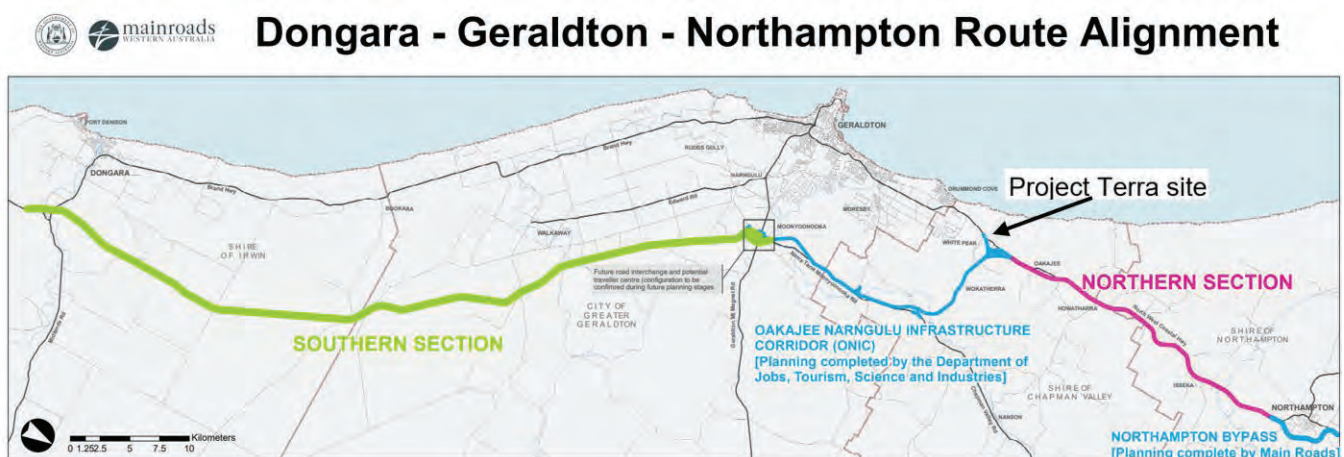


Figure 18 Dongara-Geraldton-Northampton Corridor (Source: Main Roads WA)

It is expected to take around three years to complete alignment definition, which will be underpinned by further consultation with landowners to address property-specific needs and to mitigate unavoidable impacts.

### 6.2 Oakajee Industrial Estate (OIE) Structure Plan – Integrated Transport Strategy

In 2012, an Integrated Transport Strategy was prepared for DevWA (formerly LandCorp). The Integrated Transport Strategy considered the needs of the OIE, the Oakajee Port and the proposed Oakajee Port and Rail (OPR) project, as well as the wider regional context in terms of how these proposed developments will link to the surrounding transport network.

OPR has identified the required transport infrastructure for their project which includes a railway line and an access road to the port. Although the design of this infrastructure had not been finalised at the time of writing this report, it is assumed that the general layout and alignments will prevail.

The Integrated Transport Strategy considered several alternative road and rail options in developing the Structure Plan and a summary of the key findings are as follows:

- It is considered essential that the SIA and Port are provided with a minimum of two main access / egress points. These include a central access corridor and either a southern or northern access corridor.
- In terms of optimum integration and maximum functionality, the central access corridor is considered the most critical link for connectivity and linkage between the Port, the SIA, NWCH and the Oakajee Narngulu Infrastructure Corridor (ONIC).
- The central access corridor will need to cater for heavy freight vehicles and will need to provide sufficient clearance (10 m x 10 m) for High Wide Loads when crossing the rail lines separating the Port and SIA. The preferred maximum grade on this road should be 3% and should not exceed 5%.
- A preferred location for the intersection between the central access corridor and NWCH has been identified. This intersection will be at grade initially until an increase in traffic warrants a grade separated interchange. The central access road will be required when industry locates within the SIA.
- The mixing (conflict) of heavy freight vehicles and other traffic should be minimised to optimise safety, efficiency and reliability on the road network. The central access corridor as the primary freight route in combination with the southern access corridor as the primary route for light vehicles and commercial traffic could achieve this.
- Construction of the Geraldton Bypass and the consequent increase in heavy freight vehicles will most likely trigger the construction of the southern access corridor. This road could be extended to provide a southern access to the Port.
- The Geraldton Bypass will link the OIE and Narngulu Industrial Estate through the ONIC. This bypass road will be required to ensure that industries locating in the SIA have access to a land-backed Panamax berth at the Geraldton Port if a suitable berth is initially unavailable at Oakajee Port.
- It is possible that the Geraldton Bypass could initially consist of a link from the re-aligned NWCH to the existing Morrell Road which would require an upgrade to accommodate heavy freight vehicles. The long-term Geraldton Bypass would be within the ONIC.
- A grade separated interchange will be required for linking the re-aligned NWCH to the Geraldton Bypass.
- OPR have proposed to construct a northern access road to the Port. It is unlikely that this road will provide access to the SIA.
- In the initial stages of the development, all intersections and crossings are likely to be at grade. As traffic volumes increase, critical intersections will be upgraded to grade separated interchanges.

### 6.2.1 Road network

The future road network from the OIE Integrated Transport Study is shown in Figure 19 and Figure 20. The Central access road intersection (blue line on Figure 19) is under construction (October 2024).

## OAKAJEE INIUSTRIAL ESTATE INTEGRATED TRANSPORT STUDY

- 'Oakajee Industrial Estate Structure Plan, Integrated Transport Study', 2012 included:

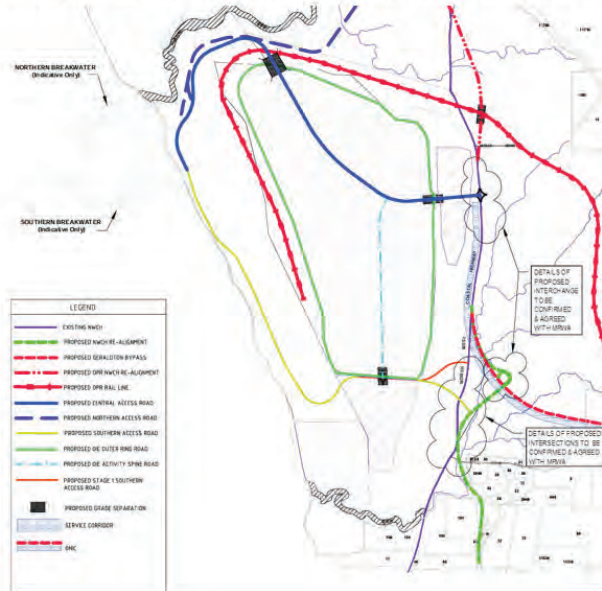


Figure 19 Future road network (Source: Blue Diamond Australia)

## OAKAJEE INIUSTRIAL ESTATE INTEGRATED TRANSPORT STUDY

- 'Oakajee Industrial Estate Structure Plan, Integrated Transport Strategy', 2012

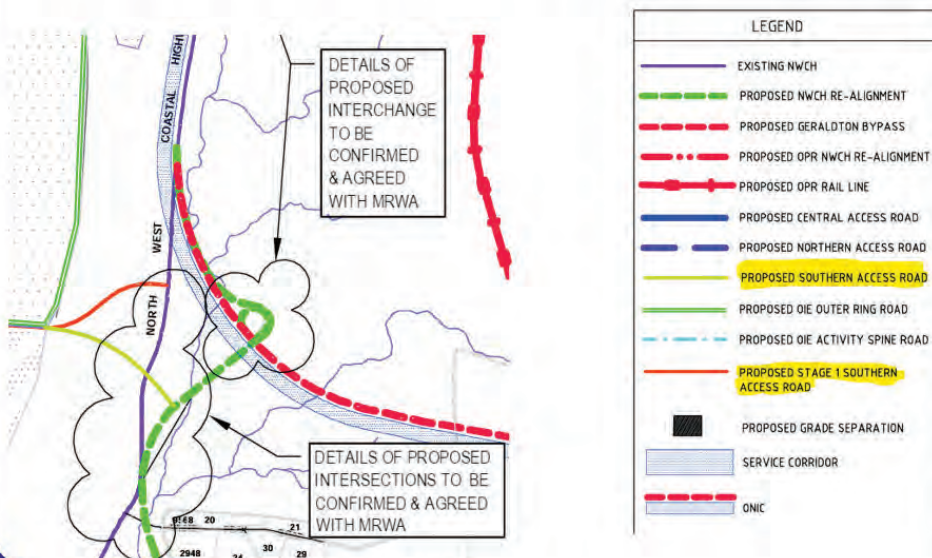


Figure 20 Future road network (Source: Blue Diamond Australia)



## 6.2.2 Traffic generation – full development of OIE

The OIE Structure Plan – Integrated Transport Strategy document identifies likely forecast traffic volumes on full development of the OIE as shown in Table 6.

Table 6 Forecast traffic distribution for the OIE development

Destination	Distribution	Vpd	Vph
Internal	10%	2,000	400
Northern Destinations	10%	2,000	400
Southern Destinations, Geraldton via NWCH	40%	8,000	1,600
Southern Destinations, Narngulu via Bypass	15%	3,000	600
Eastern Destinations via Bypass	5%	1,000	200
Oakajee Port	20%	4,000	800
<b>Total</b>		<b>20,000</b>	<b>4,000</b>

Vpd = vehicles per day, Vph = vehicles per hour (based on peak hour flow in both directions) = assumed 20% of vpd for this report

The following points are made in the earlier report for the reader's acknowledgement:

- Uncertainty over the timing of the proposed Geraldton Bypass and the associated ONIC development has several implications for the proposed transport infrastructure for the OIE and this will need on-going consultation with all the key stakeholders.
- Limited available design information for the proposed Geraldton Bypass and re-alignments of NWCH will require further investigation and on-going development of the transport corridors identified in the Draft Structure Plan, subject to final agreement and approval of the relevant authorities.
- The existing NWCH needs to be maintained as a High Wide Load route until such time as the future Geraldton Bypass is constructed – the timing of the development of the bypass and all other proposed re-alignments to the NWCH will have to be carefully managed as part of the delivery of the OIE and Port.
- No traffic information for the Geraldton Bypass and difficulty in predicting traffic volumes from the Port and OIE has meant that the traffic study carried out for the OIE should be reviewed as more information and data become available and the findings and recommendations adjusted accordingly.
- The use of trade forecasts (which are bound to change) to determine the main drivers and needs for key infrastructure and the associated scale of the required infrastructure as identified in the Draft OPMP and adopted for the Draft OIE Structure Plan needs to be regularly reviewed and the proposed infrastructure requirements adjusted accordingly, if required.

## 7. Traffic generation and assessment

### 7.1 Construction phase

Estimated construction phase vehicle movements, duration and timing are summarised in Table 7.

**Table 7** Construction phase vehicle movements, duration and timing

Construction item	Vehicle Movements / Characteristic	Duration	Timing
North-south access road off the new central road	<ul style="list-style-type: none"> <li>Material transported to the access road area in 6 x 6 in two articulated dump trucks.</li> <li>Earthmoving equipment estimated at six to seven float / low loader trips to site.</li> <li>Number of vehicle movements for materials, total and daily estimates 10-12 road train movements per day (gravel) (7500T) (13 days), and ten semi water cart movements per day 3-4 weeks.</li> <li>Quantity of imported material 7500T of laterite gravel.</li> <li>Type of trucks will typically be B-Doubles, Pocket Road Trains</li> </ul>	4 weeks	March / Apr 2025
Facility civils – roads, hardstands, dams and drainage	<ul style="list-style-type: none"> <li>Quantity of imported materials 20,000t for roadways (gravel) all other quantities cut to fill onsite.</li> <li>Number of truck movements daily for imported material 40 loads for 10 days- will stockpile at east end of site with road-trains then will need to re-load into a dump truck.</li> <li>Number of loads of equipment to complete the civil works estimated at 15.</li> <li>If water is required of site will be additional 15-20 semi loads.</li> </ul>	8 to 10 weeks	Apr 2025
AN Dome	<ul style="list-style-type: none"> <li>Up to 12 light vehicles per day, 24 two way.</li> </ul>	3 months	July 2025
Emulsion Plant	<ul style="list-style-type: none"> <li>Equipment will be transported from Geraldton.</li> <li>Materials will be sourced in Geraldton.</li> </ul>	6 months	July 2025
Other / balance items – admin, crib rooms, fencing, light etc	<ul style="list-style-type: none"> <li>Manufacturing equipment will be sourced in Perth.</li> <li>Materials and equipment will be delivered to site in B-Doubles.</li> <li>No over-size / over-mass (OSOM) vehicles forecast during construction phase.</li> </ul>	2 to 6 weeks	July 2025

### 7.2 Construction traffic impacts

#### 7.2.1 Road network capacity

It is expected that most Project-related traffic will originate in, or transit through, the Geraldton townsite along NWCH.

A review of traffic volumes on NWCH indicates 2,987 vpd, 15.7% of which is commercial in nature. In accordance with the *MRWA Supplement to Austroads Guide to Road Design and Road Reserves Review*, the estimated design capacity of NWCH as a Primary Distributor Road is between 8,000 and 12,000 vpd (1,190 vehicles per hour (vph)).

The Proposal (construction) is forecast to generate up to 48 vpd two-way during the peak construction activity period (late 2025/early 2026), comprising 24 vpd in and 24 vpd out. Peak hour 12-20 vph.

As the capacity of the surrounding road network is not forecast to be exceeded by the Proposal, no upgrade measures are proposed to the carriageway of NWCH.

Access to the site is discussed in section 8.

## 7.2.2 Mid-block and intersection capacity

Peak hour traffic movements at the NWCH/Site access intersection (construction) are expected to occur at 7 am and 5 pm, with mostly light vehicle traffic movements. Current hourly traffic volumes on NWCH are low, with a peak of 281 vph (10-11 am); 211 vph 7-9 am; and 243 vph 3-6 pm, as shown in Table 2. Adding 12-20 vph will have no capacity impacts on NWCH, noting the capacity of a single lane on NWCH is around 1,200 vph for a level of service (LoS) C.

If a new access is constructed, a traffic management plan for construction activities and intersection control will need to be prepared by the contractor for Main Roads WA approval prior to construction.

Access to the site is discussed further in Section 8.

## 7.2.3 On-site parking and laydowns

All parking requirements associated with the construction phase and turning and manoeuvring areas for delivery laydowns will be accommodated within the site.

Parking to accommodate the workforce will be provided on site. There will be a parking area nominated as part of the traffic management plan (TMP) which will be unsealed hardstand.

## 7.2.4 Waste collection

Waste collection turning and manoeuvring areas will be accommodated within the site. Waste disposal will be managed by the Project operator.

## 7.2.5 Safety considerations

As the existing road network is fit-for-purpose and capable of accommodating construction traffic associated with the proposal, safety considerations are minimal.

A TMP will need to be prepared to ensure construction traffic accounts for any potential restrictions imposed by Main Roads WA and movement control at the construction access.

# 7.3 Operational traffic impacts

## 7.3.1 Operation phase

The following operational transport impacts are anticipated:

- Six light vehicles per day one-way. 12 two-way.
- Occasional maintenance vehicles.
- Assumed AM peak hour – six light vehicles IN
- Assumed PM peak hour – six light vehicles OUT.
- Ten heavy vehicles per day one-way. 20 two-way (normal operation).
- 65 heavy vehicles per day one-way. 130 two-way (during import operations, six times per year).
- Assumed peak hour two trucks in/two trucks out.

## 7.3.2 Road network capacity

The Proposal is forecast to generate up to 10-12 vph during operation at peak activity (eight in/two out AM, two in/eight out PM). During the operation of the Project Terra site, up to an additional 142 vpd are forecast on NWCH at peak times (import operations).

Forecast traffic volumes (142 vpd) added to current volumes (2,946 vpd) are significantly below the maximum capacity (8,000-12,000 vpd) of the existing road network during operation of the development. Adding 10-12 vph to NWCH will result in no capacity implications.

No mid-block upgrade measures are proposed for NWCH to support operations. However, intersection access upgrade will be required dependant on the access selected.

## 7.3.3 On-site parking

The car park facilities will be designed to accommodate the maximum number of personnel (six). The car park will be unsealed hardstand, demarcated and near the operations office and ablution facilities.

Commercial operations are proposed to start in mid to end 2025. The plant will operate seven days a week, 24 hours per day.

## 7.3.4 Safety considerations

As the proposal will generate minimal traffic during the operation, it is not anticipated to increase safety considerations on the surrounding road network. As the existing road network is fit-for-purpose and capable of accommodating operational traffic associated with the proposal, safety considerations are minimal.

Internal access roads and parking will be designed to the relevant Australian Standards and to accommodate the swept path of the largest design vehicle (B-Double). The design of the internal roads and intersections will be undertaken at the detailed design phase.



## 8. Site access

Construction and operational site access is proposed via a north-south access road that will link the project site to the new central access road that is currently under construction as part of the Main Roads WA North West Coastal Highway upgrades<sup>1</sup>.

Ongoing engagement with DevWA as well as Main Roads WA has indicated in-principle support for the project to utilise a north-south access road to connect into the new central access road. The exact alignment of this north-south access road will be subject to further engineering design in negotiations with DevWA as the landowner, the Shire of Chapman Valley and Main Roads WA.

The timing of the new access road has been a key consideration in the site access arrangements proposed. Several options were considered early on as part of the project design, the options considered and the discussions that ensued are summarised in section 8.1 below.

Ultimately, the need to achieve a project commissioning phase in Dec 2025 has led to the proposed site access arrangement. Alternative options which utilise North West Coastal Highway whilst acceptable from a traffic safety perspective, are not favourable due to the prolonged timeframes associated with obtaining Main Roads approvals.

Appendix A Development Plans contains a site plan illustrating the indicative location of the proposed north-south access road.

### 8.1 Construction access

Several options were considered during project design relating to site access.

#### 8.1.1 Option 1

Option 1 consists of utilising Main Roads WA access currently under construction for construction of the internal road and construction of Project Terra.

Discussion with Main Roads WA, Red Dust Holdings, Project Superintendent of current access, BDA and GHD occurred on 22 October 2024.

The Main Roads WA access currently under construction is located approximately 3 km north of the Project Terra site. The indicative construction access is shown on Figure 21.

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<sup>1</sup> North West Coastal Highway Upgrades | Main Roads Western Australia

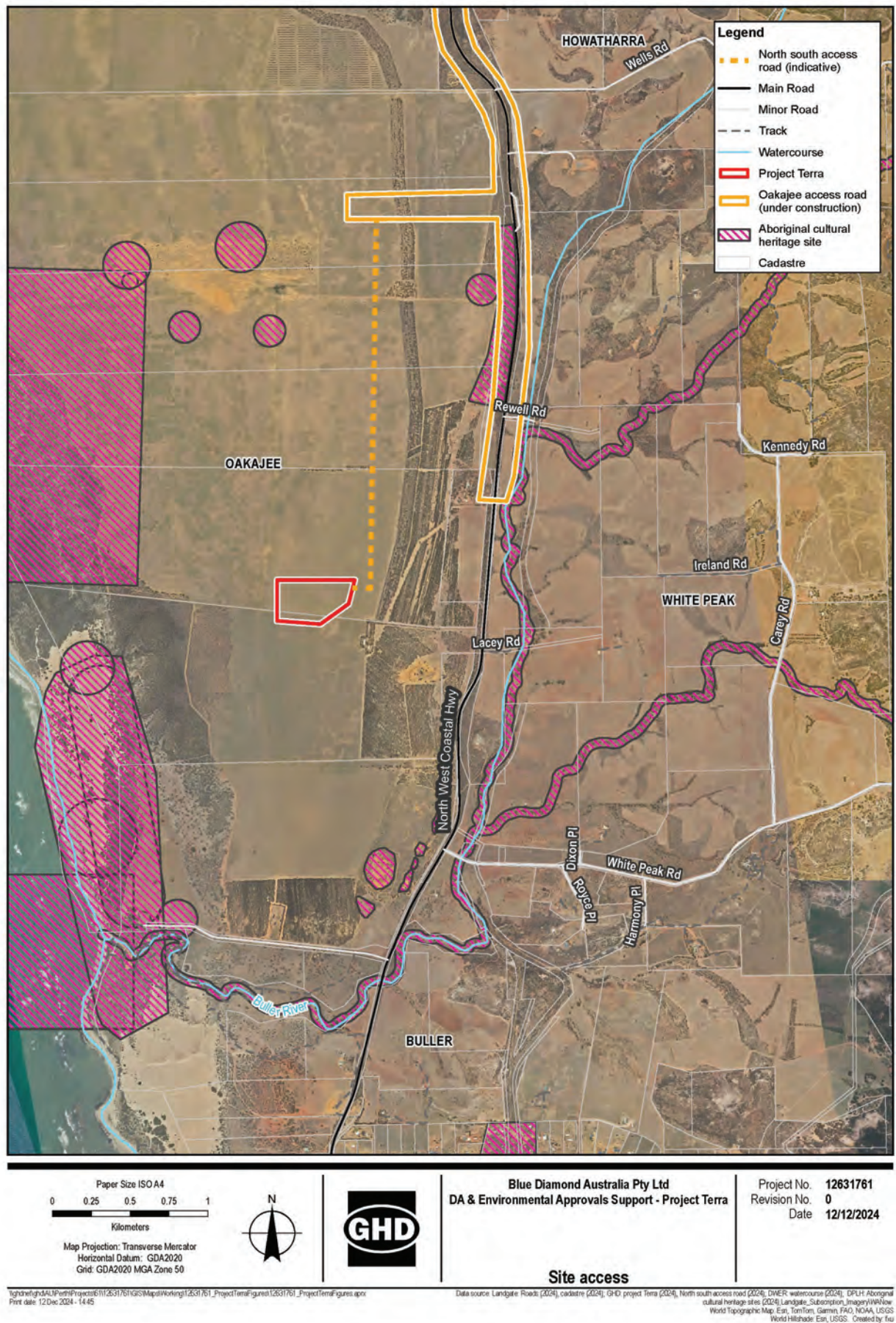


Figure 21 Indicative construction access



The forecast traffic movement at the access, for construction of the north-south internal access road, is:

- Timing: 3-4 weeks, starting February 2025.
- Quantity of material: 7,500 tonnes of laterite gravel.
- Truck movements: 10-12 road trains per day one-way (B-Doubles) and 10 semi-trailer water carts one-way, resulting in 44 two-way truck movements per day.
- The forecast traffic movement at the access, for construction of the Project Terra facility is:
  - Site works: 20 trucks per day, 40 trucks two-way (B-Doubles). Timing: March/April 2025.
  - Movement will be spread for the construction of dome structures (B-Doubles).
  - Construction of emulsion plant will require access by B-Doubles.
  - Light vehicles per day 12 per day, 24 two-way. Assume 12 vehicles access in the AM peak hour and 12 vehicles exit in the PM peak hour.
  - Truck access to avoid peak hours.
- It is understood that the construction of the Oakajee central access road will be completed to a standard that can allow for access to the Project Terra site between late May and July 2025.

**Based on the above, Option 1 is considered to be viable subject to Main Roads WA timely construction of the intersection and approval of the TMP for additional Project Terra traffic movements.**

## 8.1.2 Option 2

Option 2 consists of using the existing access located at SLK 19.993 for construction of Project Terra.

The current access located at SLK 19.993 is an unmade track and serves as farm access. It is located approximately 230 m north of the horizontal curve in NWCH as shown in Figure 22, Figure 23 and Figure 24.



Figure 22 Aerial view of access location SLK19.993 (source: Google Maps)





**Figure 23** Street level view to south from access location SLK19.993



**Figure 24** Street level view to north from access location SLK19.993



As the access exists, it could legally accommodate light vehicles and as-of-right vehicles (up to a semi-trailer). However, its design is unsuitable for use by trucks.

To accommodate the swept path of a semi-trailer/B-Double truck, it would require some widening and seal. A culvert would also need to be lengthened. Main Roads WA provided layout details for a driveway to accommodate B-Doubles as shown in Figure 25.

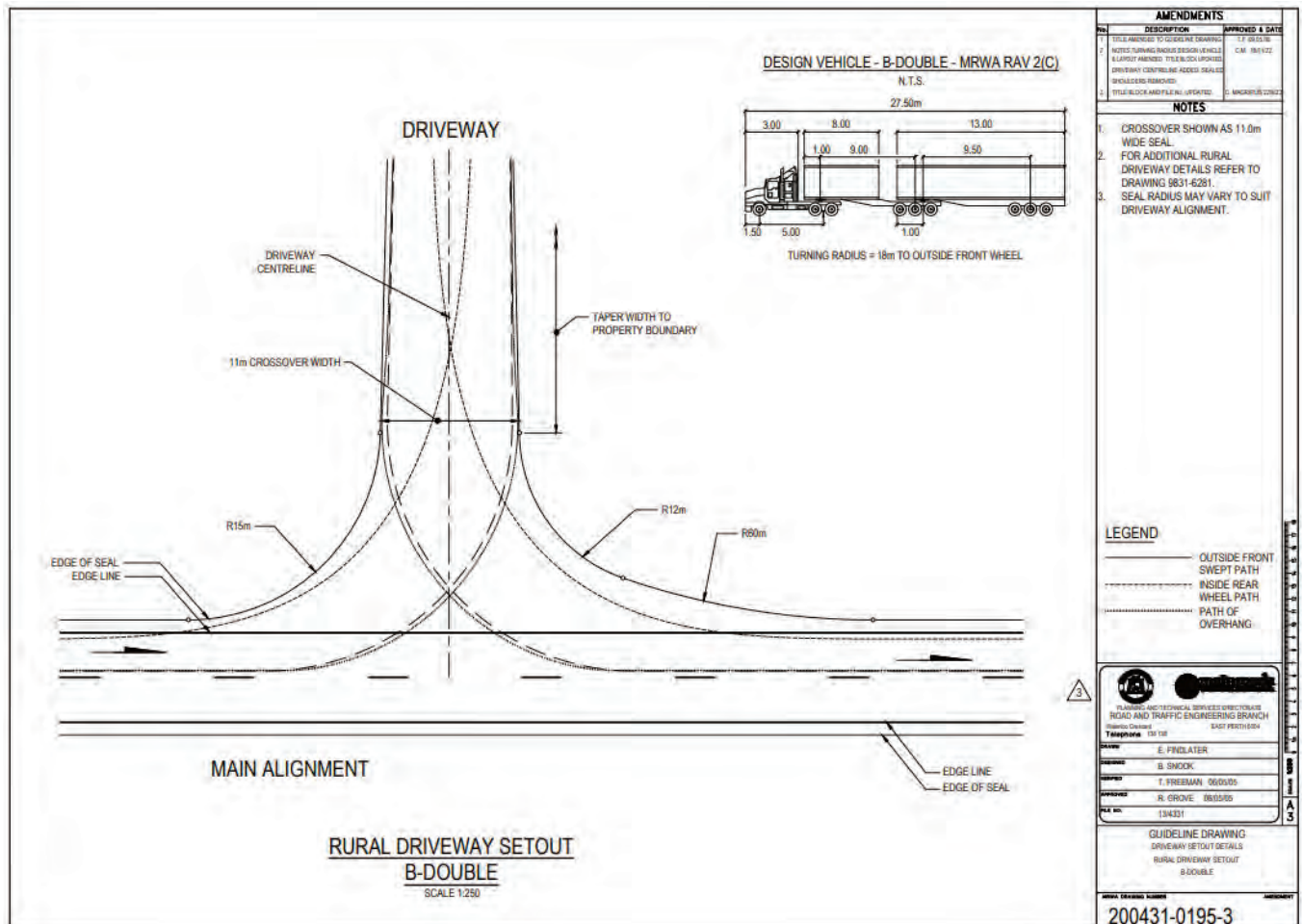


Figure 25 Main Roads WA layout details for a rural driveway (B-Doubles up to 27.5 m)

The sight distance requirement to the south for 110 km/h is 5 m x 285 m. This is currently marginal and would require some minor clearing on the inside of the curve.

Analysis of the access using the Main Roads WA intersection warrant tool indicates a BAL treatment, i.e. widening of the shoulder for left turning traffic.

If traffic management is in place on NWCH during Project Terra construction activity, including an 80 km/h speed limit and fixed truck symbol signs (typical in rural areas for construction access), the sight distance reduces to 5 m x 214 m (design speed 90 km/h) and is achieved.

The forecast traffic movement at the access, for construction of the Project Terra facility is:

- Site works: 20 trucks per day, 40 trucks two-way (B-Doubles). Timing: March/April 2025.
- Movement will be spread for the construction of dome structures (B-Doubles).
- Construction of emulsion plant, access by B-Doubles.
- Light vehicles per day 12 per day, 24 two-way. Assume 12 vehicles access in the AM peak hour and 12 vehicles exit in the PM peak hour.
- Truck access to avoid peak hours.

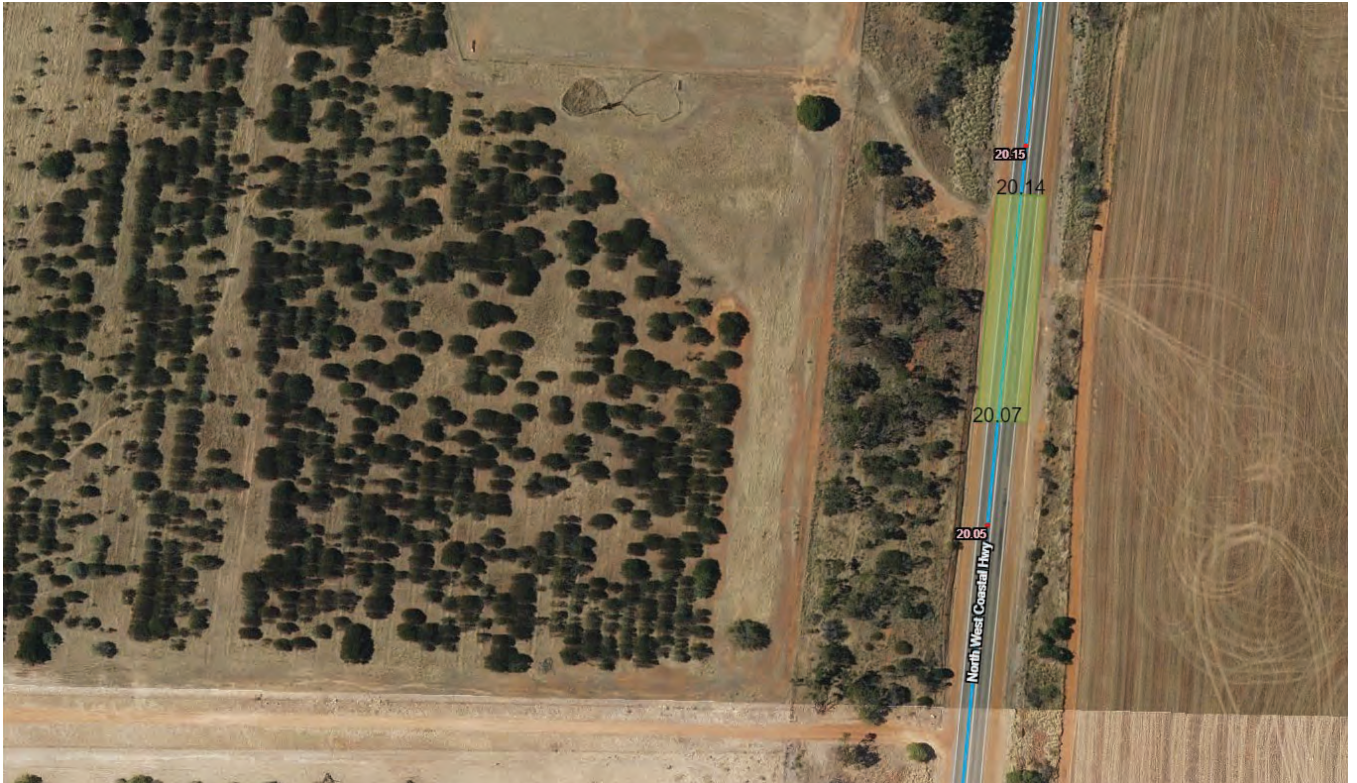
There is also a water pipe located approximately 50 m west of NWCH and a suitable treatment to achieve crossing by B-Doubles will need to be addressed. The use of this access could be temporary for construction purposes only if required.

**Based on the above, Option 2 is considered to be viable subject to Main Roads WA timely approval of the intersection upgrade and TMP.**

### **Option 3**

Option 3 consists of the construction of a new access located at SLK 20.07 to 20.14 for construction of Project Terra.

There is a field access at this location with an unmade track (SLK20.127) as shown in Figure 26, Figure 27 and Figure 28. The green shaded area in the below figure indicates a suitable location where sight distance can be achieved.



**Figure 26** Access location SLK20.07 to SLK20.14 (source: MRWA)



**Figure 27** View to south from access location SLK20.127





Figure 28 View to north from access location SLK20.127

To accommodate the swept path of a B-Double truck, it would require some widening and seal. Main Roads WA provided layout details for a driveway to accommodate B-Doubles as shown in Figure 29.

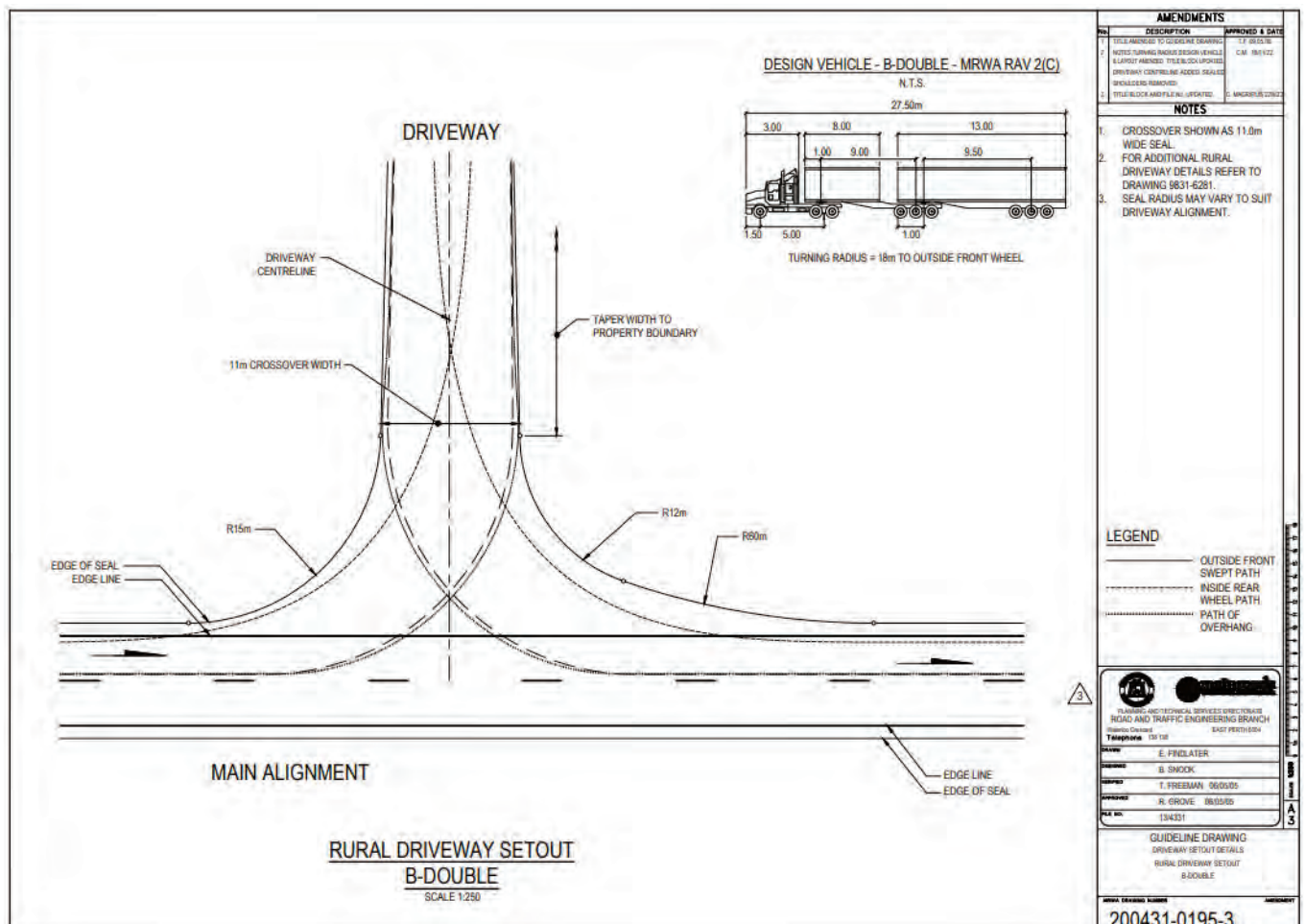


Figure 29 MRWA layout details for a rural driveway (B-Doubles up to 27.5 m)

The sight distance requirement for 110 km/h is 5 m x 285 m. This is currently accommodated.

Analysis of the access using the Main Roads WA intersection warrant tool indicates a BAL treatment, i.e. widening of the shoulder for left turning traffic, this is already in place.

If traffic management is in place during Project Terra construction activity, including an 80 km/h speed limit and fixed truck symbol signs (typical in rural areas for construction access), the sight distance reduces to 5 m x 214 m (design speed 90 km/h) and is achieved.

The forecast traffic movement at the access, for construction of the Project Terra facility is:

- Site works: 20 trucks per day, 40 trucks two-way (B-Doubles). Timing: March/April 2025.
- Movement will be spread for the construction of dome structures (B-Doubles).
- Construction of emulsion plant, access by B-Doubles.
- Light vehicles per day 12 per day, 24 two-way. Assume 12 vehicles access in the AM peak hour and 12 vehicles exit in the PM peak hour.
- Truck access to avoid peak hours.

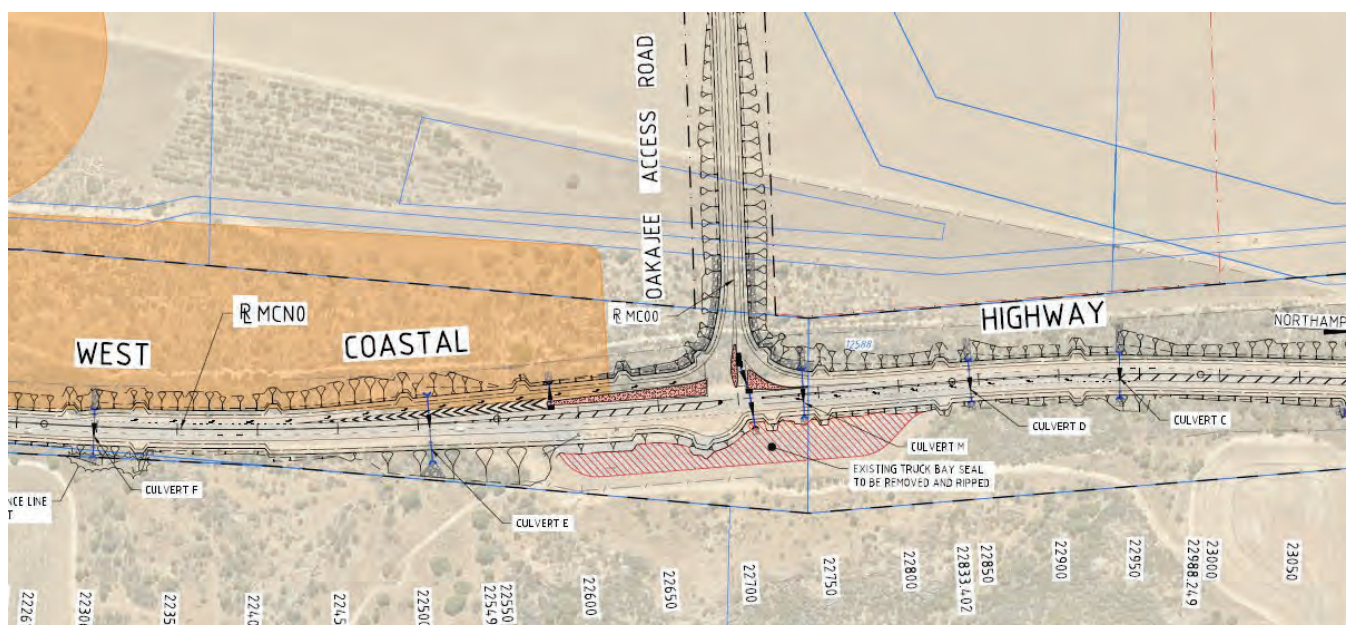
There is also a water pipe located approximately 50 m west of NWCH and a suitable treatment to achieve crossing by B-Doubles will need to be addressed.

An internal access road will need to be constructed from the access to the site. This access with NWCH will be temporary for construction purposes only.

**Based on the above, Option 3 is considered to be viable, subject to Main Roads WA timely approval for design of the access and TMP.**

## 8.2 Operational access – Main Roads WA access currently under construction

Operational access will occur via the Main Roads WA access currently under construction and the new internal north-south road to the Project Terra site shown in Figure 30. This access is located approximately 3 km north of the Project Terra site.



**Figure 30** Main Roads WA access currently under construction

The internal spine road (indicative) is shown on Figure 31.





Figure 31 Indicative operation site access

The forecast traffic movement at the access is:

- Six light vehicles per day one-way. 12 two-way.
- Occasional maintenance vehicles.
- Assumed AM peak hour – six light vehicles in
- Assumed PM peak hour – six light vehicles out.
- Ten heavy vehicles per day one-way (B-Doubles). 20 two-way (normal operation).
- 65 heavy vehicles per day one-way (B-Doubles). 130 two-way (during import operations, six times per year).
- Assumed peak hour, two trucks in/two trucks out (B-Doubles).

Project Terra will be the first development to occur within the SIE, its related traffic movements can be accommodated by the new intersection and internal road. The new channelized intersection, as shown in Figure 10-10, has been designed to accommodate large trucks accessing the Oakajee development, incorporating left and right turn lanes and an acceleration lane for traffic heading north from the site.

The preferred access to serve both construction and operation is via the Main Roads WA constructed access and an internal north-south spine road.

## 9. Other development

GHD has reviewed publicly available information to identify possible other development that may occur in the future using *Oakajee SIE - Overview - DevelopmentWA - Shaping our State's Future*.

A technical memorandum supporting GHD's analysis of other developments is included in Appendix B of this TIA, noting the figures are only indicative and subject to confirmation as part of any TIA for the development. At present, development of the wider Oakajee SIA is anticipated to be several years away due to the infancy of any infrastructure, planning for the area and commitment by other proponents who have been allocated land within the SIA.

None of the future development is anticipated to impact the construction of Project Terra.

# 10. Conclusion

This TIA has been prepared to assist BDA in securing development approval for its proposed ANF, commercially named 'Project Terra'. Project Terra is proposed to be located within the Oakajee SIA on a portion of land that BDA has been allocated as part of an option to lease by DevWA.

Based on the analysis and discussion documented within this TIA, the following is concluded:

- At the time of writing and following discussion with stakeholders, the preferred construction access location, via the current Main Roads WA intersection currently under construction, has been adopted. Internal access will be via a north-south spine road.
- A new access from the current Main Roads WA access under construction, to serve the OIE, will require an internal north-south road connection some 3 km long to access Project Terra. This road will be laterite gravel 8 m wide (or as agreed with Main Roads WA/DevelopmentWA) and designed to accommodate B-Doubles.
- Construction phase is forecast to generate up to 48 vpd two-way during the peak construction activity period (late 2025/early 2026), comprising 24 vpd in and 24 vpd out. 24 light vehicles per day, two-way and 24 trucks per day two-way. Prior to construction activities, for the earthworks, 40 tipper trucks per day (40 in/40 out) are forecast to access the site.
- As the capacity of the surrounding road network is not forecast to be exceeded by the Proposal, no mid-block upgrade measures are proposed to NWCH.
- All parking associated with construction of the Proposal will be provided on site.
- Detailed design drawings should be prepared for Main Roads WA approval for the construction access.
- Any impacts associated with construction traffic can be managed through the preparation of a Traffic Management Plan (TMP), if required by MRWA. A TMP typically establishes safe working parameters at the site access to ensure any potential impacts are ameliorated.
- Forecast traffic volumes during operation of the development, 142 vpd, added to current volumes on NWCH are significantly below the maximum capacity of the existing road network. No mid-block upgrade measures are proposed for the road network, including NWCH, to support operations. Peak hour traffic movements are forecast to be 10-12 vph during operation at peak activity (eight in/two out AM, two in/eight out PM).
- All parking associated with the operation of the Proposal will be provided on site.
- A new access from the current Main Roads WA access under construction, to serve the operation of the development will use an internal north-south road connection some 3 km long. This road will be laterite gravel 8 m wide (or as agreed with Main Roads WA/DevelopmentWA) and designed to accommodate B-Doubles.
- As is standard practice, detailed design and/or road safety audits can be undertaken at the relevant design stages post-development approval.

Given the above, the development is considered to have minimal impact on the surrounding transport network and should therefore be recommended for approval to proceed.

# 11. References

MRWA – Road Information Mapping System

MRWA – RAV Mapping Tool

MRWA – Crash Analysis Reporting System

MRWA - Traffic Map

AS 2890.1- 2004 Parking Facilities - Off-street car parking (AS2890.1).

Main Roads WA; Road Hierarchy for Western Australia Road Types and Criteria

Road Reserves Review, Department of Planning, Lands and Heritage

MRWA Supplement to Austroads Guide to Road Design - Part 3 - Geometric Design

MRWA Standard Restricted Access Vehicle Route Assessment Guidelines

Main Roads WA website.

Main Roads WA Dongara-Geraldton-Northampton Route (12 February 2024)

Oakajee Industrial Estate (OIE) Structure Plan – Integrated Transport Strategy (2012)

Main Roads WA Driveway Policy



# Appendices

# Appendix A

## Development Plans



# Appendix B

Other Development



March 11, 2025

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<b>From</b>	Daniel O'Donnell	<b>Project No.</b>	12631761
<b>Project Name</b>	DA & Environmental Approvals Support – Project Terra		
<b>Subject</b>	Technical Analysis for TIA for Project Terra		

## Introduction

Project Terra is an Ammonium Nitrate (AN) storage laydown facility equipped with an Ammonium Nitrate Emulsion (ANE) plant. The laydown area will have a capacity of 15,000 tonnes of AN with the ANE plant able to produce up to 40,000 tonnes of product per year.

Project Terra is located in the Oakajee SIA and owned by Blue Diamond Australia with Platinum Blasting Services the operator.

## Purpose of this Memorandum

The purpose of this technical note is to estimate traffic movement (at this early stage) for a single proponent and the wider Oakajee SIA to inform a TIA for Project Terra for submission.

## Scope and limitations

The scope of this technical note includes:

- Estimate the following assumptions for a single proponent (1 GW electrolysis and ammonia facility):
  - Commencement of construction
  - Timing/duration for construction
  - Light vehicles (LV) per day during construction
  - Large trucks per day during construction
  - Total staff during construction
  - Commencement date for operation
  - LVs per day during operation
  - Large trucks per day during operation
  - Total staff during operation
- Estimate the total (above) for the entire Oakajee SIA. The assumption is there will be five proponents<sup>2</sup> which will develop a 1 GW electrolyser and ammonia facility. These proponents include:
  - Fortescue Future Industries (FFI)
  - Copenhagen Infrastructure Partners (CIP)
  - Green LOHC
  - BP
  - Kinara Power

## Accessibility of documents

*If this Technical Memorandum is required to be accessible in any other format this can be provided by GHD upon request and at an additional cost if necessary.*

---

<sup>2</sup> Oakajee SIA - Overview - DevelopmentWA - Shaping our State's future

GHD has prepared this memorandum on the basis of information provided by the Client and others who provided information to GHD (which may also include Government authorities), which GHD has not independently verified or checked for the purpose of this memorandum. GHD does not accept liability in connection with such unverified information, including errors and omissions in the memorandum which were caused by errors or omissions in that information.

## Single proponent assumptions for TIA

The estimations of key milestone dates and manning levels for a single proponent developing a 1 GW electrolysis and ammonia facility are detailed below in Table 1.

*Table 1 Single proponent estimations for TIA*

Key Estimation Parameter	Assumption
Commencement of construction	2026
Timing/duration for construction	Two years
Light Vehicles (LV) during construction	40 (at peak levels)
Large truck movement per day during construction	10 (at peak levels)
Total staff during construction	~1,500 employees at peak manning levels
Commencement date for operation	2030
LV movement per day during operation	15
Large truck movement per day during operation	5
Total staff during operation	~150 full time employees

## Oakajee SIA assumption for TIA

The estimations of key milestone dates and manning levels for all five proponents, each developing a 1 GW electrolysis and ammonia facility are detailed below in Table 2.

*Table 2 Oakajee SIA estimation for TIA*

Key Estimation Parameter	Assumption
Commencement of construction	2026 to 2030
Timing/duration for construction	Up to six years
Light Vehicles (LV) during construction	200+ (at peak levels)
Large truck movement per day during construction	50+ (at peak levels)
Total staff during construction	~5,000 employees at peak manning levels
Commencement date for operation	2030 to 2036
LV movement per day during operation	100+
Large truck movement per day during operation	50+
Total staff during operation	~800+ full time employees

**Note:** Table two assumes all proponents develop 1 GW of electrolysis and ammonia plants. This also assumes each proponent begins development within a high-level period of each other. The values in Table 2 could drastically change if a proponent chooses not to develop, cancels their lease or develops a different type of project.



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→ **The Power of Commitment**

# **Appendix E**

## **Surface Water Management Plan**





# **Surface Water Management Plan**

## **Project Terra – Ammonium Nitrate Facility**

Blue Diamond Australia Pty Ltd

11 March 2025

→ **The Power of Commitment**



<b>Project name</b>		DA & Environmental Approvals Support - Project Terra					
<b>Document title</b>		Surface Water Management Plan   Project Terra – Ammonium Nitrate Facility					
<b>Project number</b>		12631761					
<b>File name</b>		12631761-REP-1_Project Terra - Surface Water Management Plan.docx					
<b>Status Code</b>	<b>Revision</b>	<b>Author</b>	<b>Reviewer</b>		<b>Approved for issue</b>		
			<b>Name</b>	<b>Signature</b>	<b>Name</b>	<b>Signature</b>	<b>Date</b>
S3	A	Shafiqul Alam	N Gamage	On file	M Pope	On file	05/09/2024
S4	0	Shafiqul Alam	N Gamage	On file	H Shigeyoshi	On file	13/12/2024
S4	1	E George	S Alam	On File	H Shigeyoshi	On file	11/03/2025

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# 1. Introduction

Blue Diamond Australia (BDA) is planning to construct and own an Ammonia Nitrate Facility (ANF), commercially referred to as Project Terra. Project Terra is proposed to be located within the Oakajee Strategic Industrial Area which is approximately 20km north of Geraldton, Western Australia, in the Shire of Chapman Valley. Project Terra activities will occupy approximately 12 hectares over two allotments within the Oakajee SIA. The project comprises of:

- An ANF with capacity to produce up to 40,000 tonnes of ammonium nitrate emulsion (ANE) per year; and
- A supporting storage facility with capacity to store up to 15,000 tonnes of AN.

This Surface Water Management Plan (SWMP) provides detail on the methodology and results of a flood risk assessment, as well as stormwater management measures proposed for Project Terra.

## 1.1 Objectives

The objectives of this SWMP are as follows:

- Determine the floodplain extents within the project area;
- Assess the flood risks at the Proposal and at the adjacent areas;
- Provide flood maps at the Proposal for maximum flood depths, water levels, and velocities;
- Provide a conceptual drainage arrangement for the Proposal (specially at the ANF facility) with sufficient basin capacities for stormwater; and
- Provide water management measures during the operation phase of the Proposal.

## 1.2 Scope and limitations

*This report has been prepared by GHD for Blue Diamond Australia Pty Ltd and may only be used and relied on by Blue Diamond Australia Pty Ltd for the purpose agreed between GHD and Blue Diamond Australia Pty Ltd as set out in this report.*

*GHD otherwise disclaims responsibility to any person other than Blue Diamond Australia Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*GHD has prepared the 2D hydrologic and hydraulic TUFLOW model and 1-D DRAINS model ("Models") for, and for the benefit and sole use of Blue Diamond Australia Pty Ltd to support the SWMP and must not be used for any other purpose or by any other person.*

*The Models are a representation only and does not reflect reality in every aspect. The Models contain simplified assumptions to derive a modelled outcome. The actual variables will inevitably be different to those used to prepare the Model. Accordingly, the outputs of the Models cannot be relied upon to represent actual conditions without due consideration of the inherent and expected inaccuracies. Such considerations are beyond GHD's scope.*

*The information, data and assumptions ("Inputs") used as inputs into the Models are from publicly available sources or provided by or on behalf of Blue Diamond Australia Pty Ltd including the Digital Elevation Model, (including possibly through stakeholder engagements). GHD has not independently verified or checked Inputs beyond its agreed scope of work. GHD's scope of work does not include review or update of the Model as further Inputs becomes available.*

*The Models are limited by the mathematical rules and assumptions that are set out in the Report or included in the Models and by the software environment in which the Models are developed.*

*The Models are a customised model and not intended to be amended in any form or extracted to other software for amending. Any change made to the Models, other than by GHD, is undertaken on the express understanding that GHD is not responsible, and has no liability, for the changed Models including any outputs.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

*The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report section 1.4. GHD disclaims liability arising from any of the assumptions being incorrect.*

## **1.3 Accessibility of documents**

*If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.*

## **1.4 Assumptions**

GHD has prepared this SWMP for Project Terra relying on the information provided by BDA, datasets used sourced from government databases and datasets received from third parties. It is assumed that all provided information are reliable and fit for purpose.

## 2. Land and location

Project Terra is proposed to be located within the Oakajee SIA on a portion of land that has been allocated as part of an option to lease by DevelopmentWA.

The proposed project area is located approximately 20 km north of Geraldton, Western Australia, which is in the Shire of Chapman Valley local government area (the Shire).

The project activities will occupy approximately 12 hectares over two allotments within the Oakajee SIA. BDA's sister company Kinara Power is developing Project Astra that will be co-located to BDA's Project Terra.

Project Terra is located approximately 800m to the west of the North Coastal Highway and its location is shown in Figure 1.

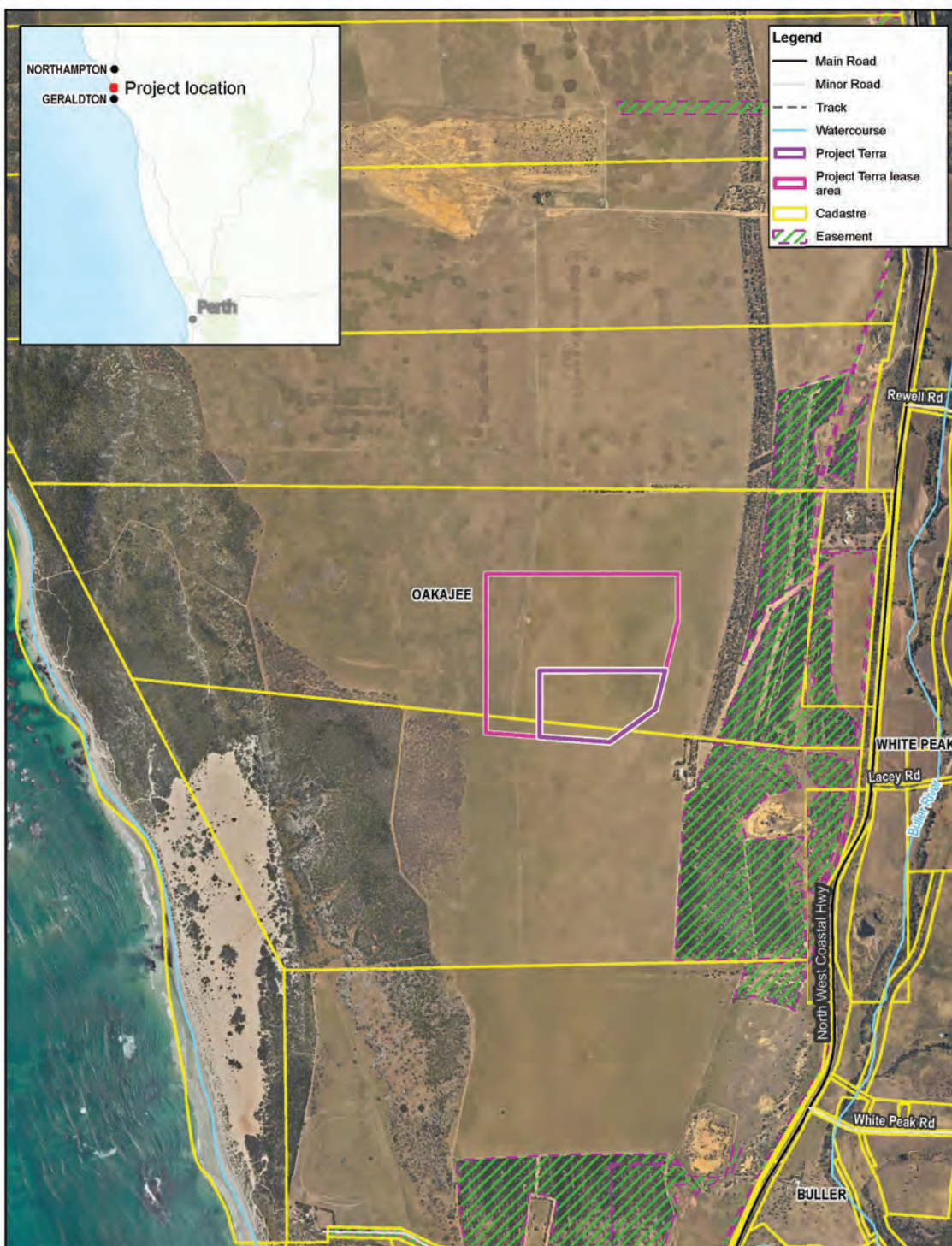


Figure 1 Site location

## 3. Site characteristics

### 3.1 Climate

The site has a Mediterranean type climate with hot dry summers and mild wet winters. The average annual rainfall is 450.1 millimetres (mm). Winter rainfall generally occurs from April to October while summer rainfall occurs from November to March. About 73% of annual rainfall takes place during the month of May to August. Table 1 shows the monthly statistics of rainfall for the closest weather station to the site (Howartharra WA, Station Number 008168).

*Table 1 Monthly rainfall (mm) statistics for Howartharra WA station (008168)*

Month	Mean	Lowest	Highest
January	6.6	0	87
February	9.6	0	94.9
March	14.6	0	153.9
April	25.0	0	144.1
May	66.5	0	321.7
June	102.2	5	295.7
July	92.5	12.2	245.9
August	66.1	0	171.2
September	31.3	0	117
October	17.4	0	86.9
November	8.1	0	51.5
December	4.2	0	75.5
<b>Annual</b>	<b>450.1</b>	<b>121</b>	<b>960.8</b>



## 3.2 Site topography

The majority of the Project Terra site gently slopes from north-east to south-west with a maximum elevation of 88 mAHD and a minimum elevation of 68 mAHD. A small portion of the site to the north-east slopes away from the site to the west. The topography and contour map are shown in Figure 2.

It shows that there exists a well-defined overland flow path running along the western boundary of the site which originates from the northern side of the catchment.

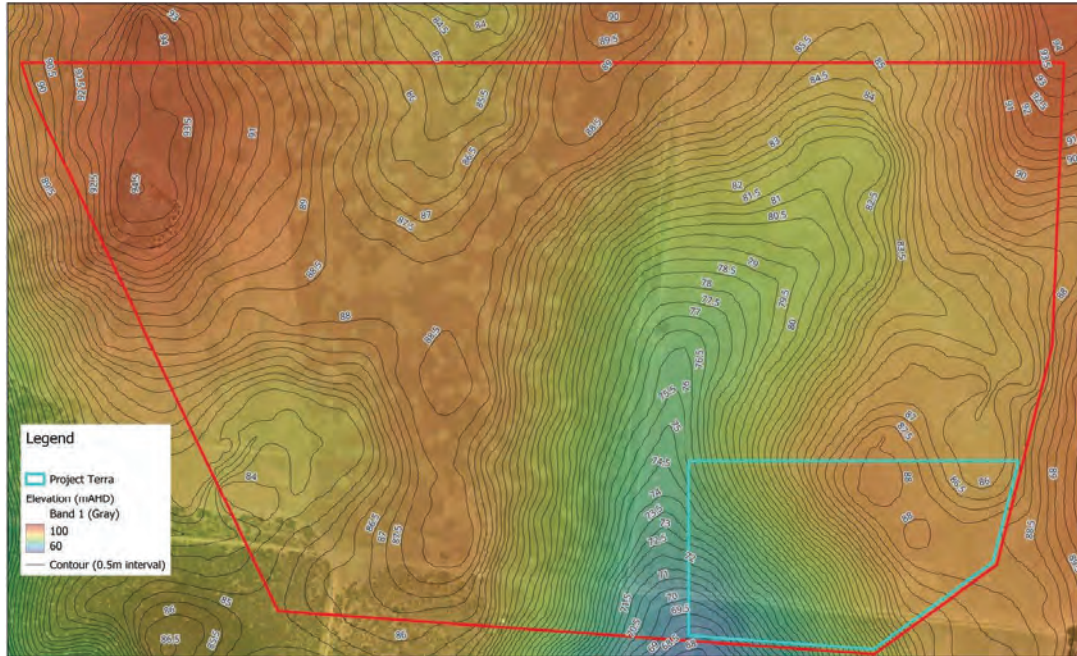


Figure 2 Site topography

## 3.3 Bushfire prone areas

The Bush Fire Prone Areas 2021 dataset (OBRM-019) identifies land surrounding the proposed development site as bush fire prone areas as designated by the Fire and Emergency Services (FES) Commissioner on 11 December 2021. Figure 3 shows the extent of the bushfire prone areas as identified in OBRM-019 dataset.

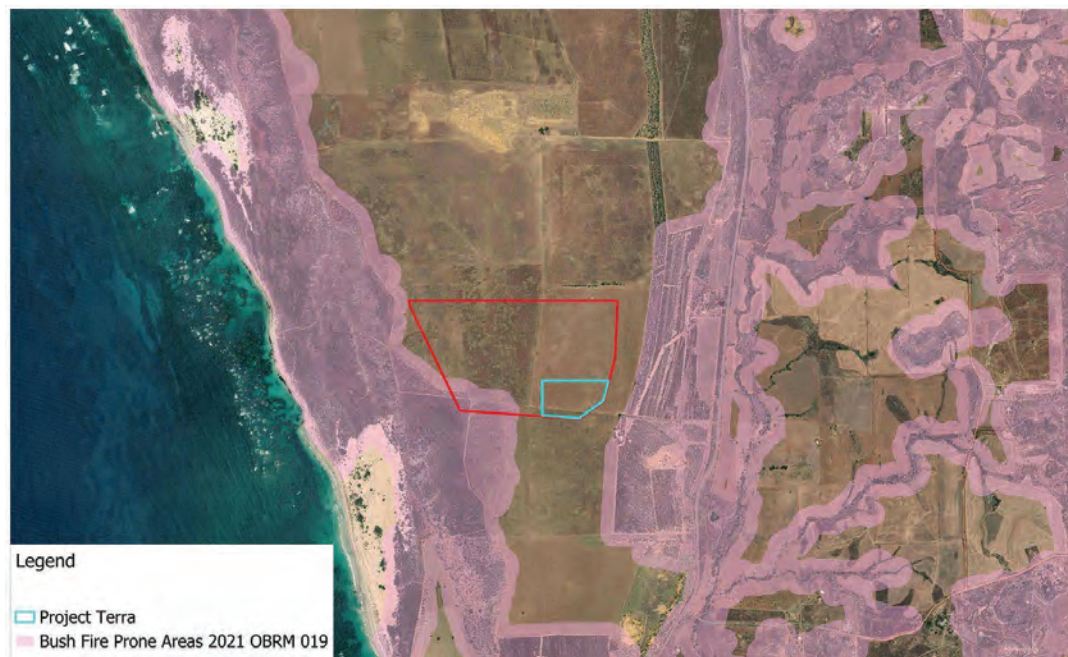


Figure 3 Bushfire prone area map

### 3.4 Geology and soils

The published 1:250,000 scale geological map from Geological Survey of WA, and Geoscience Australia is sourced and shown in Figure 4 for the site. The only two types of geological units occur in the site. The description of the geological unit is provided in Table 2.

Table 2 Geological units occurring in the site

Unit Code	Narrative	Age
Qpc	Coastal Limestone: and overlying podsolised sand-eolianite and leached quartz sands	Cainozoic

The soil landscape mapping for the site and its surroundings is shown in Figure 5. This is derived from the published *Soil Landscape Mapping – Western Australia* layer (DPIRD-076). The mapping indicates that mapped soils comprise of yellow deep sand across the site. The description of soil type is provided in Table 3.



Figure 4 Geological series map



Figure 5 Soil landscape map

Table 3 Soil classification for the site

Soil type	Characteristics	Occurrence
Yellow deep sand	<p>Yellow within top 30cm</p> <p>Neutral to acid pH</p> <p>Ironstone gravel may be present throughout, sometimes common (&gt;20%) below 15cm</p> <p>Limestone or ferricrete may be present at &gt;80 cm</p>	This is mapped across the majority portion from west to east of the site.

## 3.5 Acid sulfate soil

The CSIRO Acid Sulphate Soils Risk Mapping available in [Geoscience Australia Portal](#) was reviewed for the site. The mapping indicated that the probability of occurrence of acid sulphate soil within the site is extremely low.

## 3.6 Groundwater

The groundwater at the Oakajee SIA occurs in unconfined aquifers 15m to 65m below ground level (Rockwater, 2003). The groundwater levels for the Oakajee SIA are shown in Appendix A. It is sourced from the District Water Management Strategy report (GHD, 2012) for the Oakajee SIA. The [Water Information Reporting website](#) of the Department of Water and Environmental Regulation was used to investigate the groundwater levels nearby the site. The nearest borehole (Reference 70110023) is located approximately 3.5 km north of the site. The recorded groundwater level is approximately 14.5 m AHD whereas the approximate ground level of this location is 93.62 m AHD.

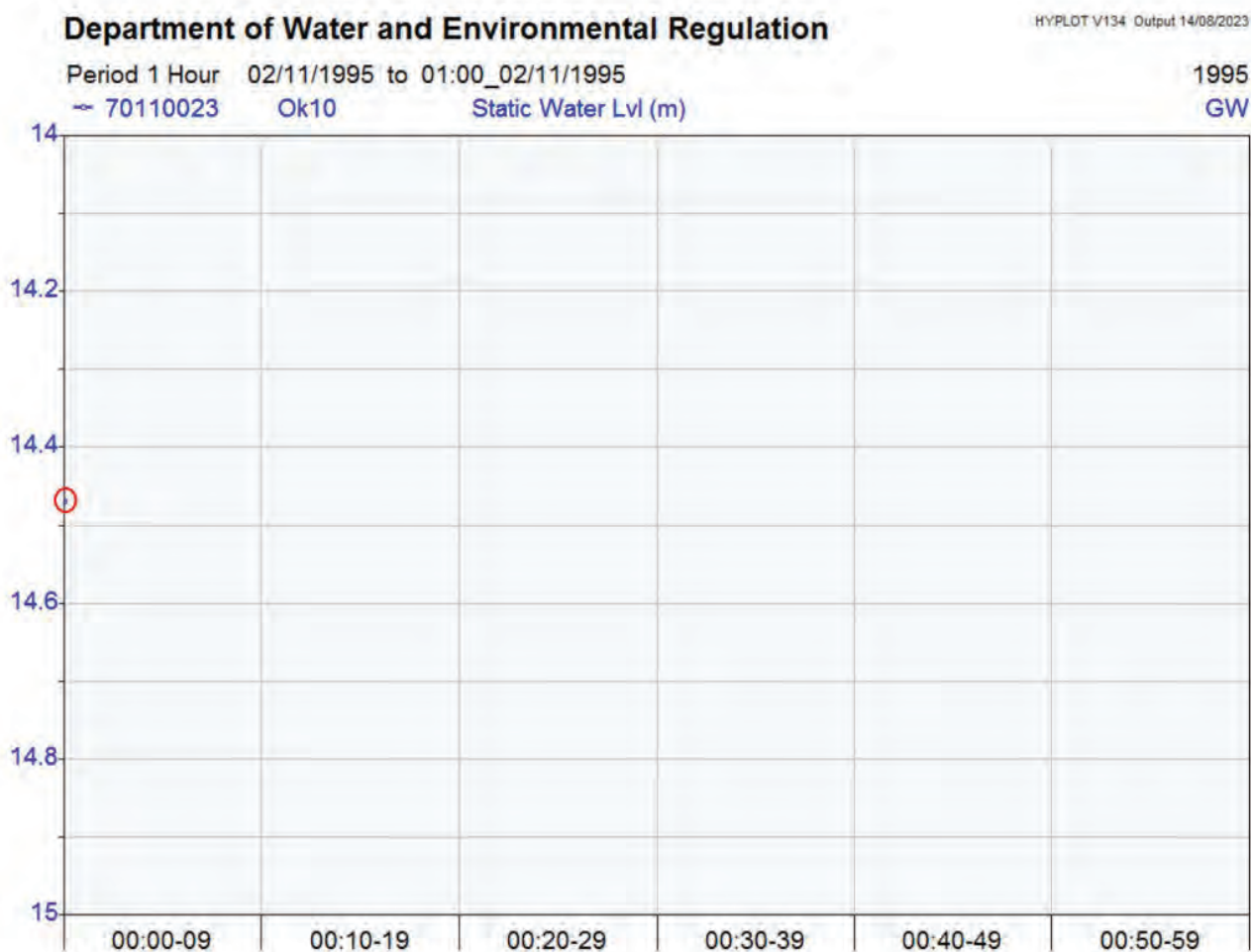


Figure 6 Groundwater levels recorded at the reference site 70110023



## 4. Surface water

### 4.1 Flood modelling results

The Project Terra is located at the south-west end of the Mid West-Gascoyne Region of WA. It is within the Northampton Coast Surface Water Management Area (Department of Water and Environmental Regulation, 2023). No watercourses travel across the site and the closest watercourse is the Buller River which is approximately 1km away from the site to the east. The elevation different between the eastern boundary of the site and the Buller River to the east is at least 42m. GHD used TUFLOW software to estimate flood immunity of the Project Terra site. Parameters used in the flood model are presented in Appendix B.

The maximum flood depths, water levels and velocities from the hydraulic modelling were mapped at the Project Terra site. Flood modelling results are presented in the following sections. The 1% AEP design flood inundation extents and flood depth distribution for the existing condition within the Proposal premises is shown in Figure 8. An overland flow path is identified that runs along the western border of the site and it is predicted to intrude the site from the western boundary and would leave the site through the southern boundary inundating around 500 m<sup>2</sup> area at the south-west corner. The maximum flood depth for the entire site is predicted to be within 0.05m to 0.10m, except for the south-west corner where it is predicted to be within 0.10m to 0.25m. The flood inundation map shows no accumulation of flood waters within the site due to the absence of depression areas.

#### 4.1.1 1% AEP flood velocity

The velocity map with direction of velocity vectors for a 1% AEP flood event is shown in Figure 9. This figure shows that the majority of the Proposal premises drains in the south-west direction and approximately half of the site drains towards the well-defined overland flow path that runs along the western boundary. The runoff from a portion of the north-east location of the site drains to the north off the hilly area with a maximum elevation of 88 mAHD. The velocity vector map shows that this end of the site receives runoff from an external catchment to the east. The contributing area of the external catchment is approximately 2.5 Ha which generates a runoff of 0.34 m<sup>3</sup>/s. The flow velocities across the site are generally very low, typical of low gradient shallow floodplains. The maximum velocity of the site ranges from 0.20 m/s – 0.50 m/s.

#### 4.1.2 1% AEP discharge rate

The flow rates at the edges of north, south, east and west boundary were estimated (see Figure 7) for the 1% AEP event. The pre-development runoff from the site and contributing to the site are given in Table 4 details. The estimated pre-development runoff from the site is 2.26 m<sup>3</sup>/s. The post-development runoff from the site is expected to be managed at or lower than this flow rate. Table 4 details 1% AEP flow rates estimated at the edges of the Proposal boundary

Table 4 1% AEP flow rates

Boundary	Flow type	Flow rate (m <sup>3</sup> /s)
W1	Outflow	0.61
N1	Outflow	0.76
S1	Outflow	1.23
E1	Inflow	0.34
Net outflow (W1+S1+S1-E1)		2.26



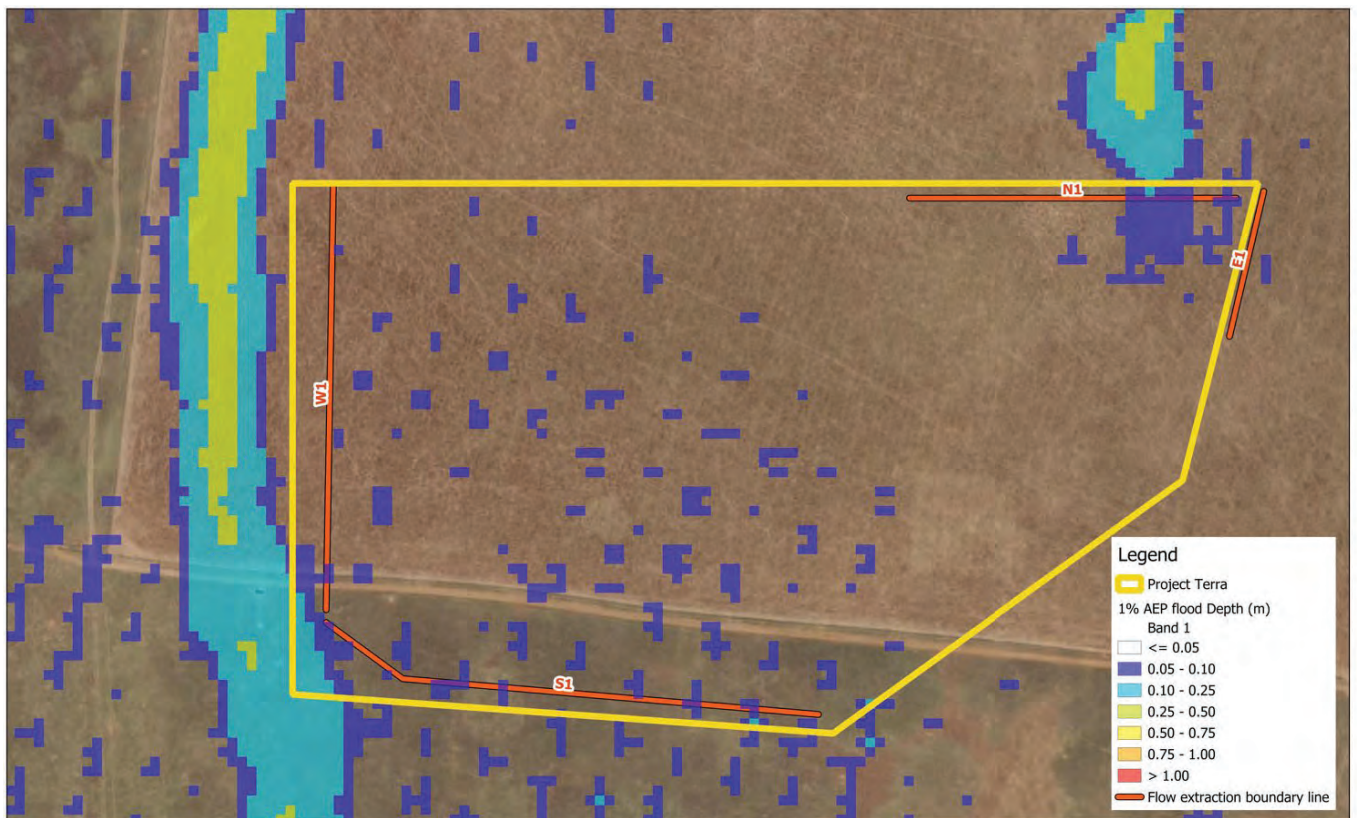


Figure 7 Flow extraction boundary lines

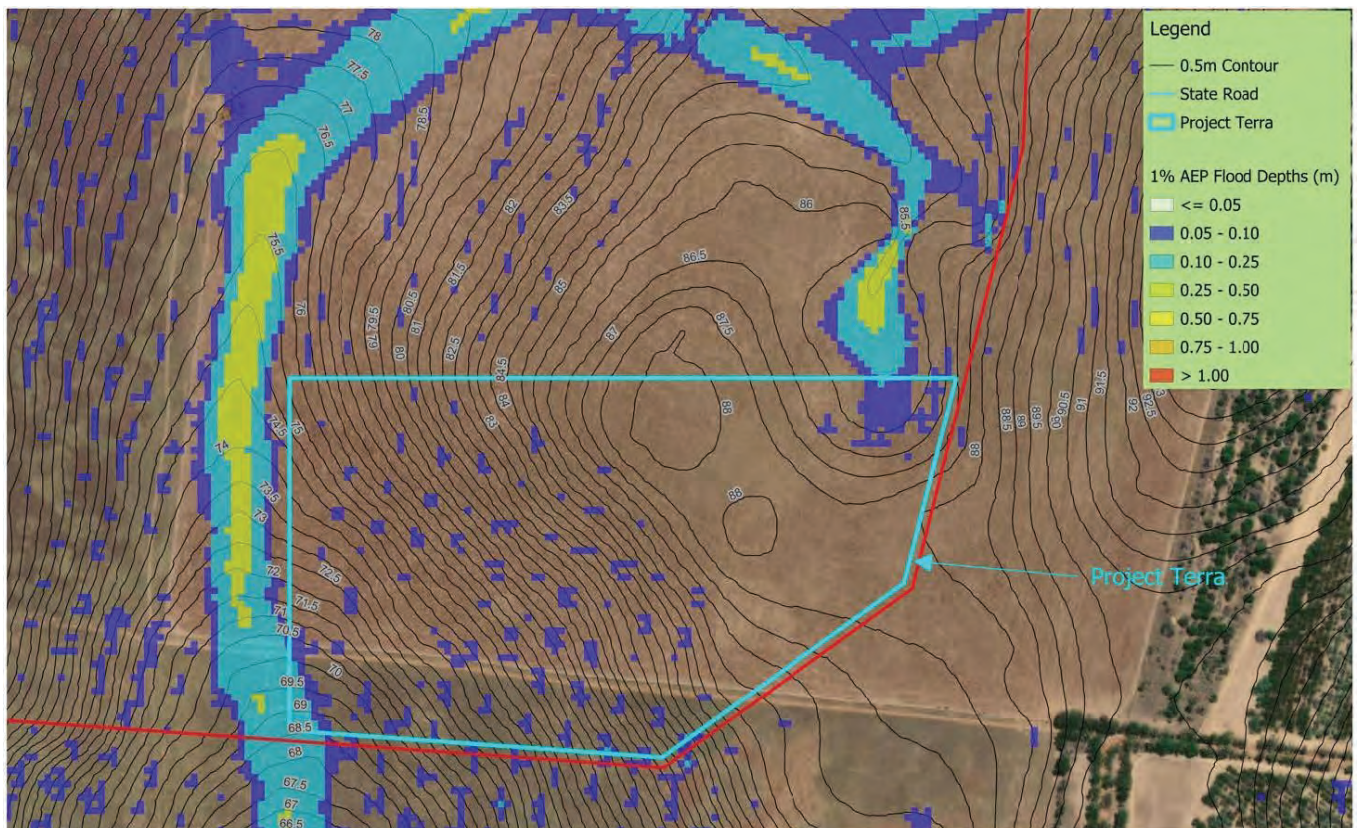
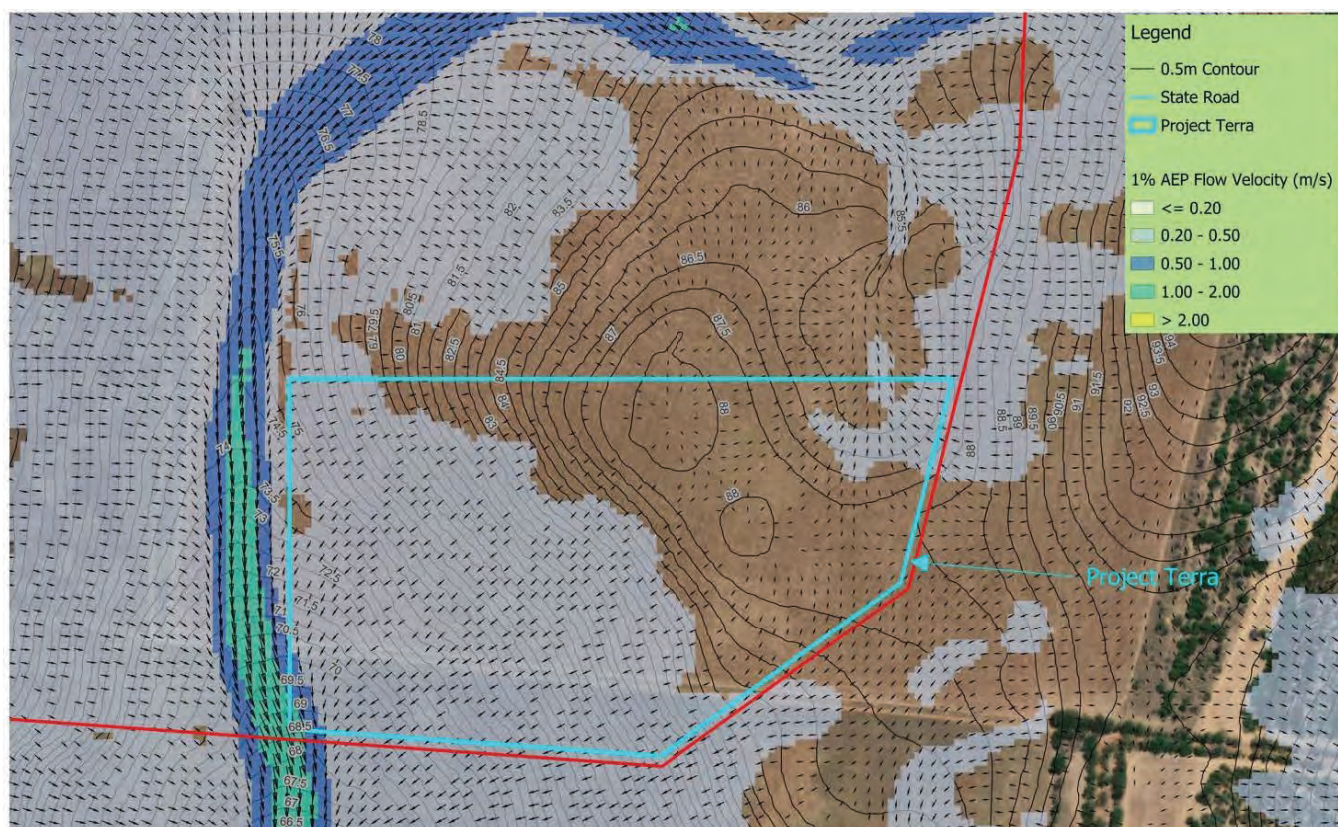


Figure 8 1% AEP flood depth map





## 5. Stormwater management

### 5.1 Management measures

The proposed site layout and the conceptual drainage arrangement proposed is shown in Figure 11. Impacts of construction and operational activities of the proposed development to stormwater volume, peak flows and quality have been considered in this assessment. Internal and external runoff are proposed to be separated to minimise the volume of stormwater to manage.

The AN emulsion plant, container stocks, and dome areas along with diesel tank area are proposed to be bunded and managed differently to separate potentially contaminated runoff from the clean water runoff.

Based on this, a conceptual drainage arrangement is developed as follows:

- Runoff from the possible AN (Ammonium Nitrate) Contaminated Catchment: Pit and pipes, water quality basin, open channel and detention basin to monitor and manage the discharge from the facilities. The AN Contaminated Basin is sized for the first flush event which is equivalent to 16.7mm of rainfall from the 1 EY (Exceedance per Year), 1-hour storm event;
- Runoff from the possible HC (Hydrocarbon) Contaminated Catchment: Trench drain, spill kits and SPEL Purceptor for the diesel tank spill recovery apron; and
- Runoff from buildings (located to the southern end), roads and undeveloped areas: Internal lined swales or pits and pipes, open channel, and unlined basin to manage the discharge.

The conceptual design of surface water management features are developed based on the following principles:

- Drains are to follow the natural topography wherever possible;
- Basins are to be placed at low elevations; and,
- Catchment areas are to be minimised using diversion swales for external runoff.

### 5.2 Management plan

A stormwater management plan is proposed for the pre-treatment of the potentially contaminated (with sediments, AN and diesel) stormwater runoff generated from the AN emulsion plant, container stacks, and domes, and diesel tank area.

This shall provide pre-treatment of the stormwater runoff before discharging to the environment. Stormwater treatment will be via a treatment train to capture, filter, or treat pollutants using the following steps:

- As per code of practice *Safe Storage of Solid Ammonium Nitrate*, AN (Ammonium Nitrate,  $\text{NH}_4\text{NO}_3$ ) has the potential to cause algal blooms and the eutrophication of inland and coastal waters and it poses an environmental hazard. The possible AN contaminated catchment (see Figure 11) shall be bunded to isolate the runoff and direct it to the water quality basin via a pit and pipe network. The water quality basin shall be lined and shall intercept the first flush runoff (derived from the first 16.7mm rainfall of a storm event which is equivalent to the 1 EY, 1-hour storm event) with possible contamination from AN spillage within the bunded area. The basin will divert the excess runoff from the storm event to the constructed open channel via a diversion pipe. This is to ensure that the contaminated runoff be managed within the water quality basin and the overflow will be diverted to the detention basin to the south-west end via the constructed open channel. After each rainfall event, a contamination test shall be undertaken for water quality basin to detect the possible contamination. If water quality is found to be noncompliant, the basin needs to be emptied using a licensed waste collector.
- The possible Hydrocarbon (HC) contaminated catchment is to be bunded to isolate the runoff and direct it to the hydrocarbon separator system, SPEL Purceptor via spill kits. The SPEL Purceptor is a full retention separator that will be sized to contain more than the anticipated maximum oil spillage. This will enable the treatment system to be fully operational in treating stormwater runoff at all times. The outlet of the Purceptor

will be kept closed at all times. After rainfall events, water from the bunded area will be sampled and tested before internal transfer to the pit that is connected to the water quality basin.

- The excess runoff from the water quality basin will be diverted to an open channel which is connected to the detention basin to the south-west end of the Project via a constructed open channel. The water from the open channel, roads and undeveloped areas shall pass thorough a primary treatment gross pollutant trap (GPT) in order to screen solids or sediments before discharging into the proposed detention basin. The proposed GPTs are required to be installed in order to reduce quantities of litter, debris and coarse sediments from discharging to the downstream proposed detention basin. Remaining sediments will also settle in the basin. The GPTs require regular maintenance, hence installation should consider the ease of site access and the disposal of any waster from the treatment process.
- The detention basin is proposed to control discharge prior to the off-site discharge at or lower than the pre-development flow rate for the 1% AEP storm event.
- The detention basin shall comprise of a vegetated layer to improve quality of stormwater. The vegetated basin is designed to target the management of nutrients during smaller frequent events as the proposed GPTs upstream of the basin are not expected to provide the level of nutrient removal desired. The surface area of the basin was designed to have footprints more than 2% of effective impervious area following the guideline as mentioned in (DoW, 2011).

The detention basin is proposed to have a multi-stage outlet, with a low-level outlet and an emergency overflow weir. The low-level outlet controls stormwater discharge maintaining the outflows to be less than the pre-development flow rates. The high-level spillway is for major event discharge with the emergency weir potentially activate in the event of extreme events. All design of the basin and its controls are subject to detailed design.

The water quality basin is proposed to have the capacity of holding the first flush runoff generated from the 1 EY (Exceedance per Year), 1-hour storm event, which is equivalent to 16.7mm of rainfall. The excess runoff generated from the receiving catchment will be deviated from the water quality basin to the connected open channel using an overflow weir.

## 5.3 General design principles

The proposed development would entail lesser pervious areas and increased runoff (peak and volumetrically) if it was not controlled prior to discharge. The objective is to minimise environmental impact by ensuring that the post-development peak flows ( $\text{m}^3/\text{s}$ ) into receiving waterways will be maintained at a pre-development rate, and clean water runoff will be separated from the potentially contaminated runoff.

It is noted that volumetrically runoff from the site will be increased from pre-development volumes given the significant increase in impervious surface areas reducing the potential for onsite infiltration to almost zero.

The detention basin shall be designed to store, infiltrate and treat stormwater runoff. The water quality basin shall be designed to store the first flush runoff which might be potentially AN contaminated. For the detention basin, pre-development runoff values for a 1% AEP critical event were calculated using a one-dimensional hydrologic model DRAINS which employed an initial and continuing loss hydrologic model. The developed DRAINS model setup and model parameterisation are described in Appendix C.

The minimum detention water volumes were determined by ensuring post-development runoff peak flows were equal or less than the pre-development peak flows and the surface area of the detention basin is at least 2% of the constructed, directly connected impervious catchment for water quality treatment (DoW, 2011).

### 5.3.1 Conceptual Detention Basin Design

The conceptual detention basin design is summarised in Table 5 and is shown in Figure 11. It is expected that during detailed design some refinement of this volume and area of the basin will occur however the overall approach shall be applied for the basin to manage the stormwater runoff from the receiving catchment before discharging off-site.



**Table 5**      *Summary of Detention Basin Design*

Basin	Detention Basin
Contributing Catchment Area (Ha)	12
Total Basin Volume (m <sup>3</sup> )	792
Storage required (m <sup>3</sup> )	608
Basin bottom area (m <sup>2</sup> )	180
Basin water surface area (m <sup>2</sup> )	570
Basin freeboard area (m <sup>2</sup> )	660
Depth of water in 1% AEP event (m)	1.7

## 5.3.2 Conceptual Water Quality Basin Design

Stormwater from the possible AN contaminated bunded catchments shall be directed to respective stormwater pits which are directly connected to the WQ (Water Quality) Basin as shown in Figure 11. The WQ Basin shall be designed in way that it would store the first flush runoff which is equivalent to the runoff generated from a 1 EY (Exceedance Probability), 1-hour storm event (i.e. 16.7 mm of rainfall). The excess runoff from a larger event will be diverted to the constructed open channel to the west using a bypass system. The configuration of the WQ Basin is provided in Table 6.

**Table 6**      *Water Quality Basin configuration*

Basin	WQ Basin
Contributing Catchment Area (Ha)	4.134
First flush runoff (mm)	16.7
First flush volume (m <sup>3</sup> )	690
Basin bottom area (m <sup>2</sup> )	342
Basin water top surface area (m <sup>2</sup> )	600
Basin freeboard area (m <sup>2</sup> )	660
Depth of water in first flush event (m)	1.5
Basin depth with 300mm freeboard (m)	1.8

## 5.4 Stormwater quality management

Any stormwater with the proposed development area requires pre-treatment before discharging to the environment. Stormwater treatment for the detention basin will be via a treatment train to capture, filter, or treat pollutants using the following steps:

- Water shall pass through a primary treatment GPT in order to screen solids and some sediments before discharging into the detention basin. Remaining sediments will also settle in the basin. The conceptual locations of GPTs are shown in Figure 11.
- The stormwater runoff within the possible HC (hydrocarbon) contaminated catchment area (see Figure 11) has the potential to cause local and downstream environmental impacts. This area is for the diesel tank and has the potential for spread and spill of leaked fuels. Bunding of the area is required to perform the treatment to ensure the surrounding areas are not impacted. The stormwater runoff from the diesel tank bund areas shall be directed to the SPELL Puraceptor and water would be released through the Puraceptor to the detention basin via the pipe system. Puraceptor shall be designed to provide adequate storage and treatment of the catchment area it is servicing.
- It is understood by consulting with GSWA that there will be no facilities within the proposed development that could be considered as potential source of contamination such as washdown facilities, chemical stores or stockpiles.

- The detention basin is proposed to control discharge prior to any off facility discharge. This basin is to be vegetated to allow final treatment of stormwater. The vegetation species should be native, have a high nutrient uptake should be able to survive in a dry weather condition, and not increase the bushfire risk. The basins should be sized to function correctly. Additional information is provided in *The Adoption Guidelines for Stormwater Biofiltration Systems* (Payne et al., 2014). The recommended specification for preparing the ground surface of basins with amended soils is shown in Figure 10.

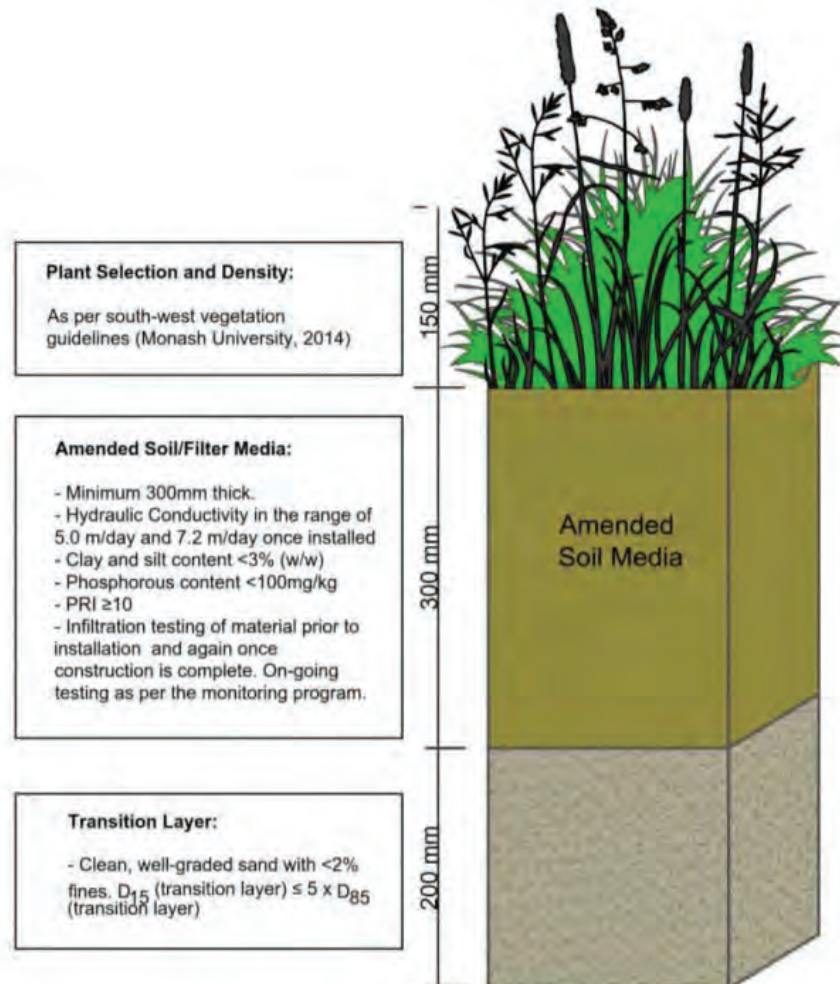
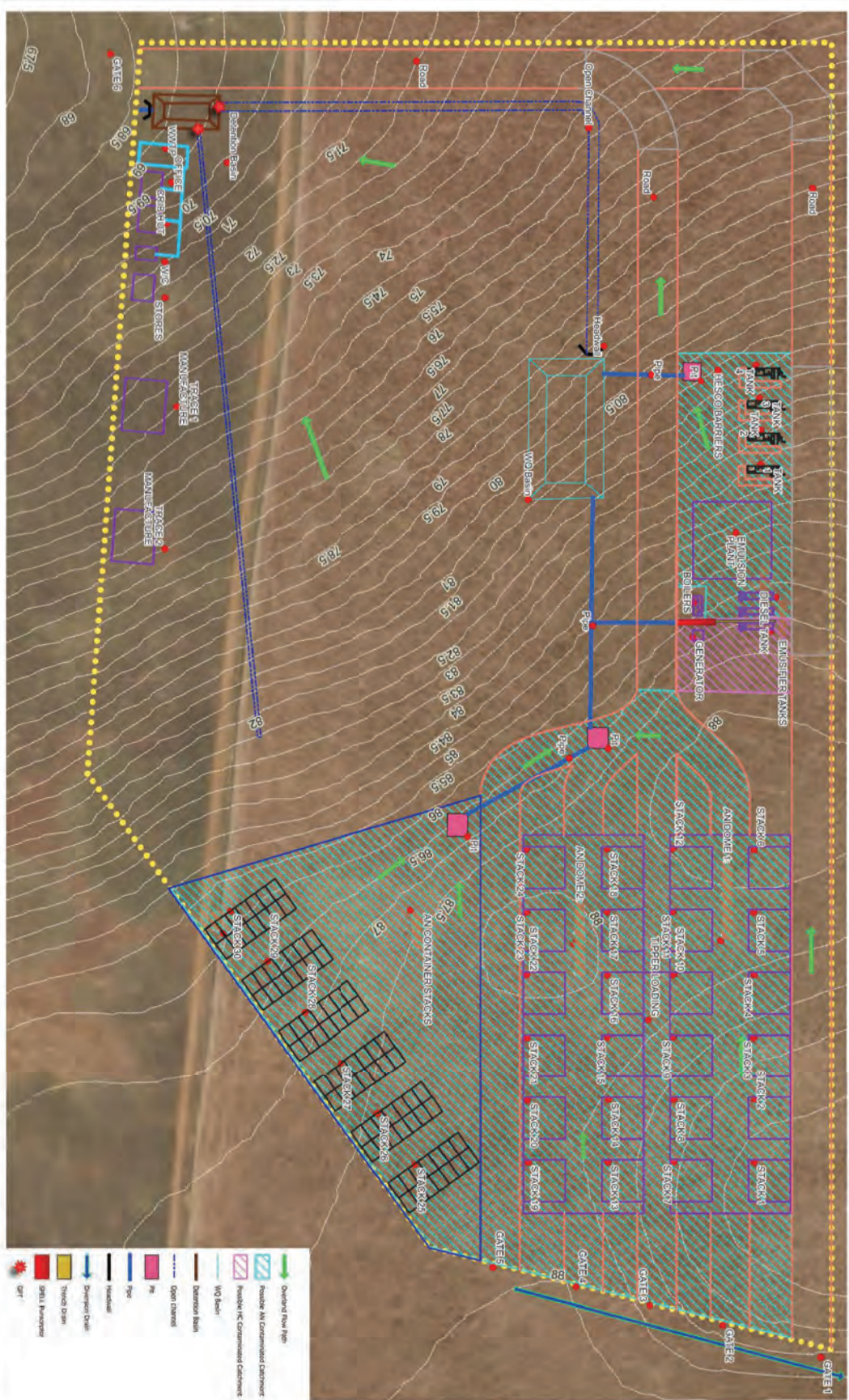


Figure 10 Biofilter specification



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0 30 60 90 m

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 50

**GHD**

BLUE DIAMOND AUSTRALIA  
DA & ENVIRONMENTAL APPROVALS  
SUPPORT - PROJECT TERRA  
CONCEPTUAL DRAINAGE  
ARRANGEMENT

Project No. 12631761  
Revision No. A  
Date 10/11/2024

Data Source: ESRI, World Imagery (Imagery Date: 2023, Date Extracted: 11/06/2024) Created by: S. Alam

## 5.5 Monitoring and implementation

The performance monitoring of drainage elements is required to be completed to ensure the system is working efficiently. Key elements to be monitored by BDA include:

- Inlet and outlet structures are required to be ensured free of debris;
- Clean water and contaminated water are kept separated implementing the proposed management plans;
- Sediment build up is not impeding the drainage performance;
- Vegetation cover of the basins is to be maintained;
- Erosion process is not active;
- Litter is required to be removed;
- Weeds need to be controlled;
- Excessive hydrocarbons are not present in the drainage system;
- Soils are not compacted;
- Infiltration of stormwater is maintained;
- Flows are not excessively detained;
- Stormwater pipes are flowing freely.

Maintenance inspections should be conducted after a significant storm event. Testing of stormwater within the WQ Basin should be conducted following a storm event. The inspections should also focus on ponding time for basins and scouring. During the construction phase, the key focus should be on the control of litter and sediment that is often generated.

The following is a summary of the process to achieve implementation by BDA:

- Complete detail design before the construction phase.
- Geotechnical assessments and Acid Sulphate soil investigations.
- Develop and implement Construction and Sediment Control reports.
- The planting of vegetation within the basins with appropriate locally native plants and regular maintenance of the plants.
- Undertake monitoring of the drainage basins to assess their performance and respond accordingly within the required monitoring period.

Contents of the WQ Basin shall be tested after each storm event. In the event that testing of stormwater within the basin identifies that it does not meet the water quality criteria or the presence of AN contamination is detected, a licenced contractor would be engaged to pump out the stormwater storage and dispose of the water at a licenced facility.



## 6. References

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Rockwater 2003. Oakajee Industrial Park Groundwater Monitoring Results.

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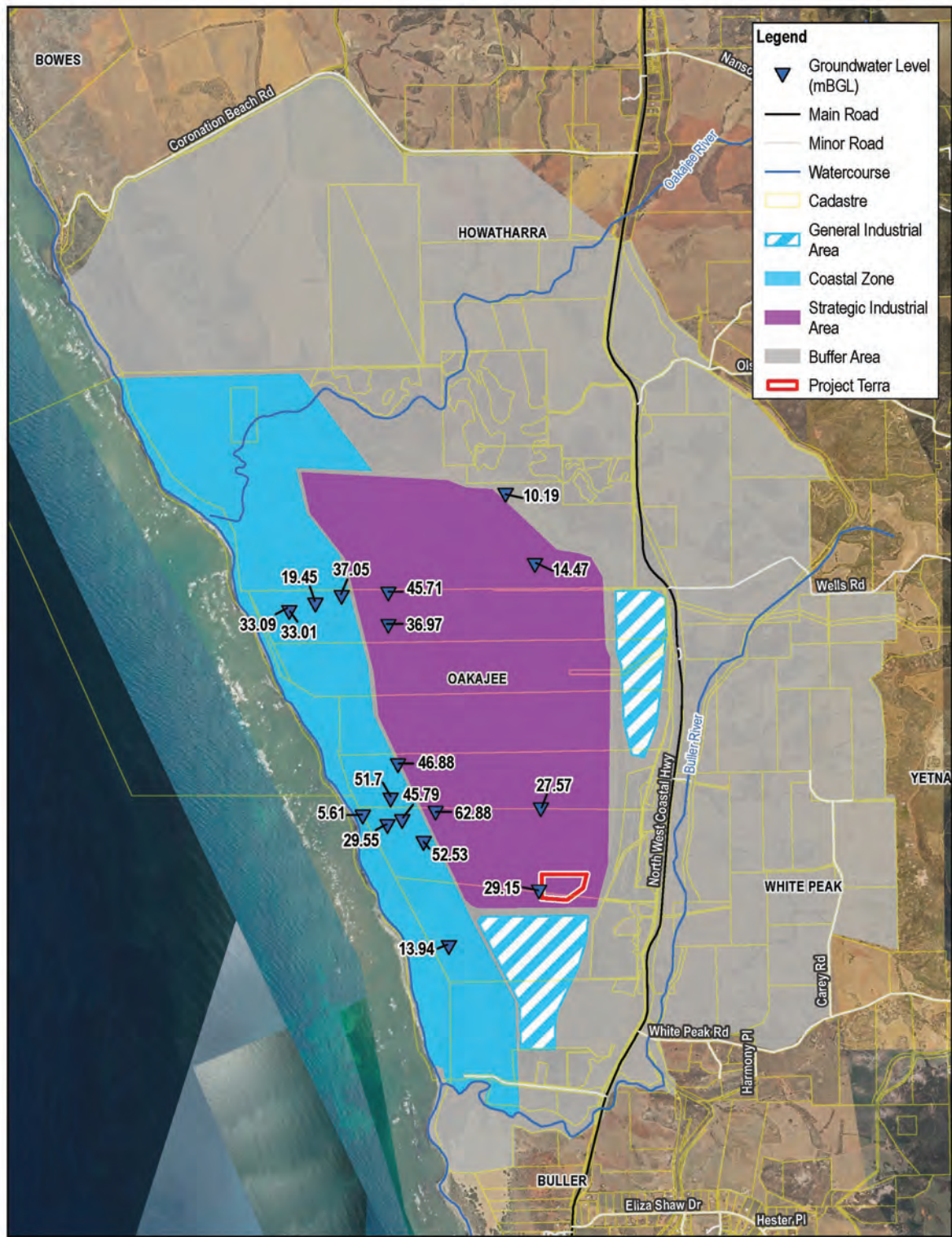
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# Appendix A

## Groundwater levels



<p>Paper Size ISO A4</p> <p>0 500 1,000 1,500 2,000</p> <p>Meters</p> <p>Map Projection: Transverse Mercator Horizontal Datum: GDA2020 Grid: GDA2020 MGA Zone 50</p>		<p>Blue Diamond Australia Pty Ltd DA &amp; Environmental Approvals Support - Project Terra</p> <p><b>Groundwater Zones and Depth to Water</b></p>	<p>Project No. 12631761 Revision No. 0 Date 22/08/2024</p>
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# **Appendix B**

## **Flood Modelling**



## Topography

A direct rainfall (rain-on-grid) hydraulic model was run using TUFLOW HPC with cell size 10m. A 10m Digital Elevation Model was developed using the 2m contours (DPIRD-072) dataset sourced from Data WA website (<https://www.data.wa.gov.au>).

## Bed Roughness

The detailed Digital Earth Australia (DEA) Land Cover Dataset (2020) for the site location was retrieved and used as a basis for assigning different roughness values to the model. Figure B1. shows the raw land cover map.

The Manning's (n) values were estimated using Table 6.2.2 from Valid Manning 'n' Ranges for Different Land Use Types of the Australian Rainfall and Runoff 2019 (Ball et al., 2019), as listed in Table 7.

**Table 7** Assigned Manning's n values

ID	Manning's (n)	DEA Land Cover Description
14	0.065	Cultivated Terrestrial Vegetated: Herbaceous Closed (> 65 %)
15	0.06	Cultivated Terrestrial Vegetated: Herbaceous Open - 40 to 65 %
16	0.05	Cultivated Terrestrial Vegetated: Herbaceous Open - 15 to 40 %
17	0.04	Cultivated Terrestrial Vegetated: Herbaceous Sparse - 4 to 15 %
18	0.03	Cultivated Terrestrial Vegetated: Herbaceous Scattered - 1 to 4 %
27	0.065	Natural Terrestrial Vegetated: Woody Closed - > 65 %
28	0.06	Natural Terrestrial Vegetated: Woody Open - 40 to 65 %
29	0.05	Natural Terrestrial Vegetated: Woody Open - 15 to 40 %
30	0.04	Natural Terrestrial Vegetated: Woody Sparse - 4 to 15 %
32	0.065	Natural Terrestrial Vegetated: Herbaceous Closed (> 65 %)
33	0.06	Natural Terrestrial Vegetated: Herbaceous Open - 40 to 65 %
34	0.05	Natural Terrestrial Vegetated: Herbaceous Open - 15 to 40 %
35	0.04	Natural Terrestrial Vegetated: Herbaceous Sparse - 4 to 15 %
36	0.03	Natural Terrestrial Vegetated: Herbaceous Scattered - 1 to 4 %
74	0.045	Natural Aquatic Vegetated: Woody Open (15 to 40 %)
86	0.045	Natural Aquatic Vegetated: Herbaceous Open (15 to 40 %)
89		Natural Aquatic Vegetated: Herbaceous Sparse (4 to 15%) Water < 3 months (temporary or seasonal)
93	0.025	Artificial Surface
94	0.03	Natural Surface
95	0.05	Natural Surface: Sparsely vegetated
96	0.04	Natural Surface: Very sparsely vegetated
97	0.03	Natural Surface: Bare areas, unvegetated
100	0.02	Water: (Water) Tidal area
101	0.025	Water: Water - Perennial - > 9 months
102	0.03	Water: (Water) Non-perennial (7 to 9 months)
103	0.035	Water: Water - Non-perennial - 4 to 6 months
104	0.04	Water: Water - Non-perennial - 1 to 3 months

# Rainfall

## Rainfall Depths

Intensity-Frequency-Duration (IFD) rainfall depth for the 1% Annual Exceedance Probability (AEP) were scoured from the Bureau of Meteorology and are listed in Table 8. No areal reduction factors were applied or changes in depths for climate change factors.

Table 8 IFD Design Rainfall Depths

Duration	Annual Exceedance Probability	Duration	Annual Exceedance Probability
	1%		1%
5 min	15.4	9 hour	108
15 min	30.1	12 hour	117
30 min	40.7	24 hour	139
45 min	47.3	30 hour	145
1 hour	52.3	36 hour	149
2 hour	66.1	48 hour	156
3 hour	75.7	72 hour	166
4.5 hour	86.7	96 hour	174
6 hour	95.2	120 hour	183

## Temporal Patterns

Point temporal patterns for the site were obtained from the Australia Rainfall and Runoff (ARR) Data Hub. The corresponding data were for Southern and South Western Flatlands (West).

## Pre-burst Depths

Median pre-burst depths were obtained from the ARR Data Hub. The pre-burst depths were subtracted from the Storm Initial Losses following the equation: *Initial Loss*= *Storm Loss* – *Pre-burst*.

## Regional Losses

The Initial – Continuing Loss (ILCL) method was used for TUFLOW, with the following global storm losses:

- Storm Initial Loss = 43 mm
- Storm Continuing Loss = 3.0 mm/hr

The values adopted were sourced from the ARR Data Hub for approximate centroid (Longitude 114.616, Latitude - 28.616) of the proposed site.

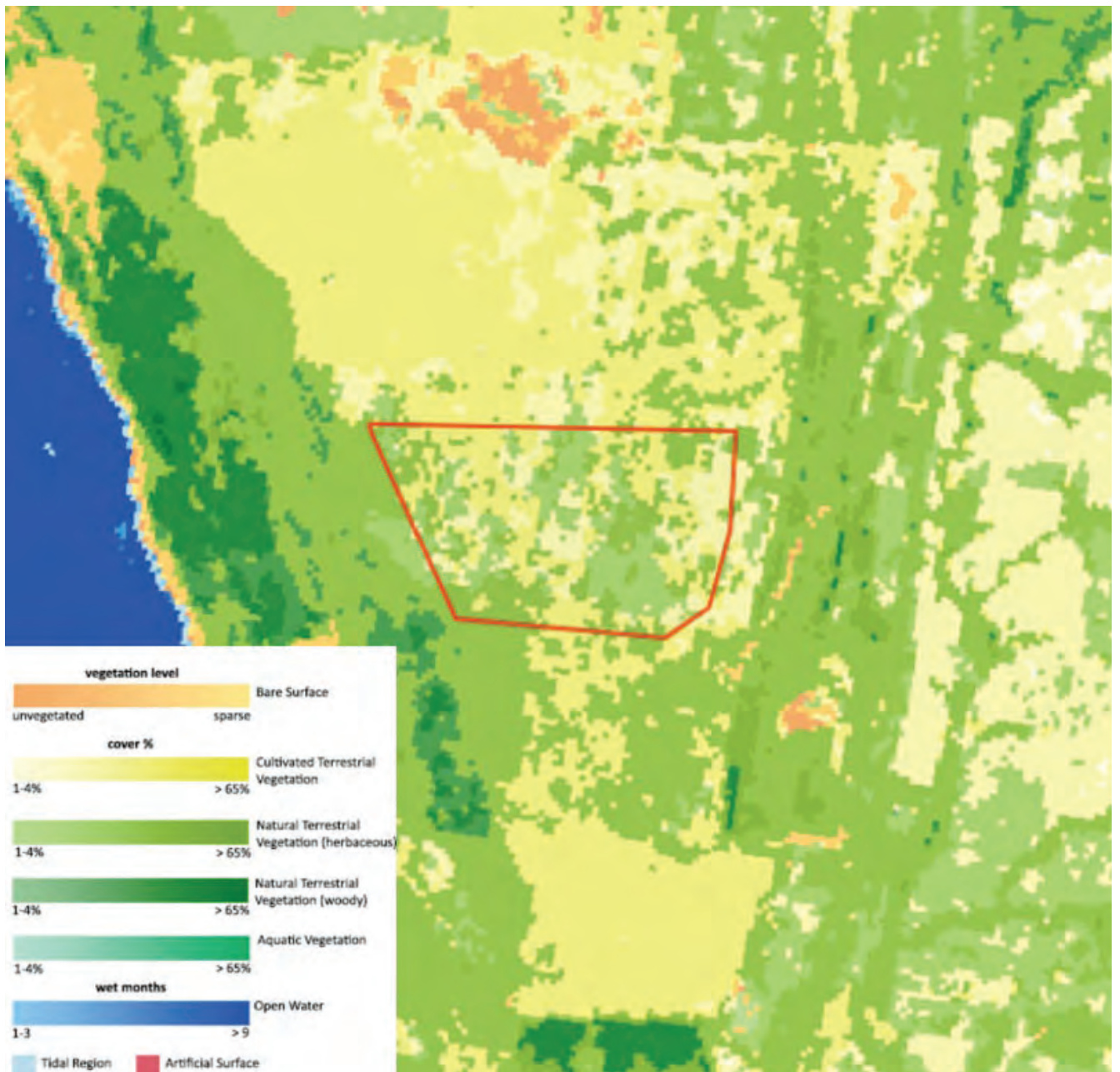


Figure B1. DEA Land Cover Map used for the TUFLOW model setup

# **Appendix C**

## **Drainage Modelling**



# Catchments and Hydrology

## Design Rainfall

The Intensity-Frequency-Duration (IFD) data, point temporal patterns, and pre-burst depths for a 1% AEP rainfall event were sourced from the Bureau of Meteorology (2023).

## Catchments

Catchments for the local runoff were estimated based on the existing topography and the proposed developments for the site. The catchments were modelled in DRAINS. The Project Terra developed conditions catchments were subdivided into five categories which are shown in Table C1. The Possible AN Contaminated Catchment is connected to the WQ (water quality control) Basin via a pit and pipe network and runoffs in excess of first flush volume will be diverted to the Detention Basin. The connection of other post-development catchments to the respective receptors are mentioned in Table C1.

**Table C1**      *Post-development catchments*

Catchment	Area (Ha)	Receptor
Possible AN Contaminated Catchment	4.134	WQ Basin > Constructed Open Channel > Detention Basin
Possible HC Contaminated Catchment	0.122	SPELL Puraceptor WQ Basin > Constructed Open Channel > Detention Basin
Pervious area	6.22	Detention Basin
Road (excluding roads within the Possible AN Contaminated Catchment)	1.432	Detention Basin
Buildings (southern end)	0.092	Detention Basin
Total Area	12	

## Losses

The initial Loss – Continuing Loss (ILCL) method was used for DRAINS, with the following losses:

- For impervious areas representing roads and buildings – Initial Loss: 1 mm, Continuing Loss: 0 mm/hr
- For possible AN and HC contaminated areas – Initial Loss: 16.7 mm, Continuing Loss: 0 mm/hr
- For pervious areas – Initial Loss: 43 mm, Continuing Loss: 3 mm/hr

The pervious area losses were sourced from ARR Data Hub for approximate centroid. The impervious losses are the normal approach taken for urban catchment roadways.

# Stormwater Modelling and Basin Design

## Detention Water Volume

A TUFLOW hydraulic was built and run to predict the pre-development runoff values which are mentioned in *Section 4.1.2*. The total off-site discharge from a 1% AEP storm event was estimated as 2.26 m<sup>3</sup>/s. The proposed Detention Basin discharge rate shall not exceed this discharge rate under the developed conditions.

# Post-development

Post-development catchments areas were classified into three (3) categories – Impervious Area, Road and Pervious Area. Preliminary detention basin was modelled to accept the post-development runoff volumes in order to estimate the required detention water volumes for a 1% AEP critical storm event. The parameters used for post-development catchments are listed in Table C1.

**Table C1** Post-development Model Parameters

Land Use Type	Impervious	Road	Pervious
Area	Estimated for each surface per land use type		
Area Classification	100% Effective Impervious Area (EIA)	100% Effective Impervious Area (EIA)	100% Pervious Area (PA)
Flow path lengths and slopes	Estimated based on the proposed development footprint		
Retardance coefficient, $n$	0.15	0.013	0.02

The detention basin was configured in DRAINS with discharge pipes of 10 m length and 1% slope. The outlet pipes at the basins are placed keeping a 300 mm clearance from the ground allowing the low flow runoffs to be treated and infiltrated locally. The basin was designed to be 2 m deep, and a spillway for the basin was placed at 1.7 m above from the basin ground surface. The elevations adopted are indicative only to support the conceptual design of the basin and needs to be rectified at the detail design stage. Using the *pre-development* ≤ *post-development discharge principle*, the minimum detention volume was determined for the basin and summarised in Table C2. Further development of this design is expected to occur during detailed design, but a similar approach shall be used. The layout of the DRAINS model setup and associated 1% AEP results are shown in Figure C1.

**Table C2** Post-development Runoff and Detention Water Volume

Parameter	Detention Basin
Post-Dev. Runoff (m <sup>3</sup> /s)	2.17
Max. Allowable Runoff (m <sup>3</sup> /s)	2.26
Basin Volume (m <sup>3</sup> )	792

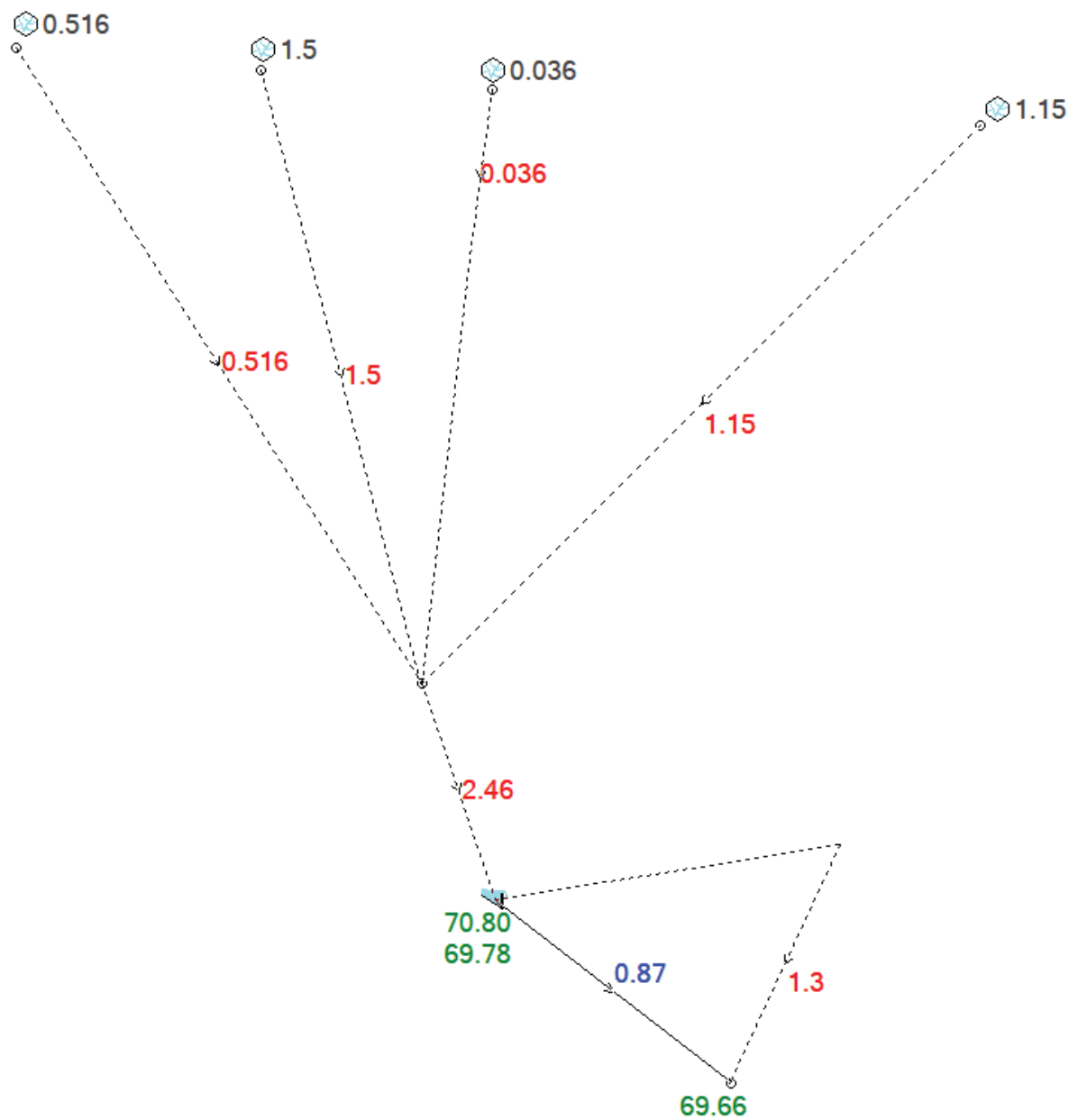
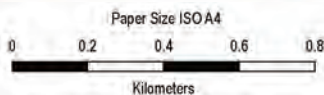
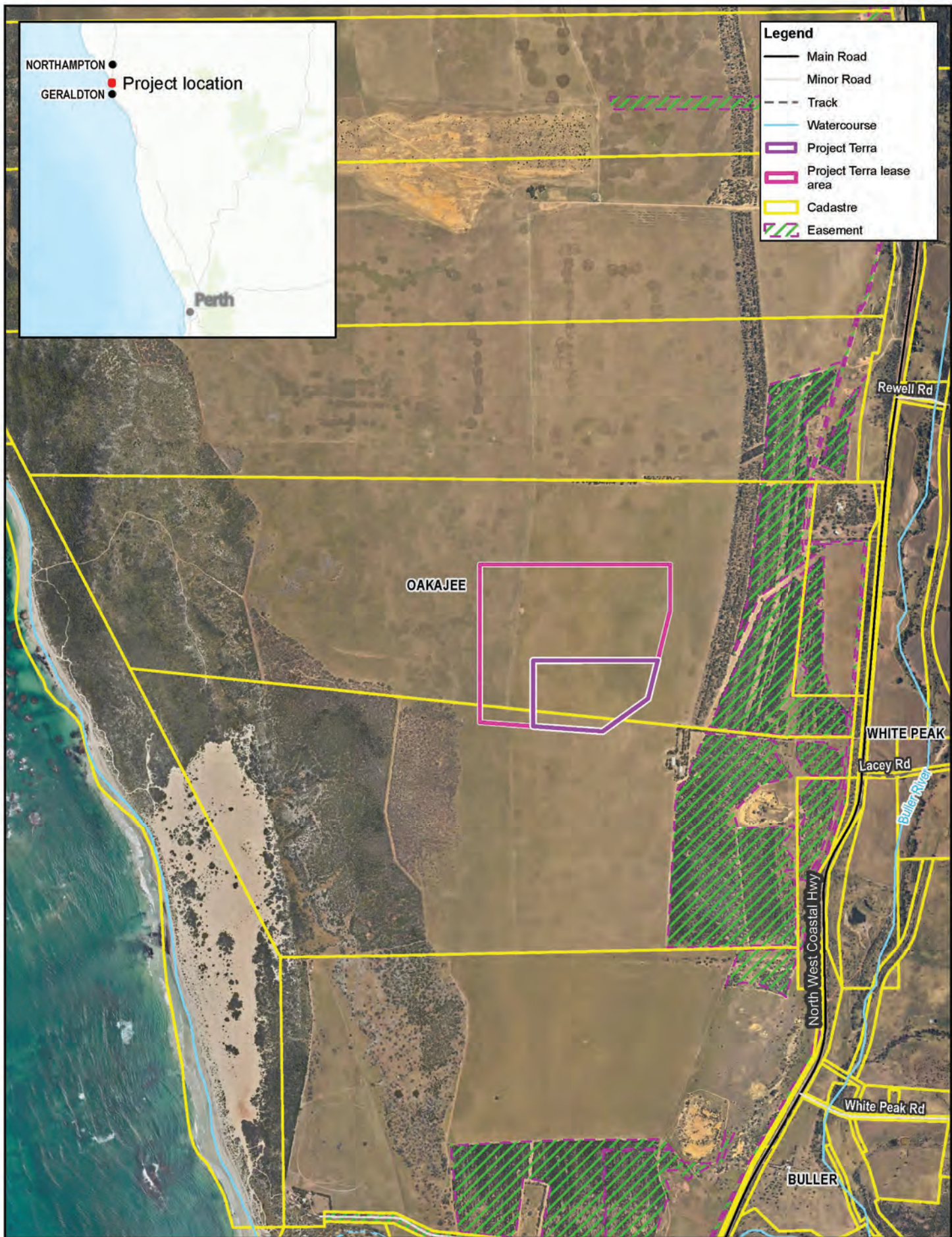


Figure C1: DRAINS model setup

# Appendix D

## Site Location Map





Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 MGA Zone 50



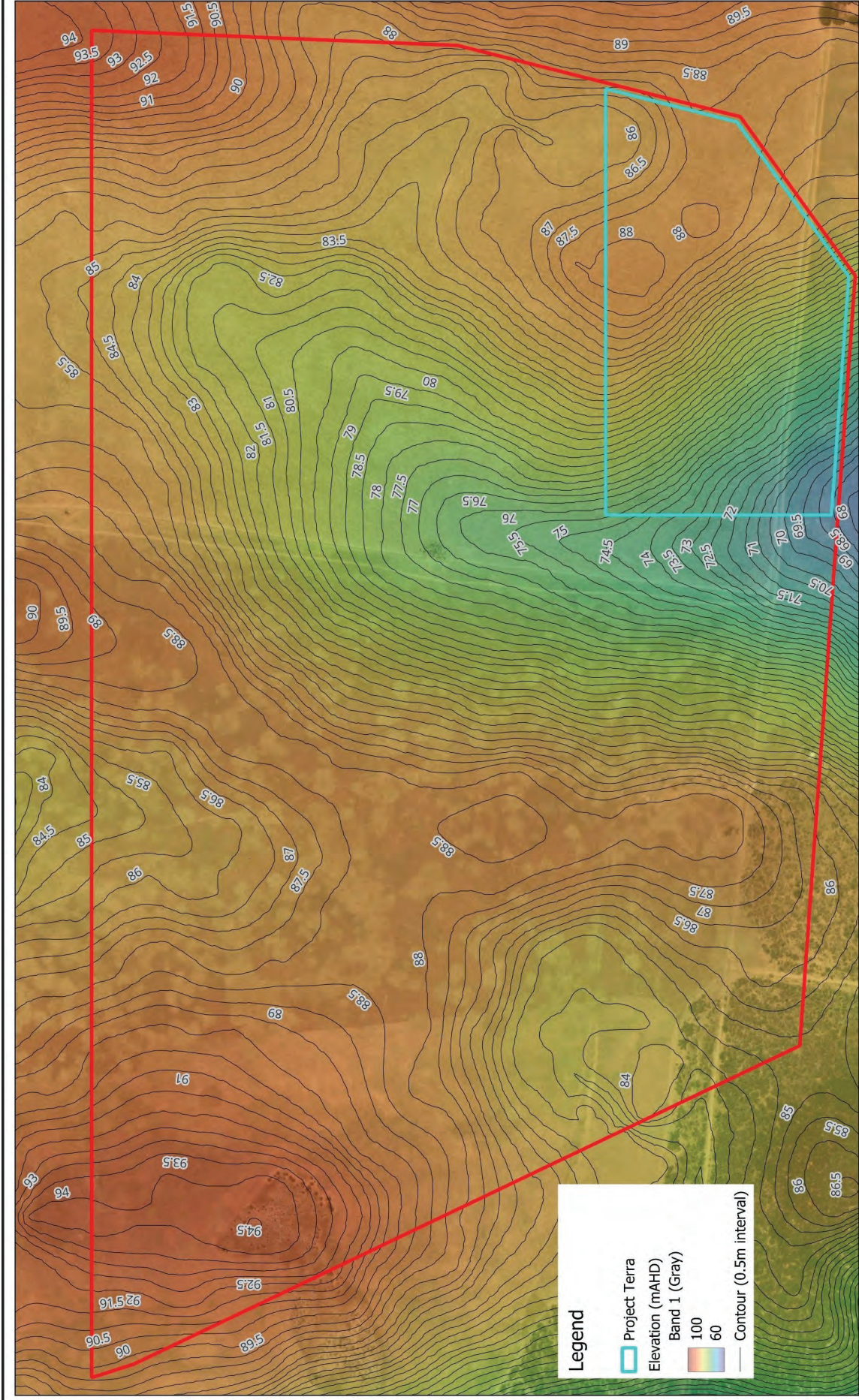
Blue Diamond Australia Pty Ltd  
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Project No. 12631761  
Revision No. 2  
Date 11/03/2025

# **Appendix E**

## **Site Topography Map**





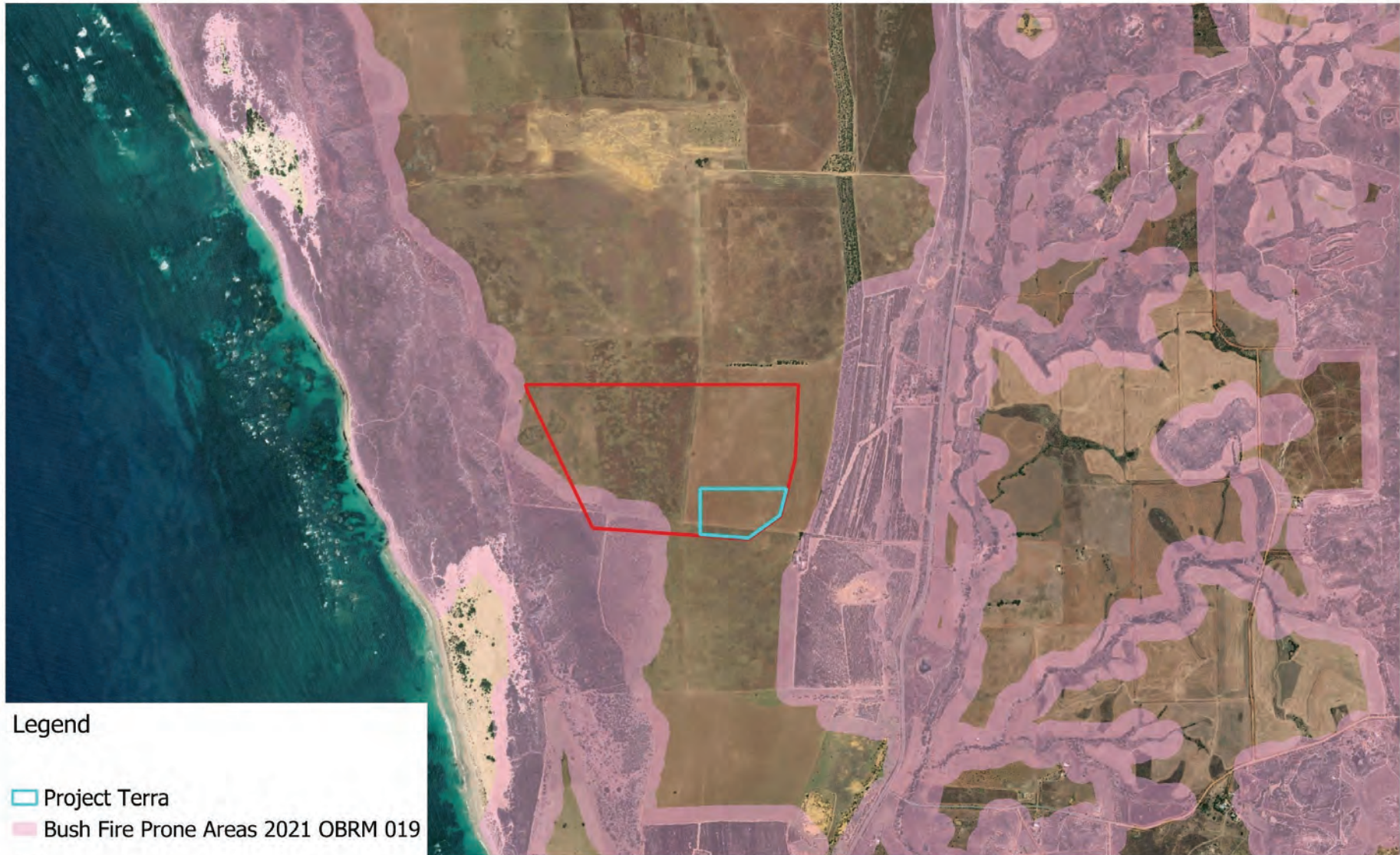
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# **Appendix F**

## **Bushfire Prone Area Map**





## Legend

- ▭ Project Terra
- ▭ Bush Fire Prone Areas 2021 OBRM 019

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0 100 200 300 400 m

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 50



**BLUE DIAMOND AUSTRALIA**  
DA & ENVIRONMENTAL APPROVALS  
SUPPORT - PROJECT TERRA

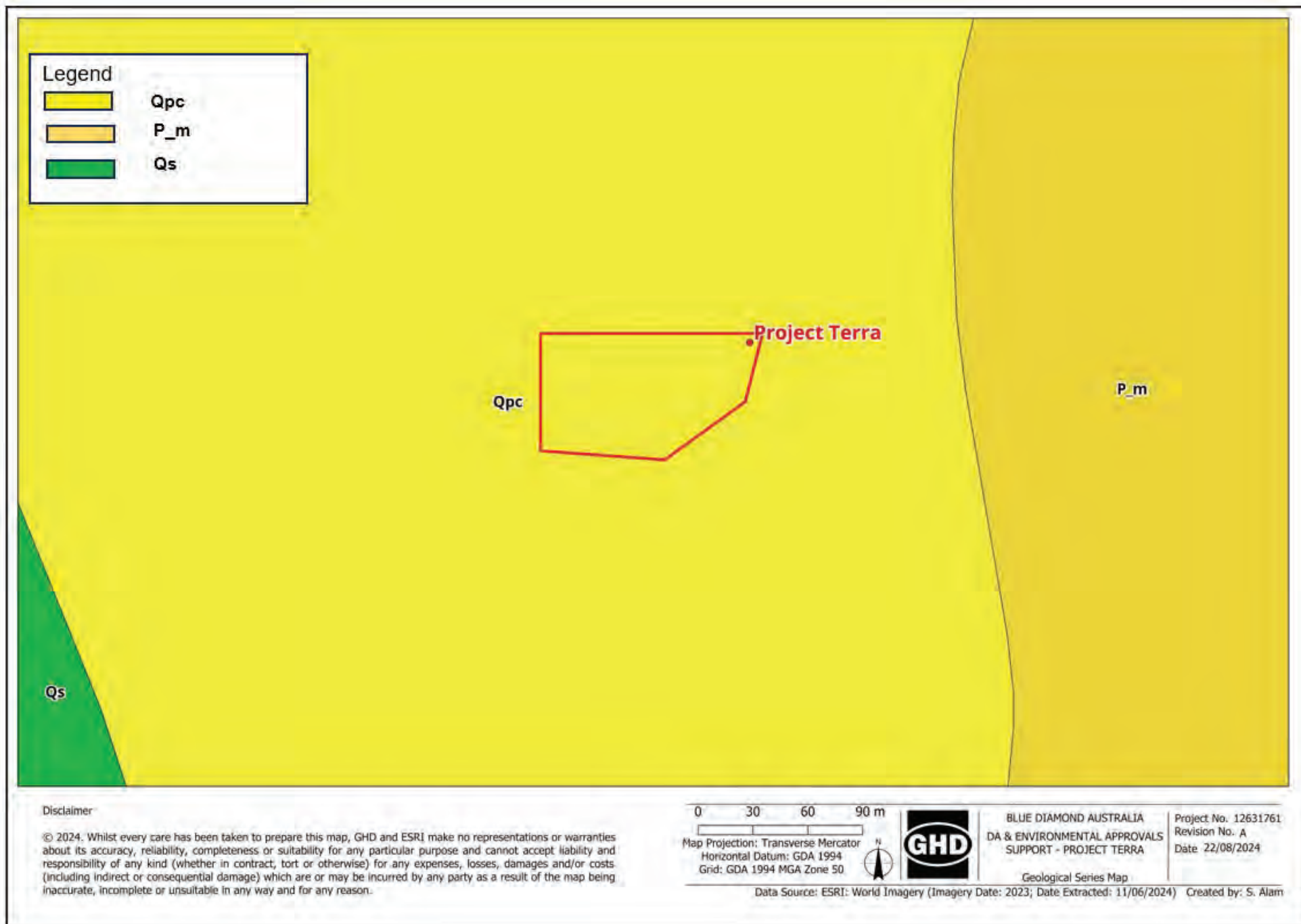
**BUSHFIRE PRONE AREAS**

Project No. 12631761  
Revision No. A  
Date 11/06/2024

Data Source: ESRI: World Imagery (Imagery Date: 2023; Date Extracted: 11/06/2024) Created by: s.c.de guzman

# Appendix G

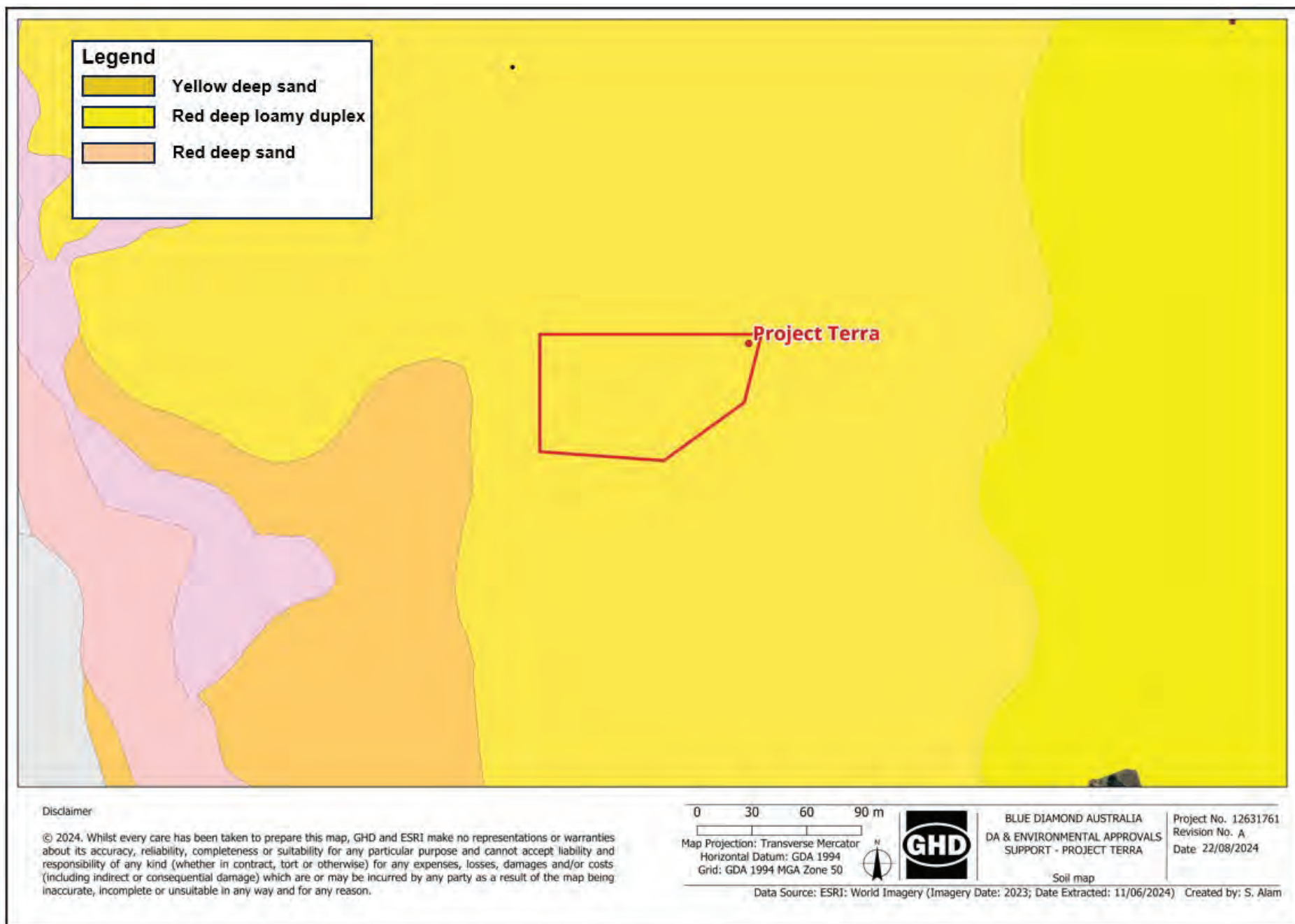
## Geology Map



# Appendix H

## Soil Landscape Map

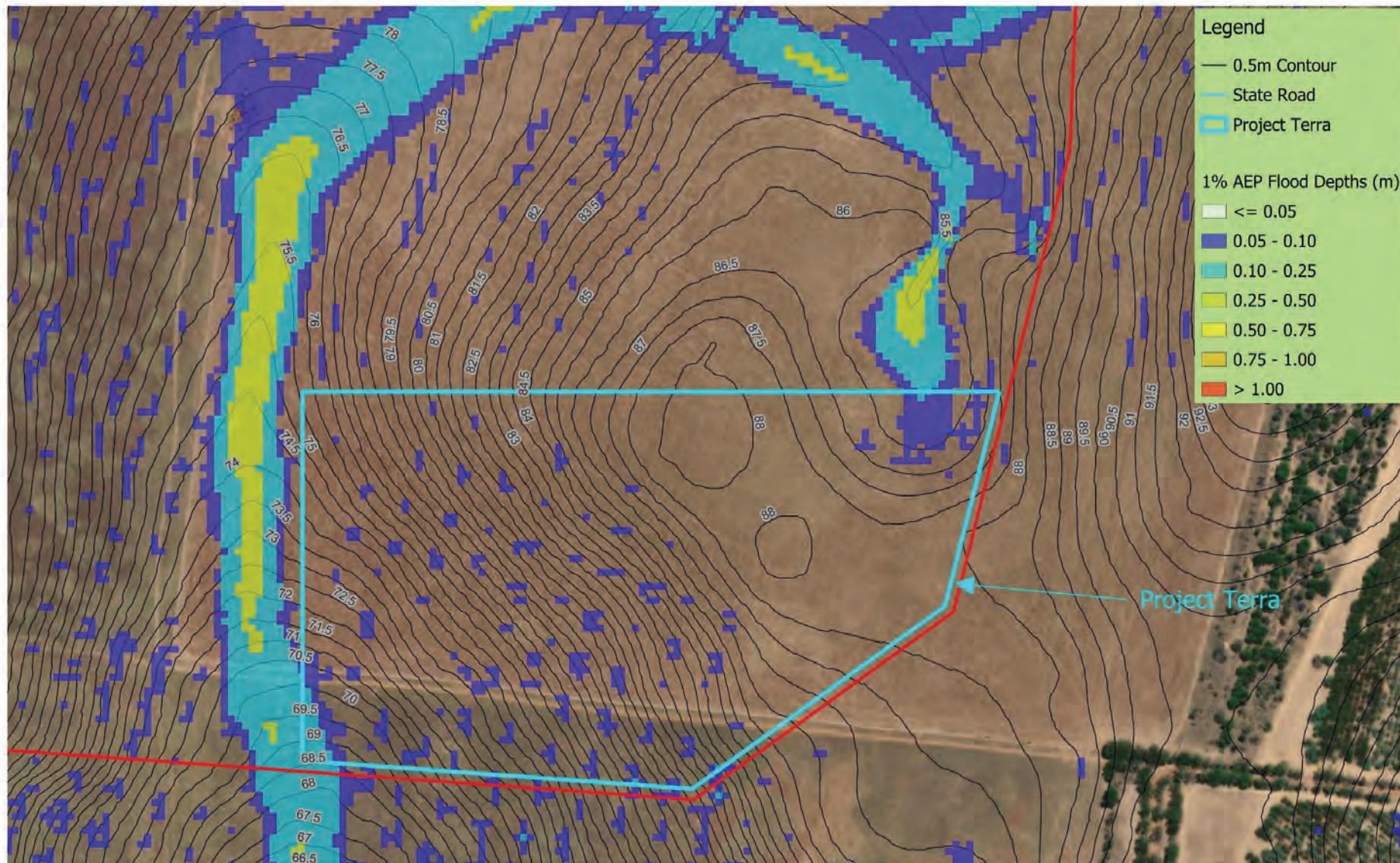




# Appendix I

**1% AEP Flood Depth Map**





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0 50 100 150 m

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 50



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**1% AEP FLOOD DEPTH MAP**

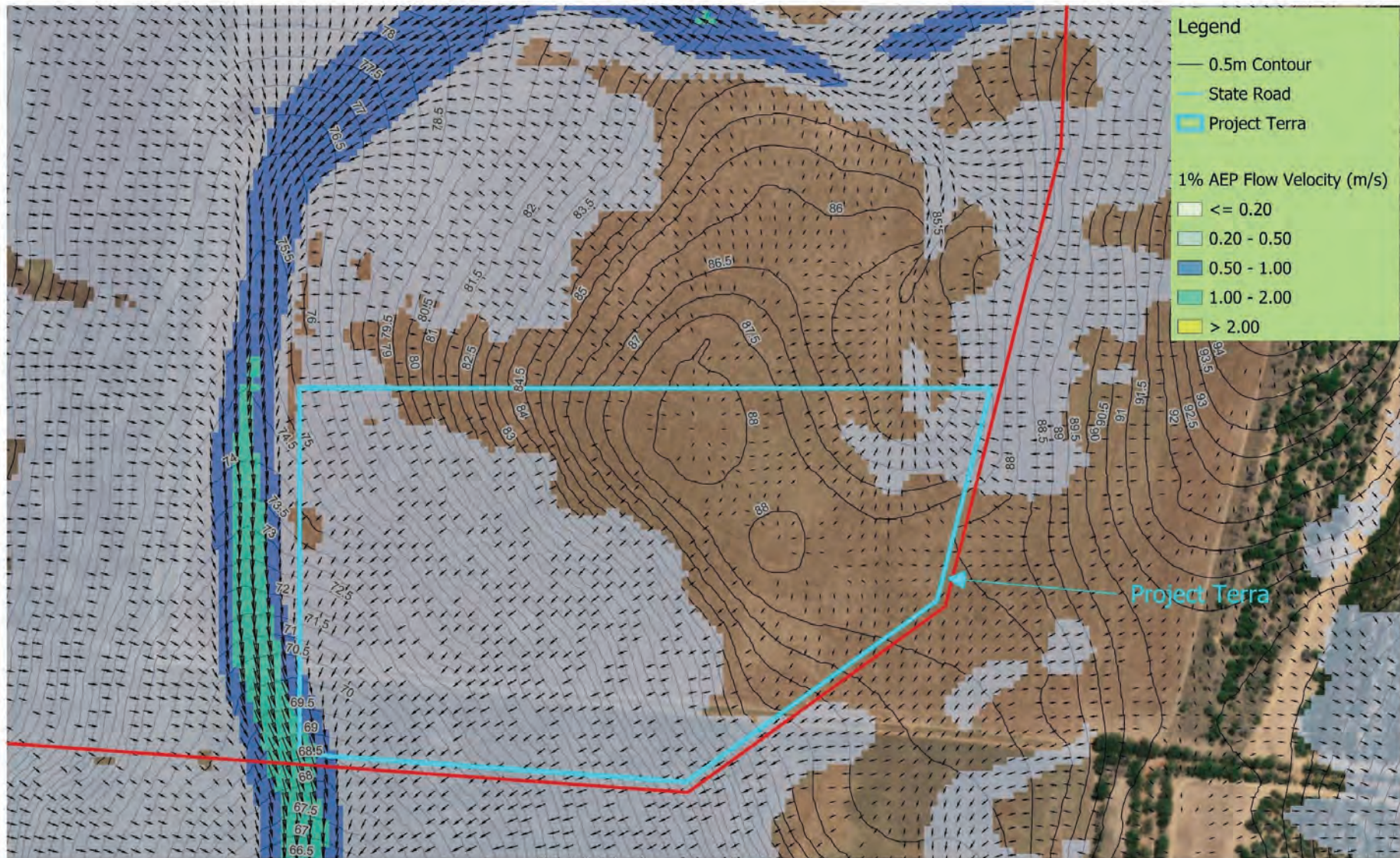
Project No. 12631761  
Revision No. A  
Date 11/06/2024

Data Source: ESRI: World Imagery (Imagery Date: 2023; Date Extracted: 11/06/2024) Created by: s.c.de guzman

# Appendix J

**1% AEP Flow Velocity Map**





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0 50 100 150 m

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 50



**BLUE DIAMOND AUSTRALIA**  
DA & ENVIRONMENTAL APPROVALS  
SUPPORT - PROJECT TERRA

**1% AEP VELOCITY MAP**

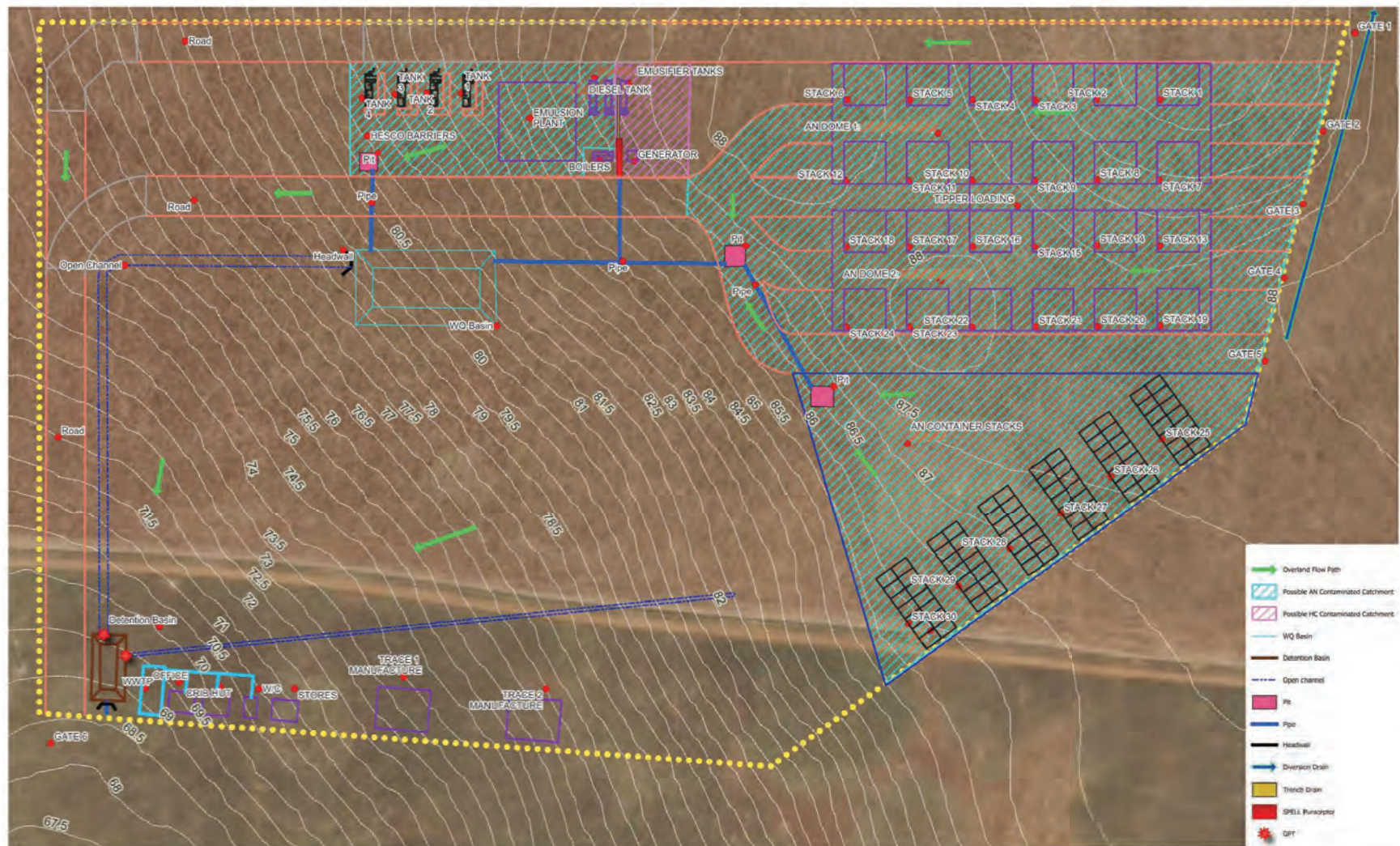
Project No. 12631761  
Revision No. A  
Date 11/06/2024

Data Source: ESRI: World Imagery (Imagery Date: 2023; Date Extracted: 11/06/2024) Created by: s.c.de guzman

# **Appendix K**

## **Conceptual Drainage Layout Map**





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0 30 60 90 m  
 Map Projection: Transverse Mercator  
 Horizontal Datum: GDA 1994  
 Grid: GDA 1994 MGA Zone 50



BLUE DIAMOND AUSTRALIA  
 DA & ENVIRONMENTAL APPROVALS  
 SUPPORT - PROJECT TERRA  
 CONCEPTUAL DRAINAGE  
 ARRANGEMENT

Project No. 12631761  
 Revision No. A  
 Date 10/11/2024

Data Source: ESRI: World Imagery (Imagery Date: 2023; Date Extracted: 11/06/2024) Created by: S. Alam





# **Appendix F**

## **Air Quality Impact Assessment**



# **Air Quality Impact Assessment**

## **Project Terra – Ammonium Nitrate Facility**

Blue Diamond Australia Pty Ltd

11 March 2025

→ **The Power of Commitment**



<b>Project name</b>		Blue Diamond Australia Pty Ltd – Project Terra					
<b>Document title</b>		Air Quality Impact Assessment   Project Terra – Ammonium Nitrate Facility					
<b>Project number</b>		12631761					
<b>File name</b>		12631761-REP-Project_Terra_Air Quality Impact Assessment_Rev_0					
<b>Status Code</b>	<b>Revision</b>	<b>Author</b>	<b>Reviewer</b>	<b>Approved for issue</b>			
			<b>Name</b>	<b>Signature</b>	<b>Name</b>	<b>Signature</b>	<b>Date</b>
S4	0	N Paul H Daginawala	J Forrest	On file	H Shigeyoshi	On file	13/12/2024
S4	1	E George	H Daginawala	On file	H Shigeyoshi	On file	11/03/2025

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# Executive summary

GHD was engaged by Blue Diamond Australia (BDA) to assist in securing development approval (DA) and environmental approvals for its proposed ammonium nitrate facility (ANF). Project Terra is proposed to be located within the Oakajee Strategic Industrial Area (SIA) on a portion of land that has been allocated to BDA as part of an option to lease by DevelopmentWA (DevWA).

A Works Approval and Licence will be required for the ANF as it will be a Prescribed Premises under Schedule 1 of the *Environmental Protection Regulations 1987*, with the ANF being categorised as a Category 75 (chemical blending and mixing) Prescribed Premises activity.

As part of the Works Approval, BDA requested GHD to undertake an Air Quality Impact Assessment (AQIA) for the operational phase of the Project.

The purpose of this Air Quality Impact Assessment is to understand the emission impacts of the proposed ANF in the nearby region. The assessment has been undertaken in accordance with DWER, Air Quality Modelling Guidance Notes (March 2006) and DWER Guideline: Air emissions (October 2019).

Air quality dispersion modelling was undertaken to predict air quality impacts from standard operations of the ANF. Predicted incremental ground level concentrations (GLCs) were assessed against the relevant criteria, with the primary pollutants assessed being NO<sub>2</sub>, SO<sub>2</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub> and total VOCs (as benzene). A cumulative assessment for PM<sub>10</sub> and PM<sub>2.5</sub> was undertaken. A single scenario was modelled for this assessment, representing typical operations.

Air quality criteria for key pollutants were derived from multiple authoritative sources, including the National Environment Protection (Ambient Air Quality) Measure (Air NEPM), the Department of Water and Environmental Regulation (DWER) Guideline on Air Emissions, and the DWER Draft Guideline: Dust emissions. The strictest standards from these sources were ultimately adopted.

Observations from the Geraldton Airport BoM station were assessed for a period between 2016 to 2023, and ultimately the year 2021 was chosen due to representativeness to a typical year. The Marble Bar observations were processed through the AERMET meteorological model to create a model-ready meteorological file for AERMOD.

AERMOD was selected as the model of choice for the air dispersion modelling, which is a steady state plume model that models air dispersion based on planetary boundary layer structure and scaling concepts. AERMOD version 10.0.1 was used for this assessment.

GHD's modelling considered nearby sensitive receptors, including tenanted and untenanted lots and residents. The results of the air dispersion modelling indicate that the Project will **comply** with the relevant air quality criteria for each of the pollutants across all scenarios, with the exception of the cumulative assessment for annual PM<sub>2.5</sub> GLCs, where the contribution of the background concentrations resulted in exceedances for all receptors. However, the proposed activities do not significantly contribute to the increase in annual PM<sub>2.5</sub> average concentrations, as the incremental contribution is approximately 0.01% of the total PM<sub>2.5</sub> concentration.

Overall, the proposed project does not pose a significant threat to air quality in the region.

This report is subject to, and must be read in conjunction with, the limitations set out in Section 1.3 and the assumptions and qualifications contained throughout the Report.



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# 1. Introduction

GHD was engaged by Blue Diamond Australia (BDA) to assist in securing development approval (DA) and environmental approvals for its proposed ammonium nitrate facility (ANF). Project Terra is proposed to be located within the Oakajee Strategic Industrial Area (SIA) on a portion of land that has been allocated to BDA as part of an option to lease by DevelopmentWA (DevWA).

The purpose of this Air Quality Impact Assessment is to understand the emission impacts of the proposed ANF in the nearby region. The assessment has been undertaken in accordance with DWER, Air Quality Modelling Guidance Notes (March 2006) and DWER Guideline: Air emissions (October 2019).

A Works Approval and Licence will be required for the ANF as it will be a Prescribed Premises under Schedule 1 of the Environmental Protection Regulations 1987, with the ANF being categorised as a Category 75 (chemical blending and mixing) Prescribed Premises activity.

As part of the Works Approval, BDA requested GHD to undertake an Air Quality Impact Assessment (AQIA) for the operational phase of the Project.

## 1.1 Purpose of this report

The purpose of this report is to undertake an Air Quality Impact Assessment (AQIA) for Project Terra. The assessment has been prepared to assess the potential direct and indirect impacts associated with various pollutants of concern from the projects' operations, and the risk and management to key sensitive receptors associated with the localised region.

## 1.2 Scope of works

The scope of works for this assessment include:

- Development of a meteorological data file for use with the CALPUFF dispersion model, based on Bureau of Meteorology (BoM) data.
- Development of an emission inventory of estimated emissions during operations of the ANF.
- Undertaking dispersion modelling using CALPUFF model for the operation of the ANF with assessment of pollutants, including CO, PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub> and total VOCs. One normal operation scenario was considered for this assessment.
- Preparation of this standalone air quality assessment report summarising the findings of the assessment, including outlining development of emissions inventory, meteorological file, dispersion modelling and assessment of results.

## 1.3 Limitations

*This report has been prepared by GHD for Blue Diamond Australia Pty Ltd and may only be used and relied on by Blue Diamond Australia Pty Ltd for the purpose agreed between GHD and Blue Diamond Australia Pty Ltd as set out in Section 1.2 of this report.*

*GHD otherwise disclaims responsibility to any person other than Blue Diamond Australia Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*



*The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer Section 1.4 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.*

*GHD has prepared this report on the basis of information provided by Blue Diamond Australia Pty Ltd and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.*

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

## **1.4 Assumptions**

The following assumptions were made for the purposes of this study:

- It is assumed that the information provided by BDA and the boiler manufacturer is correct and representative of emissions that will occur as part of the site operations.
- Cumulative emissions were only considered for PM<sub>10</sub> and PM<sub>2.5</sub>. Cumulative emissions for all other pollutants of concern were not considered in the assessment due to a lack of available background monitoring data.
- No particulate emissions are anticipated from the boiler stack.
- It is assumed that there will be only 1 scenario considered, the normal operations of the project.

## 2. Project overview

### 2.1 Background

Project Terra is proposed to be located within the Oakajee SIA on a portion of land that BDA has been allocated as part of an option to lease by DevWA. BDA has engaged Platinum Blasting Services (PBS) to operate the ANF.

The ANF comprises of an emulsion manufacturing plant and a storage facility and is anticipated to require a footprint of 12 ha. The manufacturing plant will have capacity to produce up to 40,000 tonnes of ammonium nitrate emulsion (ANE) per year, and the storage facility will house up to 15,000 tonnes of AN. The target commissioning date of the facility is December 2025. The plant layout is shown in Figure 2.1.

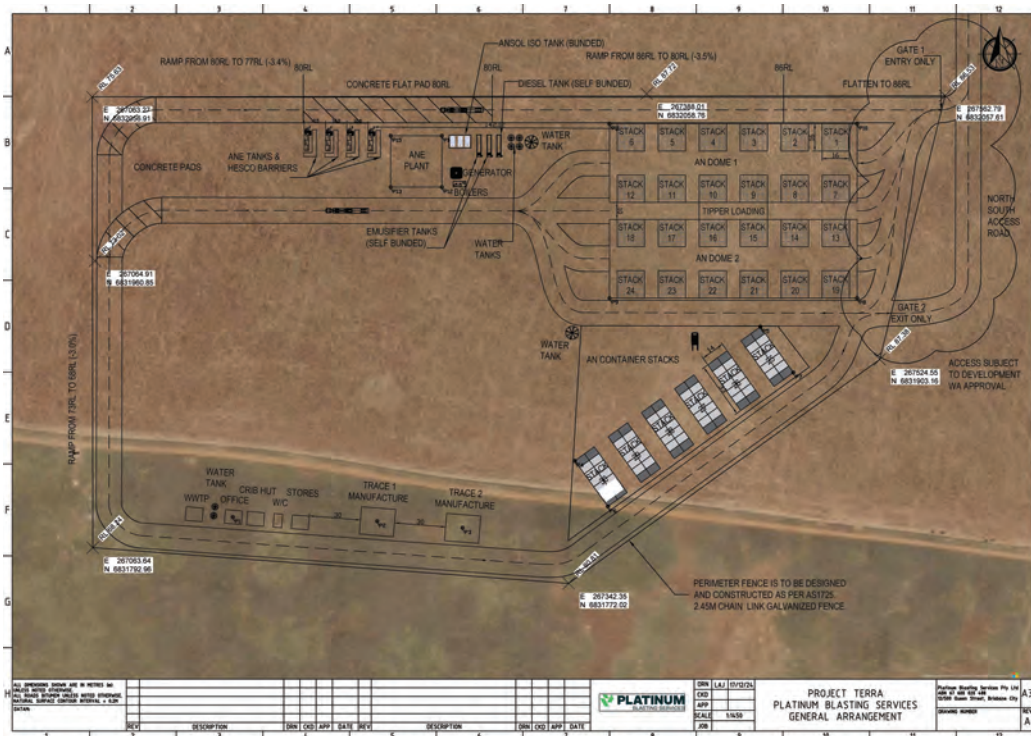


Figure 2.1 Project Terra Site Plan

### 2.2 Locational context

Project Terra is proposed to be located in Oakajee which is a locality in the Mid-West region of Western Australia, within the Shire of Chapman Valley local government area (the Shire).

BDA has been allocated 48 ha of land within the Oakajee SIA by DevWA to accommodate the project. Project Terra operations will occupy 12 ha of the 48 ha lease area.

The proposed installation site is approximately 20 kilometres north of the Geraldton township and 4.75 kilometres north-northwest of White Peak township. The land leased to BDA spans across the following parcels:

- Lot 11 on plan 18559 being the whole of the land in Certificate of Title Volume 2121 Folio 945, Land ID: 1731700
- Lot 12 on plan 18559 being the whole of the land in Certificate of Title Volume 2121 Folio 946, Land ID: 1731695

Refer to Figure 2-1 which shows the project in its regional context, and Figure 2-2 which depicts local context and lot allocation.





Figure 2.2 Regional Context

### 3. Air quality criteria

The criteria used for this assessment are consistent with jurisdiction/organisation hierarchy listed in the Department of Water and Environmental Regulation (DWER) *Draft guideline: Air emissions* (DWER, 2019b). The relevant legislation and guidance for this AQIA are:

- *National Environment Protection (Ambient Air Quality) Measure*
- *Draft guideline: Air emissions* (DWER, 2019b)
- *Draft Guideline: Dust emissions* (DWER, 2021)

#### 3.1 National Environment Protection (Ambient Air Quality) Measure

The *National Environment Protection (Ambient Air Quality) Measure* (Air NEPM) has been implemented in Western Australia under Section 20 of the *National Environment Protection Council (Western Australia) Act 1996* to provide benchmark standards for ambient air quality to allow for 'the adequate protection of human health and well-being' (National Environment Protection Council (NEPC) 2016). Air NEPM standards for each of the relevant pollutants of concern are provided in Table 3.1.

Table 3.1 Air NEPM standards

Pollutant	Averaging period	Criteria (µg/m <sup>3</sup> )
Particles as PM <sub>10</sub>	24-hour	46
	Annual	23
Particles as PM <sub>2.5</sub>	24-hour	23
	Annual	7
Nitrogen dioxide (NO <sub>2</sub> )	1-hour	151
	Annual	28
Sulphur dioxide (SO <sub>2</sub> )	1-hour	524
	24-hour	210
	Annual	52
Carbon monoxide (CO)	8-hour	10310

Note: All criteria are referenced to 25°C and 1 atm.

#### 3.2 Draft guideline: Air emissions

The *Draft guideline: Air emissions* (DWER, 2019b) was developed to ensure that adequate information is provided to DWER for assessment of applications with identified air emissions. The guideline specifies ambient air quality guideline values (AGVs) for key air pollutants, which are summarised in Table 3.2.

The composition of VOCs have not been identified for this assessment; hence, VOCs were assumed to be emitted as 100% benzene, and the benzene criteria was adopted. Typically, other VOCs are significantly lower in composition, thus, all VOCs are assumed as Benzene for a conservative assessment of VOCs as it offers the most stringent criteria of all VOCs.



Table 3.2 AGVs for pollutants

Pollutant	Averaging period	Criteria ( $\mu\text{g}/\text{m}^3$ )
Particles as $\text{PM}_{10}$	24-hour	46
	Annual	23
Particles as $\text{PM}_{2.5}$	24-hour	23
	Annual	7
Nitrogen dioxide ( $\text{NO}_2$ )	1-hour	226
	Annual	56
Sulphur dioxide ( $\text{SO}_2$ )	1-hour	524
	24-hour	210
	Annual	52
Carbon monoxide ( $\text{CO}$ )	1-hour	30000
	8-hour	10000
Benzene (as total VOCs)	1-hour	29
	Annual	9.6

Note: All criteria are referenced to 25°C and 1 atm.

### 3.3 Draft guideline: Dust emissions

The DWER *Draft Guideline: Dust emissions* (DWER, 2021) was developed to ensure that adequate information is provided to DWER for assessment of applications with fugitive dust emissions. The guideline derives criteria for dust from *Air NEPM* and the criteria for  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  is summarised in Table 3.3.

Table 3.3  $\text{PM}_{10}$  &  $\text{PM}_{2.5}$  criteria

Pollutant	Averaging period	Criteria ( $\mu\text{g}/\text{m}^3$ )
Particles as $\text{PM}_{10}$	24-hour	46
	Annual	23
Particles as $\text{PM}_{2.5}$	24-hour	23
	Annual	7

Note: All criteria are referenced to 25°C and 1 atm.

### 3.4 Summary of adopted assessment criteria

Table 3.4 shows a summary of the adopted criteria used in this assessment.

Table 3.4 Adopted assessment criteria

Pollutant	Averaging period	Criteria ( $\mu\text{g}/\text{m}^3$ )
Particles as $\text{PM}_{10}$	24-hour	46
	Annual	23
Particles as $\text{PM}_{2.5}$	24-hour	23
	Annual	7
Nitrogen dioxide ( $\text{NO}_2$ )	1-hour	151
	Annual	28
Sulphur dioxide ( $\text{SO}_2$ )	1-hour	262
	1-hour	52

Pollutant	Averaging period	Criteria (µg/m³)
	Annual	52
Benzene (as total VOCs)	1-hour	29
	Annual	9.6
Carbon monoxide (CO)	1-hour	30000
	8-hour	10000

Note: All criteria are referenced to 25°C and 1 atm.

## 4. Existing environment

### 4.1 Sensitive receptors

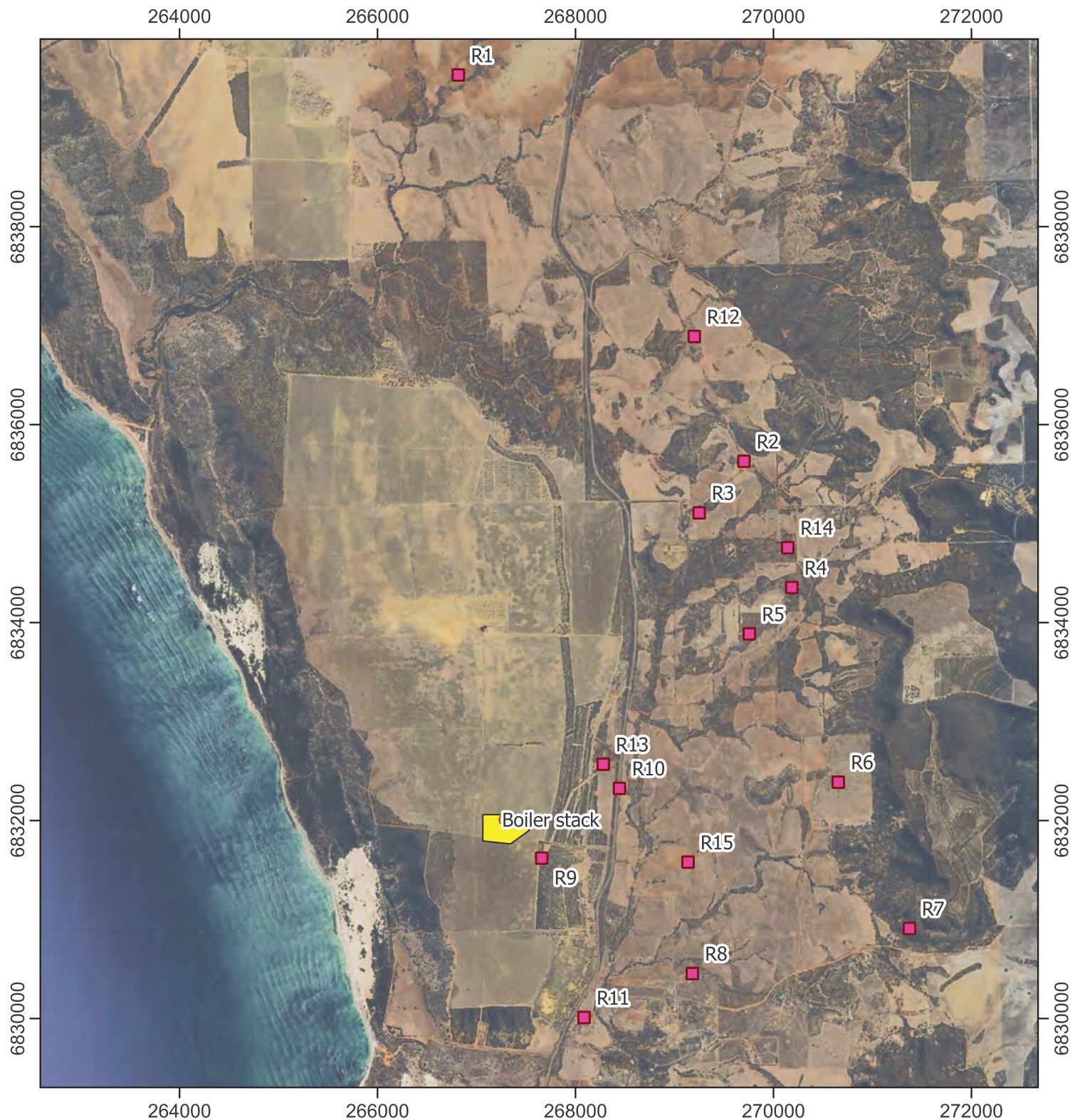
The *Draft Guideline: Dust emissions* (DWER, 2021) defines sensitive receptor as places where people live or regularly spend time including places of residence, healthcare establishments, places of accommodation, places of study, childcare facilities, shopping centres and places of recreation.

Sensitive receivers are identified in relation to the ANF and within the SIA buffer zone. These are confirmed to be tenanted, and residential lots as confirmed with DevWA (September 2024). The nearest sensitive receivers are listed in Table 4.1 and shown in Figure 4.1.

It is noted that 2017 North West Coastal Hwy, Oakajee WA 6532 is the closest tenanted lot to the ANF, when compared to all other receivers identified in below table (~220 m SE of ANF). However, this lot is within the tenement of the ANF development boundaries, and an agreement has been signed by BDA and the tenant for this lot to be vacated prior to Project commencement.

**Table 4.1** Sensitive receptors considered in the assessment

ID	Description	Easting (mE)	Northing (mN)
R1	Farming Tenant Howatharra Grazing Co - House & Shed at Lot 69, 44 Coronation Beach Rd, Howatharra	266816	6839532
R2	Tenanted Lot 1, 133 Wells Road, White Peak	269702	6835629
R3	Tenanted Lot 2, 60 Wells Road, White Peak	269249	6835108
R4	Tenanted Lot 9782, 212 Wells Rd White Peak	270185	6834354
R5	Tenanted Lot 3326, 291 Carey Rd, White Peak	269756	6833885
R6	Tenanted Lot 2598, 148 Carey Rd, White Peak	270655	6832386
R7	Tenanted Lot 12, 327 White Peak Rd, White Peak	271374	6830908
R8	Tenanted Lot 1490, 8 Dixon Place, White Peak	269180	6830453
R9	Farming Tenant Howatharra Grazing Co - House & Shed at Lot 11, 2017 NWCH, White Peak	267659	6831619
R10	Tenanted Lot 25, 1789 NWCH, White Peak	268444	6832324
R11	Tenanted Lot 100, 1836 NWCH, White Peak	268086	6830009
R12	Farming Tenant Howatharra Grazing Co - Shed at Lot 2965, 122 Olsen Rd, Howatharra	269200	6836890
R13	Residential to be demolished - Lot 2, 2097 NWCH, White Peak	268280	6832568
R14	Residential to be demolished - Lot 328, 210 Wells Rd, White Peak	270144	6834756
R15	Farming Tenant Graham Macpherson - Shed at Lot 11692, 12 Lacey Road, White Peak	269137	6831579



## Legend

- Site boundary
- Air emission source stacks
- Sensitive receptors

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Sensitive receptors considered in this assessment**

Project No. 12631761  
Revision No. A  
Date. 09/12/2024

**FIGURE 4.1**



## 4.2 Climate

The Oakajee SIA experiences a Mediterranean climate characterised by mild, wet winters and hot, dry summers. Mean daily temperatures fluctuate seasonally, ranging from 30°C in the summer to 8°C in winter. Mean annual rainfall is around 450 mm. The nearest Bureau of Meteorology (BoM) Automatic Weather Station (AWS) is at Geraldton Airport (008051), which is about 23 km southwest of the site.

### 4.2.1 Temperature

Bureau of Meteorology (BoM) operates the Geraldton Airport climate station (station ID: 008315), located approximately 22 km southeast of the Project. This station has been operational since 2011 and has a 10-year dataset to determine long term averages. The mean maximum and minimum temperatures by month are presented in Figure 4.2.

The mean maximum temperature ranges from 20.5 degrees Celsius(°C) in July to 33.1°C in February over the measured period of 2011 to 2024. The highest daily temperature was recorded as 49.3°C in February 2024. The mean minimum temperature ranges from 8.9°C in August to 19.6°C in February over the measured period of 2011 to 2024. The lowest daily temperature was recorded as 1.1°C in May 2019.

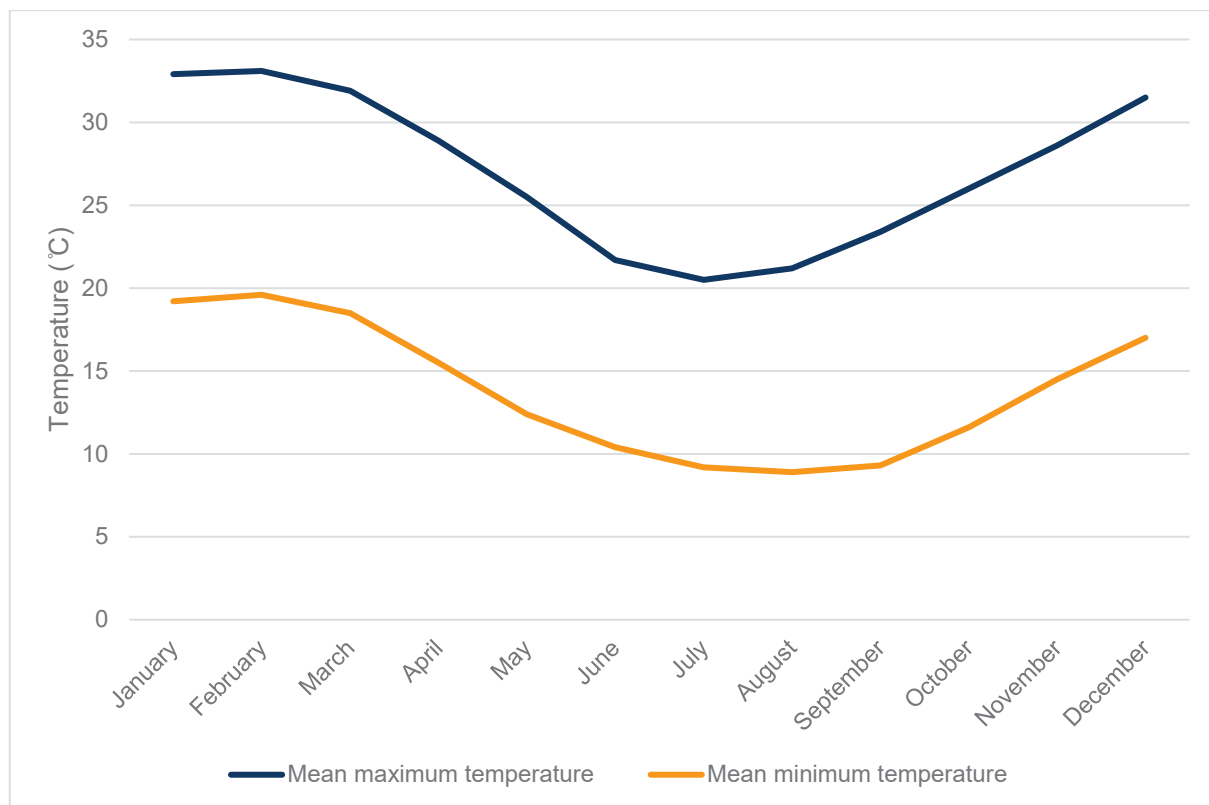
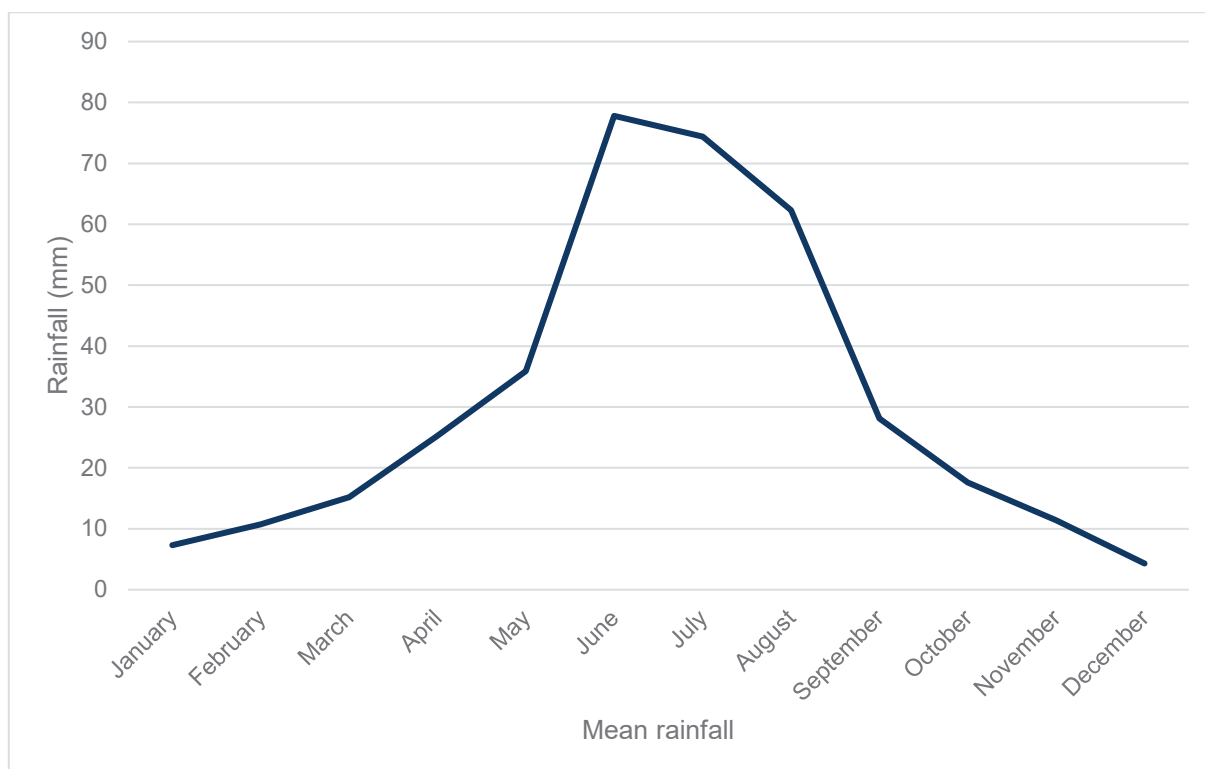


Figure 4.2 Mean maximum and minimum temperature at Geraldton Airport station (2011 - present)

### 4.2.2 Rainfall

The range of total monthly rainfall at Geraldton Airport station is shown in Figure 4.3, with mean rainfall ranging from 4.3 mm in February to 77.8 mm in June for the measured period of 2011 to 2024. The wettest period occurred during the winter months of June to August, while the driest period occurred during the summer months of November to February.



**Figure 4.3** Monthly total rainfall at Geraldton Airport station (2011 - present)

### 4.2.3 Wind speed and wind direction

Wind speed and wind direction patterns at Geraldton Airport station from 2019 to 2023 are shown in Figure 4.4. All winds with wind speed lower than 0.5 m/s were defined as calms.

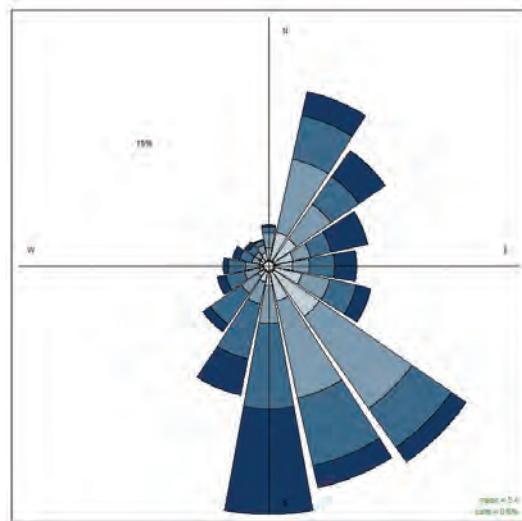
Surface winds are predominantly from the south direction expect for winter months where winds are from the northeast direction. The mean annual windspeed is 5.6 m/s and ranges from 4.7 m/s in winter to 6.7 m/s in summer. The average proportion of calm winds is 0.2 percent.

In addition to these general patterns, the Geraldton/Oakajee region experiences notable seasonal variations. During the summer months, strong southerly winds, often referred to as the "Fremantle Doctor," are prevalent, providing a cooling effect along the coast.

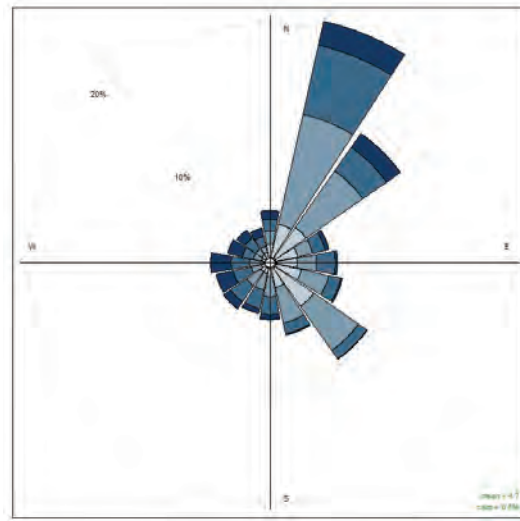
In contrast, the winter months bring more variable wind patterns, with a significant increase in northeasterly winds. These winds are typically associated with cold fronts and low-pressure systems moving across the region. The variability in wind direction during winter can lead to more frequent periods of calm conditions, although these are still relatively rare.

Overall, the wind patterns in the Geraldton and Oakajee region are influenced by both local geographical features and broader climatic systems, making it a dynamic area for wind energy potential and other meteorological studies.

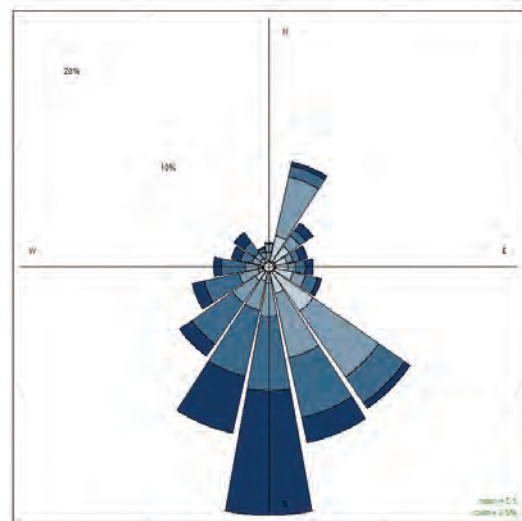
Autumn



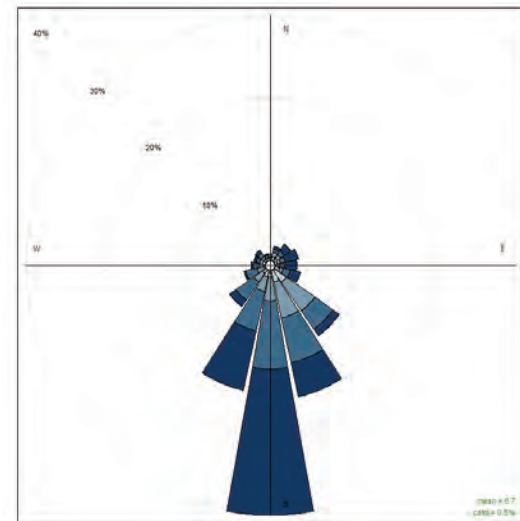
Winter



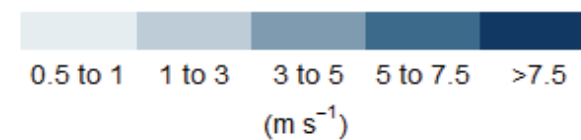
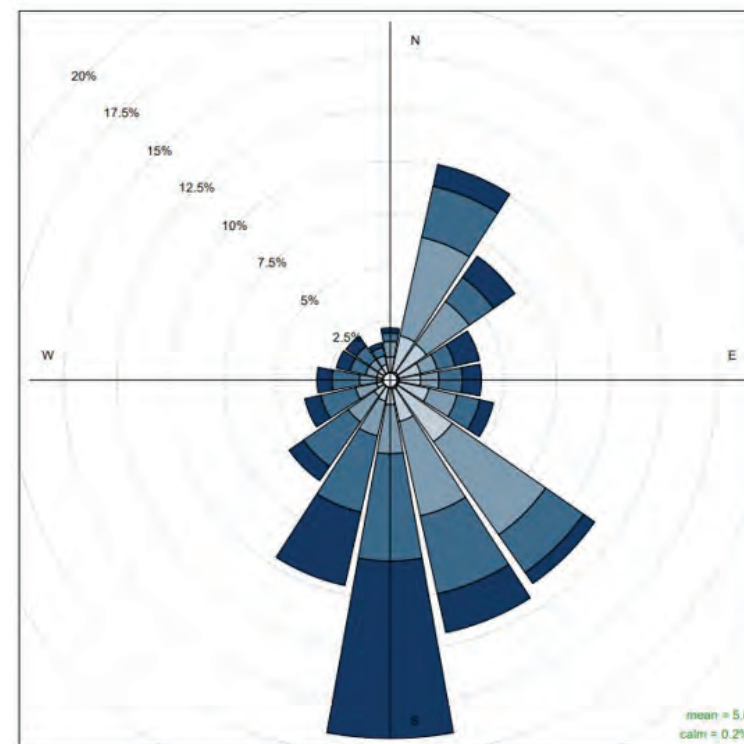
Spring



Summer



Annual



Frequency of counts by wind direction (%)

Figure 4.4 Wind roses for a five-year period at Geraldton Airport station (2019 to 2023)

## 4.3 Terrain

The site is located within the Oakajee SIA which is located on a gently undulating coastal plateau. Elevation of the plateau ranges from RL 105 mAHD in the east to RL 70 mAHD in the west. To the west of the plateau is a steep limestone escarpment which drops to coastal dunes behind the beach. To the north, the plateau drops steeply to the Oakajee River, while to the east and south it drops more gently towards the Buller River. An overview of the Project Terra site 2m contours has been presented in Figure 4.5.

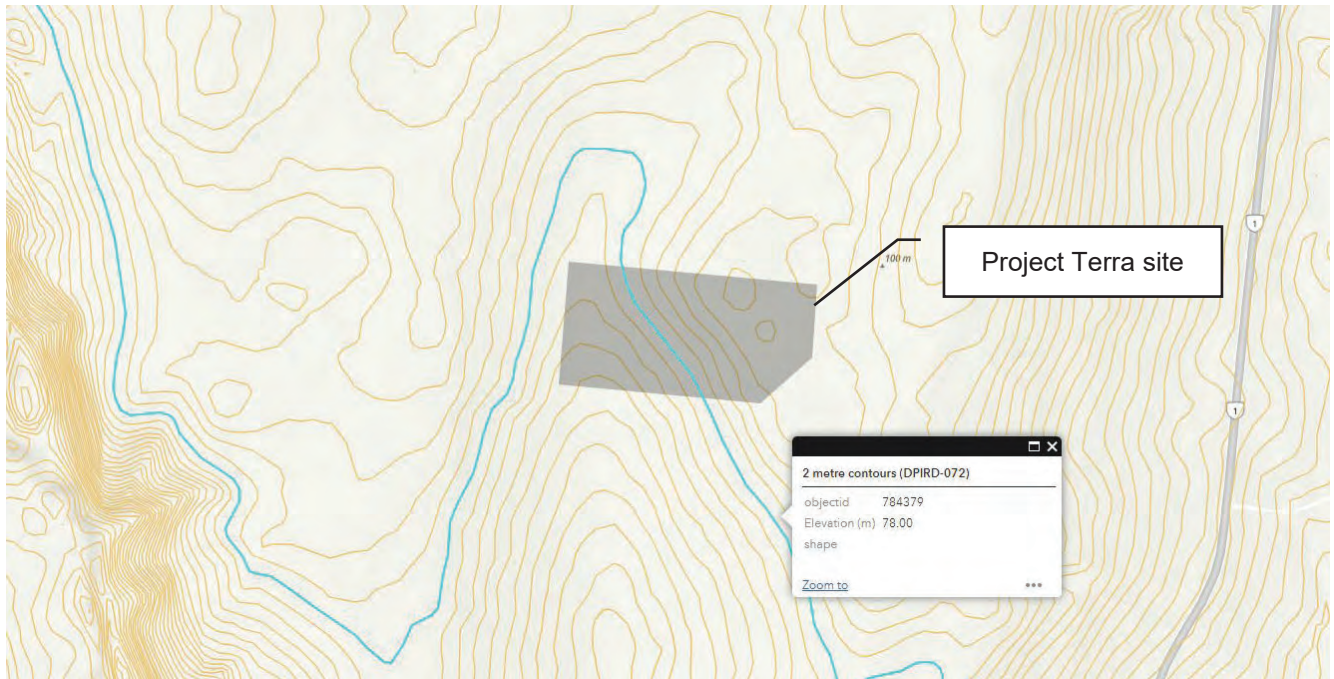


Figure 4.5 Project Terra site 2m contours (Source: [maps.slip.wa.gov.au](https://maps.slip.wa.gov.au))

## 4.4 Land use

The Australian Land Use and Management (ALUM) classification system is a nationally consistent land use classification scheme that is maintained by the Department of Agriculture, Fisheries, and Forestry (DAFF). Land uses are broadly grouped into the following categories, with each group containing several more precise sub-classifications:

- Conservation and natural environments
- Production from relatively natural environments
- Production from dryland agriculture and plantations
- Production from irrigated agriculture and plantations
- Intensive uses
- Water

The land uses Oakajee surrounding area are presented in Figure 4.6.



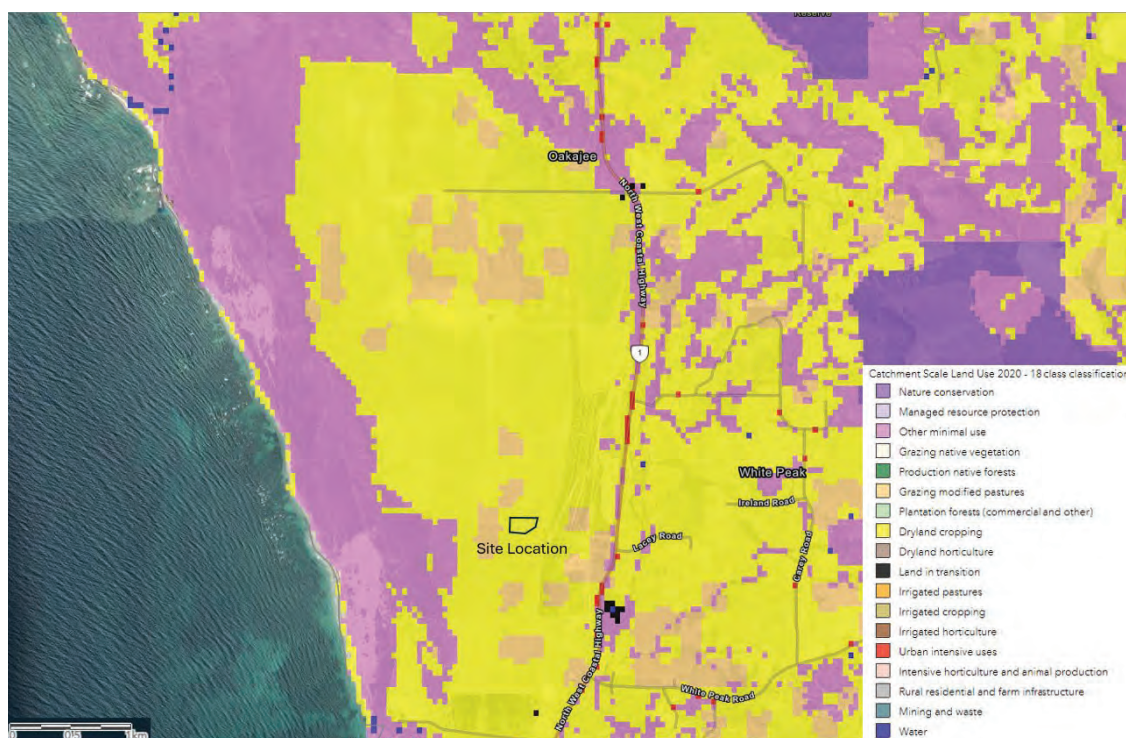


Figure 4.6 Land use for Oakajee area

## 4.5 Existing ambient air quality

### 4.5.1 Ambient air quality monitoring by DWER

The air quality in Geraldton is generally considered good, although some poor air quality events occur. The primary contributor to poor air quality events are prescribed burns, bushfires or natural events resulting in windblown dust (Department of Water and Environmental Regulation, ND). DWER monitors ambient air quality at Geraldton monitoring station, which monitors concentration of PM<sub>10</sub> and PM<sub>2.5</sub>.

A review of the Western Australian Air Monitoring Report – Annual Report under the National Environment Protection (Ambient Air Quality) Measure for relevant years (DWER, 2013 – DWER, 2019) was completed and a summary of maximum 24-hour and annual average PM<sub>10</sub> concentrations recorded from 2012 to 2021 and a summary of maximum 24-hour and annual average PM<sub>2.5</sub> concentrations recorded from 2019 to 2021 is provided in Table 4.2. The highest number of exceedances in 24-hour PM<sub>10</sub> occurred during 2019 and 2021 with six exceedances.

There were six exceedances in 24-hour averaged PM<sub>10</sub> at Geraldton in 2021, majority of which were caused by high easterly and southerly winds which caused dust lift-off as well as one exceedance related to bushfire (DWER, 2022). There were two exceedances in 24-hour averaged PM<sub>2.5</sub> which were caused by bushfire and prescribed burns in the region (DWER, 2022). A summary of 24-hour PM<sub>10</sub> and PM<sub>2.5</sub> concentrations at Geraldton monitoring station for 2021 is provided in Table 4.3.

Table 4.2 Summary of monitored 24-hour and annual average PM<sub>10</sub> (2012 – 2021) and PM<sub>2.5</sub> (2019 – 2021) concentrations (µg/m<sup>3</sup>)

Pollutant	Averaging period	Year									
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
PM <sub>2.5</sub>	24-hour maximum	-	-	-	-	-	-	-	18.4	162.3	29.2
	Annual	-	-	-	-	-	-	-	7.9	8	7
	Number of exceedance days	-	-	-	-	-	-	-	0	1	2

Pollutant	Averaging period	Year									
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
PM <sub>10</sub>	24-hour maximum	61.5	63.1	55.7	68.1	66	73.5	70	88.4	445.6	119.7
	Annual	21.3	20.9	22.3	20.2	18.8	21.3	20.1	22.2	20.9	19.4
	Number of exceedance days	3	2	4	5	3	3	3	6	3	6

**Table 4.3** Summary of monitored 24-hour PM<sub>10</sub> and PM<sub>2.5</sub> concentrations for 2021 (µg/m<sup>3</sup>)

Pollutant	Averaging period	Max	99 <sup>th</sup> percentile	98 <sup>th</sup> percentile	95 <sup>th</sup> percentile	90 <sup>th</sup> percentile	75 <sup>th</sup> percentile	50 <sup>th</sup> percentile
PM <sub>10</sub>	24-hour	119.7	52	45.2	37.2	32.8	23.2	16.6
PM <sub>2.5</sub>	24-hour	29.2	17.9	16.2	12.4	11.2	7.9	6.3

## 4.5.2 Adopted background concentrations

Where on-site ambient air monitoring data is not available for air dispersion modelling, it is common to use 75<sup>th</sup> percentile of ambient air quality concentrations as background concentration.

Since only data for 75<sup>th</sup> percentile of 24-hour PM<sub>10</sub> and PM<sub>2.5</sub> concentrations was available from Geraldton monitoring station, other pollutants were assessed incrementally. For the annual average background concentrations for both PM<sub>10</sub> and PM<sub>2.5</sub>, the most stringent monitored values from recent years was adopted.

Ultimately, background concentrations for the 24-hour (75<sup>th</sup> percentile) averaging period were adopted from the year 2021 for both PM<sub>10</sub> and PM<sub>2.5</sub>. The annual background concentrations were adopted from years 2014 and 2020 for PM<sub>10</sub> and PM<sub>2.5</sub> respectively.

Adopted background concentrations for PM<sub>10</sub> and PM<sub>2.5</sub> are shown in Table 4.4.

**Table 4.4** Adopted background concentration

Pollutant	Averaging period	Adopted concentration (µg/m <sup>3</sup> )	Year adopted
PM <sub>10</sub>	24-hour	23.2	2021
	Annual	22.3	2014
PM <sub>2.5</sub>	24-hour	7.9	2021
	Annual	8	2020

## 5. Emission sources

Emissions from the ANF include CO, NO<sub>2</sub>, SO<sub>2</sub>, dust as PM<sub>10</sub> and PM<sub>2.5</sub> and total VOCs from boiler and diesel generator. The location of modelled sources is shown in Figure 5.1.

### 5.1 Emission inventory

Emissions information used in this assessment was based on information provided by the suppliers of the boiler and diesel generator which can be seen in Appendix A. Stack parameters used in this assessment are provided in Table 5.1.

**Table 5.1** Source stack parameters

Stack parameter	Unit	Boiler stack	Diesel generator stack
Stack location - Easting	mE	267108	267154
Stack location - Northing	mN	6831977	6831978
Stack height	m	8.0	4.0
Stack diameter	m	0.3	0.3
Exhaust temperature	K	513	749
Stack exit velocity	m/s	10	12.5
Volumetric flowrate	m <sup>3</sup> /s	0.7	0.9
Energy consumed per year	kwh/yr	2.92 x 10 <sup>6</sup>	-
Fuel consumed per year	L/yr	-	1.57 x 10 <sup>5</sup>

The boiler manufacturer was only able to supply NO<sub>x</sub>, SO<sub>2</sub> and CO emission data and hence no PM<sub>10</sub> or PM<sub>2.5</sub> concentrations were modelled from the boiler stack (likely due to being a steam boiler). A single stack source was modelled for the two boilers. Fuel consumption and operational hours were provided for the diesel generator which was used to determine emission rates on the basis of *National Pollutant Inventory (NPI) Emission Estimation Technique Manual for Combustion engines* (Australian Government, 2008).

A more conservative approach was taken with the modelling as it assumed that the boiler and diesel generator will be operational continuously year-round; however, in reality both would be operational for approximately eight hours per day. Emission inventory showing emissions from the stack sources are provided in Table 5.2.

**Table 5.2** Boiler and diesel generator stack emission rates

Pollutant	Unit	Value
<b>Boiler stack</b>		
NO <sub>x</sub>	g/s	0.05
SO <sub>x</sub>	g/s	0.09
CO	g/s	0.08
<b>Diesel generator stack</b>		
NO <sub>x</sub>	g/s	1.05
SO <sub>x</sub>	g/s	2.42×10 <sup>-4</sup>
CO	g/s	0.23
VOC	g/s	0.08
PM <sub>10</sub>	g/s	0.07
PM <sub>2.5</sub>	g/s	0.07

### 5.1.1 Conversion of NO<sub>x</sub> to NO<sub>2</sub>

A 100 percent conversion of NO<sub>x</sub> to NO<sub>2</sub> was assumed, with detailed approach to conversion provided as follows

The vendor was only able to supply the emission rate for NO<sub>x</sub>. US EPA's Guideline on Air Quality Models (US EPA, 2000), recommends a tiered screening approach to estimate ambient concentrations of NO<sub>2</sub>. Tier 1 screening assumes 100% conversion of emitted NO<sub>x</sub> to NO<sub>2</sub>. If estimated concentrations exceed air quality standards, Tier 2 screening is conducted where Tier 1 results are multiplied by an empirically derived NO<sub>2</sub>/NO<sub>x</sub> value of 0.75.

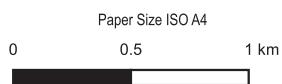
For this assessment, a total conversion of NO<sub>x</sub> to NO<sub>2</sub> was assumed as per Tier 1 screening approach. Since the predicted concentrations were well below the assessment criteria for NO<sub>2</sub>, no Tier 2 screening was conducted.





## Legend

- Site boundary
- Air emission source stacks



Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

Modelled source locations

Project No. 12631761  
Revision No. A  
Date. 09/12/2024

**FIGURE 5.1**

## 6. Air dispersion modelling

The AERMOD dispersion modelling system was used for this assessment, which is in line with the requirements of the Department of Environment's *Air Quality Modelling Guidance Notes* (2006) and DWER's *Draft Guideline: Air Emissions (Section 10 – Detailed Analysis)* (2019) for air quality dispersion modelling.

### 6.1 AERMET

#### 6.1.1 Meteorological confirmation and data file construction

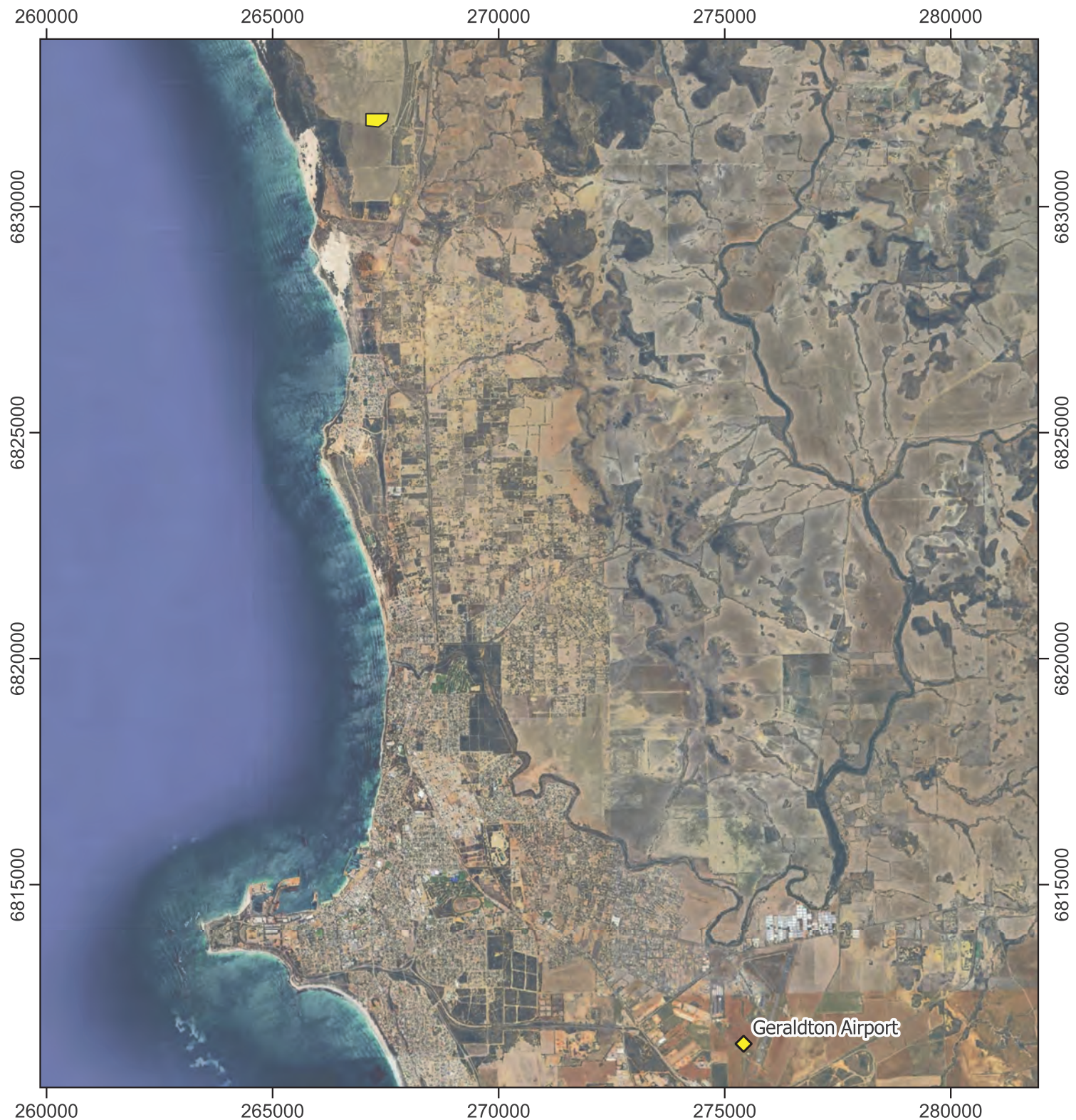
The closest meteorological station is Geraldton Airport station, located approximately 22 km southeast of the Project. The location of Geraldton Airport station is shown in Figure 6.1. To determine the most representative year for modelling, an analysis of meteorological data from January 2019 to December 2023 was conducted by GHD. The period from January 2021 to December 2021 was chosen due to representativeness to a typical year.

The following years were excluded for the given reasons:

- 2019 calendar year excluded due to low annual rainfall compared to long term average
- 2020 and 2023 calendar year excluded due to drier winter period
- 2022 calendar year excluded due to wetter winter period
- Following observations were made from review of monthly rainfall from January 2021 to December 2021
  - Annual rainfall within 6 percent of the historical annual mean
  - Winter rain (from November to April) within 15 percent of the historical rainfall for the same period

Further analysis of wind data recorded during this period was conducted. Figure 6.2 shows wind roses for the chosen representative period of calendar year 2021, which was compared against the five-year wind roses as shown in Figure 4.4. Wind roses show that general seasonal wind pattern for representative year is similar to the pattern of the five-year period. The selected representative meteorological year and five-year average have 0.9 m/s and 1 m/s difference respectively in wind speed and presence of calms (5.6 m/s and 0.5 percent calms for five-year average and 6.5 m/s and 1.5 percent calms for selected meteorological year) likely resulting in greater dispersion.





### Legend

- Site boundary
- BOM station



Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



**Blue Diamond Australia**  
**Project Terra Air Quality Impact Assessment**

### BOM station locations

Project No. **12631761**  
Revision No. **A**  
Date. **09/12/2024**

**FIGURE 6.1**

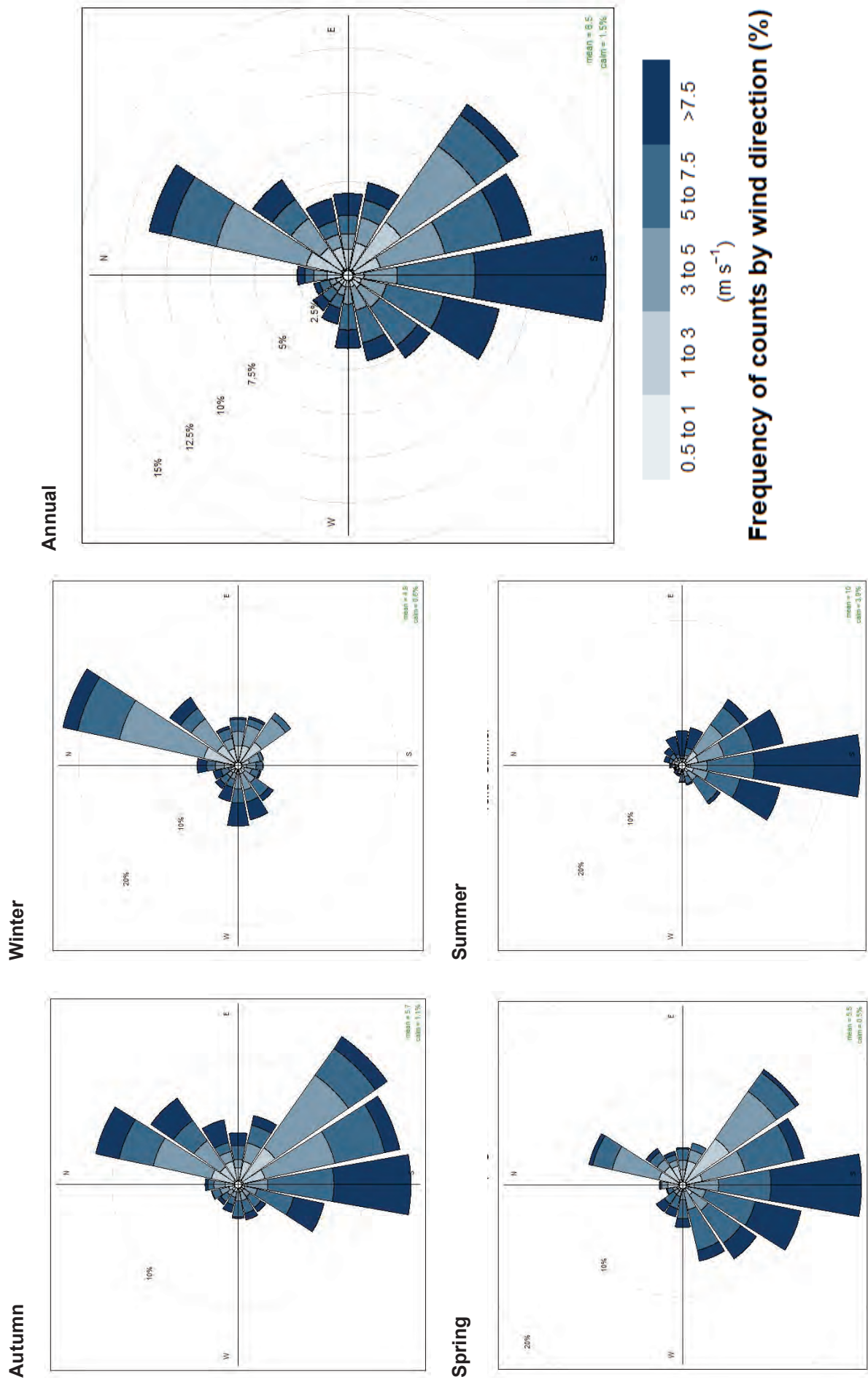


Figure 6.2 Wind roses for representative year (January 2021 to December 2021)



## 6.1.2 AERMET usage

The AERMOD meteorological processor, AERMET, was used to synthesize the AERMOD meteorological file. AERMET was used in 'on-site' observation mode using raw hourly meteorological data obtained from Geraldton Airport station. The area surrounding the Project was divided into sectors, for which values of albedo and Bowen ratio were provided as input into AERMET.

Albedo is the fraction of total solar radiation reflected back by the surface to space without absorption. Bowen ratio, which is an indicator of surface moisture, is the ratio of sensible heat flux to the latent heat flux and is used for determining planetary boundary layer parameters for convective conditions. Albedo and Bowen ratio for the different sectors were specified on the basis of land use type and season, in accordance with *User's Guide for the AERMOD Meteorological Preprocessor* (US EPA, 2022). Land use categories were determined by review of aerial imagery of the Project area.

The area used to calculate the surface roughness ( $Z_0$ ) can be seen in Figure 6.3 and the breakdown of the distribution of the Bowen ratio and albedo across each sector and season can be seen in Figure 6.3 Table 6.1 and Table 6.2.

Output from AERMET provided a surface meteorological file and upper air meteorological file to input into AERMOD.

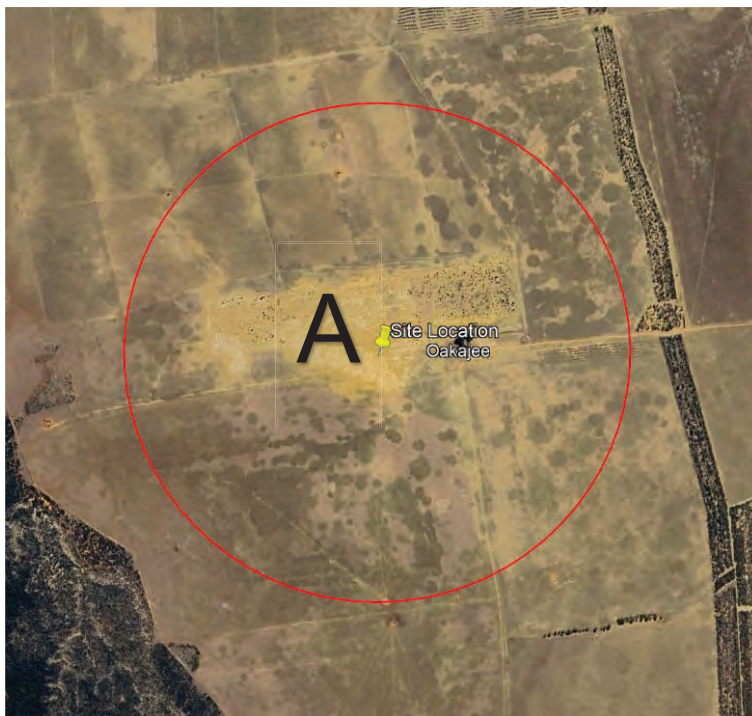


Figure 6.3 Area used to calculate surface roughness  $Z_0$

Table 6.1 Surface roughness used in each sector (A)

Sector	Degrees included (true north)	Surface roughness
A	0 – 359	0.17

Table 6.2 AERMET albedo and Bowen ratio parameters

Season	Albedo	Bowen ratio
Summer (Dec – Feb)	0.243	3.75
Autumn (Mar – May)	0.243	5.55
Winter (Jun – Aug)	0.243	5.55
Spring (Sep – Nov)	0.243	2.85

## 6.2 AERMOD

AERMOD is the US EPA's approved model for estimating impacts of emissions to air by industry. AERMOD is an advanced Gaussian plume model and extends on the Pasquill-Gifford atmospheric stability categorisation by modelling the turbulence using micro-meteorological parameters to calculate the Monin-Obukhov length. This provides a continuously varying measure of atmospheric turbulence from one hour to the next.

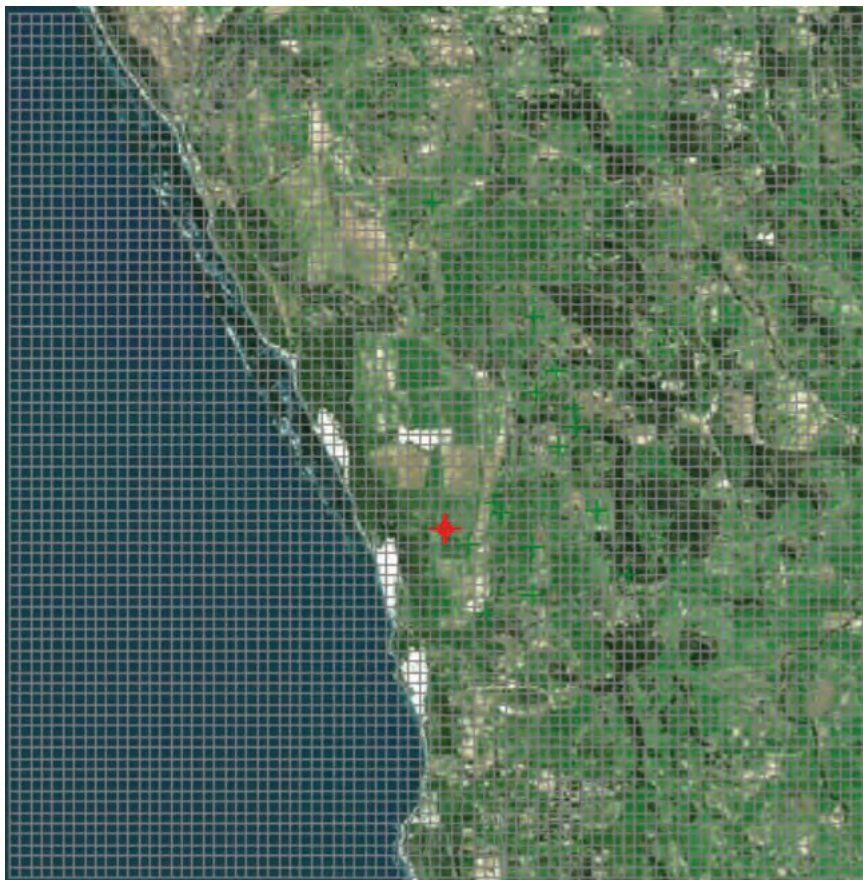
AERMOD was run for one scenario representing standard operating conditions of the Project. All pollutants discussed in Section 1 were included in the modelling. A sample AERMOD configuration file used in this assessment is shown in Appendix A.

### 6.2.1 Model configuration

AERMOD parameters applied to the model are provided in Table 6.3. The area covered by the cartesian (gridded) receptors is shown in Figure 6.4.

**Table 6.3** *Model parameter inputs and settings*

Parameter	Setting
Gridded receptor dimensions (X, Y)	20 km, 20 km
Grid spacing	250 m
No of grid points (X, Y)	81, 81
Model grid SW coordinates (m UTM)	267043.60 E, 6833907.55 N
Topography	Elevated



**Figure 6.4** *Gridded receptors in the model*

## 7. Results

Air quality dispersion modelling was undertaken to predict air quality impacts from standard operations of the ANF. A more conservative approach was taken with the modelling as it assumed that the boiler and diesel generator will be operational continuously year-round; however, in reality both would be operational for approximately eight hours per day. The averaging period and percentile presented for each air quality species were selected based on appropriate assessment criteria outlined in Section 3.

Tabulated results and contour plots are presented to show the predicted maximum ground level concentrations (GLCs) for each pollutant at the sensitive receptors. A cumulative assessment for PM<sub>10</sub> and PM<sub>2.5</sub> was undertaken, however, due to lack of available monitoring data for all other pollutants, cumulative assessment was not conducted for them.

### 7.1 Incremental results

Predicted incremental GLCs for each pollutant of concern and their respective assessment criteria are provided in Table 7.1. The results are as follows:

- Predicted incremental maximum 1-hour NO<sub>2</sub> GLCs were well below the assessment criteria accounting for less than 29 percent of the assessment criteria at any given receptor.
- Predicted incremental annual NO<sub>2</sub> GLCs at sensitive receptors accounted for less than three percent of the assessment criteria.
- Predicted incremental maximum 1-hour SO<sub>2</sub> GLCs were well below the assessment criteria accounting for less than three percent of the assessment criteria at any given receptor.
- Predicted incremental maximum 24-hour SO<sub>2</sub> GLCs were well below the assessment criteria accounting for less than two percent of the assessment criteria at any given receptor.
- Predicted incremental annual NO<sub>2</sub> GLCs at sensitive receptors accounted for less than one percent of the assessment criteria.
- Predicted incremental maximum 1-hour CO GLCs were well below the assessment criteria accounting for less than one percent of the assessment criteria at any given receptor.
- Predicted incremental maximum 8-hour CO GLCs were well below the assessment criteria accounting for less than one percent of the assessment criteria at any given receptor.
- Predicted incremental maximum 24-hour PM<sub>10</sub> GLCs were well below the assessment criteria accounting for less than one percent of the assessment criteria at any given receptor.
- Predicted incremental annual PM<sub>10</sub> GLCs at sensitive receptors accounted for less than one percent of the assessment criteria.
- Predicted incremental maximum 24-hour PM<sub>2.5</sub> GLCs were well below the assessment criteria accounting for less than two percent of the assessment criteria at any given receptor.
- Predicted incremental annual PM<sub>2.5</sub> GLCs at sensitive receptors accounted for less than one percent of the assessment criteria.
- Predicted incremental maximum 1-hour total VOCs (as benzene) GLCs were well below the assessment criteria accounting for less than 12 percent of the assessment criteria at any given receptor.
- Predicted incremental annual total VOCs (as benzene) GLCs at sensitive receptors accounted for less than one percent of the assessment criteria.

The following contour plots are presented:

- Contour plots for predicted maximum 1-hour and annual GLCs of NO<sub>2</sub> are shown in Figure 7.1 and Figure 7.2.
- Contour plots for predicted maximum 1-hour, 24-hour and annual GLCs of SO<sub>2</sub> are shown in Figure 7.3, Figure 7.4, and Figure 7.5 respectively.
- Contour plots for predicted maximum 1-hour and 8-hour GLCs of CO are shown in Figure 7.6 and Figure 7.7 respectively.

- Contour plots for predicted maximum 1-hour and annual GLCs of PM<sub>10</sub> are shown in Figure 7.8 and Figure 7.9.
- Contour plots for predicted maximum 1-hour and annual GLCs of PM<sub>2.5</sub> are shown in Figure 7.10 and Figure 7.11.
- Contour plots for predicted maximum 1-hour and annual GLCs of total VOCs (as benzene) are shown in Figure 7.12 and Figure 7.13.



Table 7.1 Incremental model predicted results for all pollutants

Receptor	Ground level concentrations (ug/m <sup>3</sup> )													
	Compound	NO <sub>2</sub>		SO <sub>2</sub>			CO		PM <sub>10</sub>		PM <sub>2.5</sub>		Total VOCs (as Benzene)	
	Averaging period	1-hour	Annual	1-hour	24-hour	Annual	1-hour	8-hour	24-hour	Annual	24-hour	Annual	1 hour	Annual
R1		3.7	2.40 x 10 <sup>-2</sup>	0.3	1.46 x 10 <sup>-2</sup>	1.98 x 10 <sup>-3</sup>	1.0	0.1	1.20 x 10 <sup>-2</sup>	1.53 x 10 <sup>-3</sup>	1.20 x 10 <sup>-2</sup>	1.53 x 10 <sup>-3</sup>	0.3	1.75 x 10 <sup>-3</sup>
R2		9.7	2.94 x 10 <sup>-2</sup>	0.9	4.69 x 10 <sup>-2</sup>	2.43 x 10 <sup>-3</sup>	2.8	0.5	3.45 x 10 <sup>-2</sup>	1.87 x 10 <sup>-3</sup>	3.45 x 10 <sup>-2</sup>	1.87 x 10 <sup>-3</sup>	0.7	2.14 x 10 <sup>-3</sup>
R3		10.0	4.13 x 10 <sup>-2</sup>	0.9	5.42 x 10 <sup>-2</sup>	3.40 x 10 <sup>-3</sup>	2.9	0.5	4.46 x 10 <sup>-2</sup>	2.63 x 10 <sup>-3</sup>	4.46 x 10 <sup>-2</sup>	2.63 x 10 <sup>-3</sup>	0.7	3.00 x 10 <sup>-3</sup>
R4		7.9	2.55 x 10 <sup>-2</sup>	0.7	5.00 x 10 <sup>-2</sup>	2.08 x 10 <sup>-3</sup>	2.2	0.5	3.74 x 10 <sup>-2</sup>	1.62 x 10 <sup>-3</sup>	3.74 x 10 <sup>-2</sup>	1.62 x 10 <sup>-3</sup>	0.6	1.85 x 10 <sup>-3</sup>
R5		18.7	4.11 x 10 <sup>-2</sup>	1.7	9.51 x 10 <sup>-2</sup>	3.37 x 10 <sup>-3</sup>	5.4	0.9	6.86 x 10 <sup>-2</sup>	2.62 x 10 <sup>-3</sup>	6.86 x 10 <sup>-2</sup>	2.62 x 10 <sup>-3</sup>	1.4	2.99 x 10 <sup>-3</sup>
R6		7.0	2.37 x 10 <sup>-2</sup>	0.6	4.22 x 10 <sup>-2</sup>	1.92 x 10 <sup>-3</sup>	2.0	0.4	3.37 x 10 <sup>-2</sup>	1.51 x 10 <sup>-3</sup>	3.37 x 10 <sup>-2</sup>	1.51 x 10 <sup>-3</sup>	0.5	1.73 x 10 <sup>-3</sup>
R7		6.4	1.36 x 10 <sup>-2</sup>	0.5	2.69 x 10 <sup>-2</sup>	1.11 x 10 <sup>-3</sup>	1.8	0.3	2.01 x 10 <sup>-2</sup>	8.64 x 10 <sup>-4</sup>	2.01 x 10 <sup>-2</sup>	8.64 x 10 <sup>-4</sup>	0.5	9.88 x 10 <sup>-4</sup>
R8		12.2	3.94 x 10 <sup>-2</sup>	1.0	8.25 x 10 <sup>-2</sup>	3.22 x 10 <sup>-3</sup>	3.5	0.8	6.51 x 10 <sup>-2</sup>	2.51 x 10 <sup>-3</sup>	6.51 x 10 <sup>-2</sup>	2.51 x 10 <sup>-3</sup>	0.9	2.87 x 10 <sup>-3</sup>
R9		44.3	0.5	4.7	0.6	3.90 x 10 <sup>-2</sup>	12.6	4.9	0.4	3.16 x 10 <sup>-2</sup>	0.4	3.16 x 10 <sup>-2</sup>	3.2	3.61 x 10 <sup>-2</sup>
R10		18.3	0.1	1.6	0.2	1.06 x 10 <sup>-2</sup>	5.1	1.3	0.1	8.55 x 10 <sup>-3</sup>	0.1	8.55 x 10 <sup>-3</sup>	1.3	9.77 x 10 <sup>-3</sup>
R11		18.5	5.62 x 10 <sup>-2</sup>	1.6	0.1	4.64 x 10 <sup>-3</sup>	5.2	1.5	0.1	3.58 x 10 <sup>-3</sup>	0.2	3.58 x 10 <sup>-3</sup>	1.4	4.09 x 10 <sup>-3</sup>
R12		6.4	2.02 x 10 <sup>-2</sup>	0.6	3.37 x 10 <sup>-2</sup>	1.66 x 10 <sup>-3</sup>	1.9	0.2	2.56 x 10 <sup>-2</sup>	1.29 x 10 <sup>-3</sup>	2.56 x 10 <sup>-2</sup>	1.29 x 10 <sup>-3</sup>	0.5	1.47 x 10 <sup>-3</sup>
R13		30.1	0.2	2.8	0.2	1.53 x 10 <sup>-2</sup>	8.7	2.1	0.2	1.22 x 10 <sup>-2</sup>	0.2	1.22 x 10 <sup>-2</sup>	2.2	1.39 x 10 <sup>-2</sup>
R14		15.5	3.30 x 10 <sup>-2</sup>	1.2	5.90 x 10 <sup>-2</sup>	2.66 x 10 <sup>-3</sup>	4.3	0.6	4.84 x 10 <sup>-2</sup>	2.10 x 10 <sup>-3</sup>	4.84 x 10 <sup>-2</sup>	2.10 x 10 <sup>-3</sup>	1.1	2.40 x 10 <sup>-3</sup>
R15		21.5	7.74 x 10 <sup>-2</sup>	1.9	8.40 x 10 <sup>-2</sup>	6.30 x 10 <sup>-3</sup>	6.2	0.8	6.01 x 10 <sup>-2</sup>	4.93 x 10 <sup>-3</sup>	6.01 x 10 <sup>-2</sup>	4.93 x 10 <sup>-3</sup>	1.6	5.63 x 10 <sup>-3</sup>
Criteria		151	28	262	52	52	30000	10000	46	23	23	7	29	9.6

## 7.2 Cumulative results

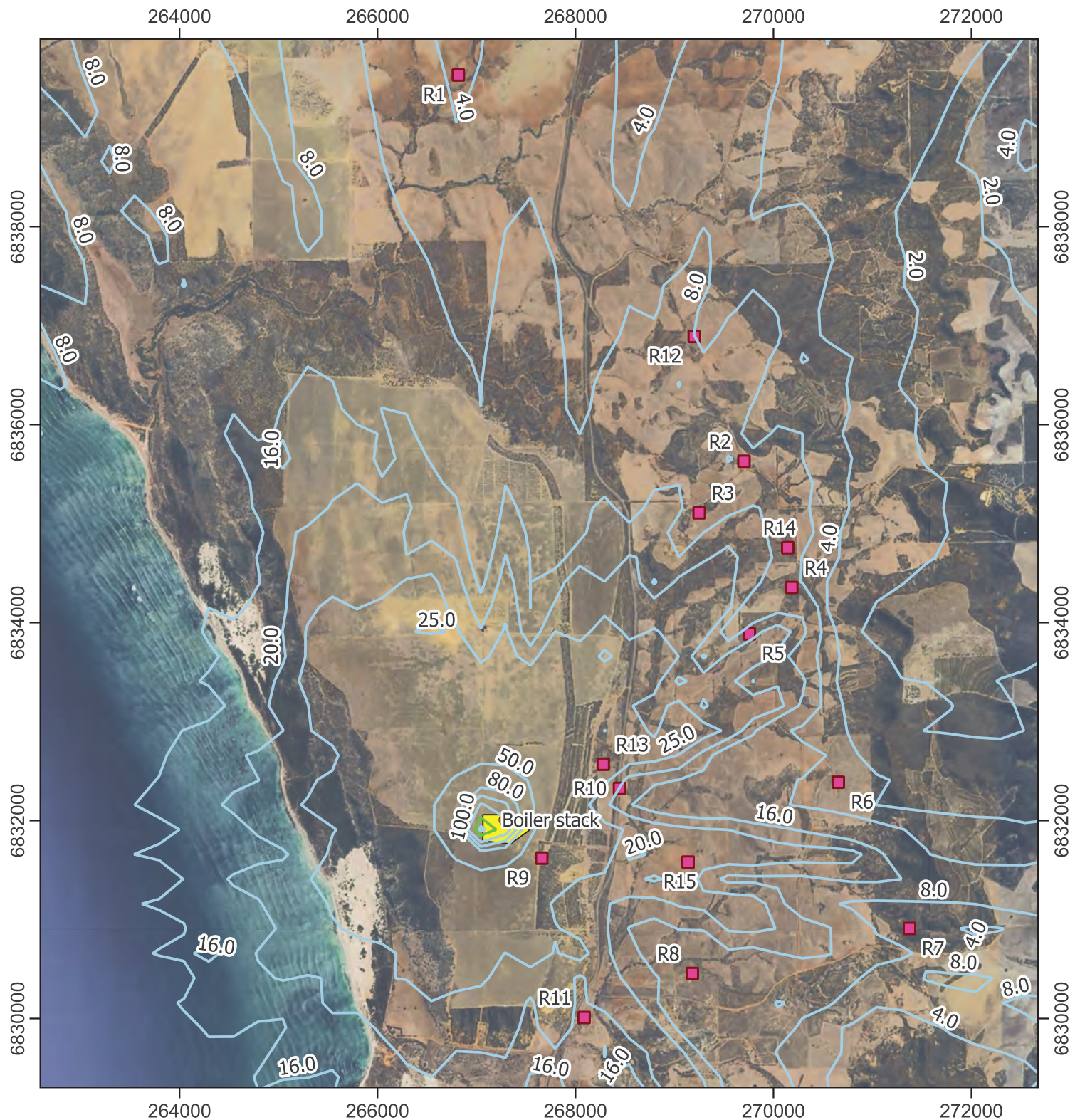
Predicted incremental GLCs for each pollutant of concern and their respective assessment criteria are provided in Table 7.2. The results of the dispersion modelling are as follows:

- Predicted cumulative maximum 24-hour PM<sub>10</sub> GLCs were well below the assessment criteria accounting for less than 47 percent of the assessment criteria at any given receptor.
- Predicted cumulative annual PM<sub>10</sub> GLCs at sensitive receptors accounted for less than 89 percent of the assessment criteria.
- Predicted cumulative maximum 24-hour PM<sub>2.5</sub> GLCs were well below the assessment criteria accounting for less than two percent of the assessment criteria at any given receptor.
- Predicted cumulative annual PM<sub>2.5</sub> GLCs at sensitive receptors accounted for ~114 percent of the assessment criteria.

Although exceedances were predicted for the predicted annual PM<sub>2.5</sub> cumulative assessment where the predicted GLCs account for ~114 percent of the assessment criteria, this is attributed to the background concentration which itself represents 114 percent of the assessment criteria. The proposed activities from this project do not significantly contribute to the increase in annual PM<sub>2.5</sub> average concentrations, as the incremental contribution is approximately 0.01% of the total PM<sub>2.5</sub> concentration.

**Table 7.2** Cumulative model predicted results for PM<sub>10</sub> & PM<sub>2.5</sub>

Receptor	Ground level concentrations (ug/m <sup>3</sup> )				
	Compound	PM <sub>10</sub>		PM <sub>2.5</sub>	
	Averaging period	24-hour	Annual	24-hour	Annual
R1		23.2	22.3	7.9	8.0
R2		23.2	22.3	7.9	8.0
R3		23.2	22.3	7.9	8.0
R4		23.2	22.3	7.9	8.0
R5		23.3	22.3	8.0	8.0
R6		23.2	22.3	7.9	8.0
R7		23.2	22.3	7.9	8.0
R8		23.3	22.3	8.0	8.0
R9		23.6	22.3	8.3	8.0
R10		23.3	22.3	8.0	8.0
R11		23.3	22.3	8.0	8.0
R12		23.2	22.3	7.9	8.0
R13		23.4	22.3	8.1	8.0
R14		23.2	22.3	8.0	8.0
R15		23.3	22.3	8.0	8.0
<b>Criteria</b>		<b>46</b>	<b>23</b>	<b>23</b>	<b>7</b>



## Legend

- Site boundary
- Air emission source stacks
- Sensitive receptors
- Incremental GLCs ( $\mu\text{g}/\text{m}^3$ )
- Air quality criteria ( $\mu\text{g}/\text{m}^3$ )

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



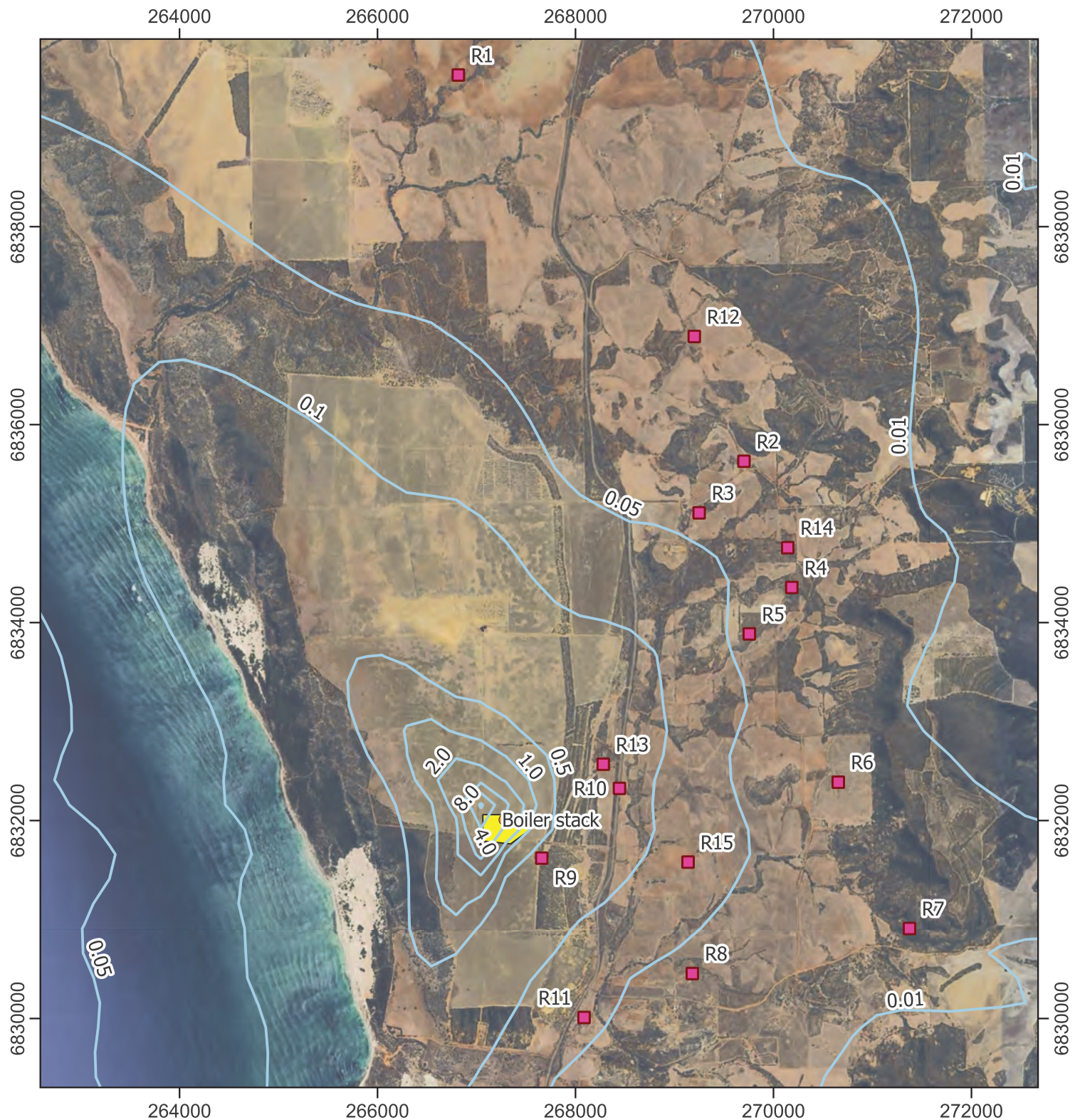
Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental maximum 1-hour  
NO<sub>2</sub> concentrations**

Project No. 12631761  
Revision No. A  
Date. 11/12/2024

**FIGURE 7.1**





## Legend

- Site boundary
- Sensitive receptors
- Air quality criteria ( $\mu\text{g}/\text{m}^3$ )
- Air emission source stacks
- Incremental GLCs ( $\mu\text{g}/\text{m}^3$ )

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



Blue Diamond Australia  
Project Terra Air Quality Impact Assessment  
**Predicted incremental annual  $\text{NO}_2$  concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.2**





## Legend

- Site boundary
- Sensitive receptors
- Air quality criteria ( $\mu\text{g}/\text{m}^3$ )
- Air emission source stacks
- Incremental GLCs ( $\mu\text{g}/\text{m}^3$ )

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



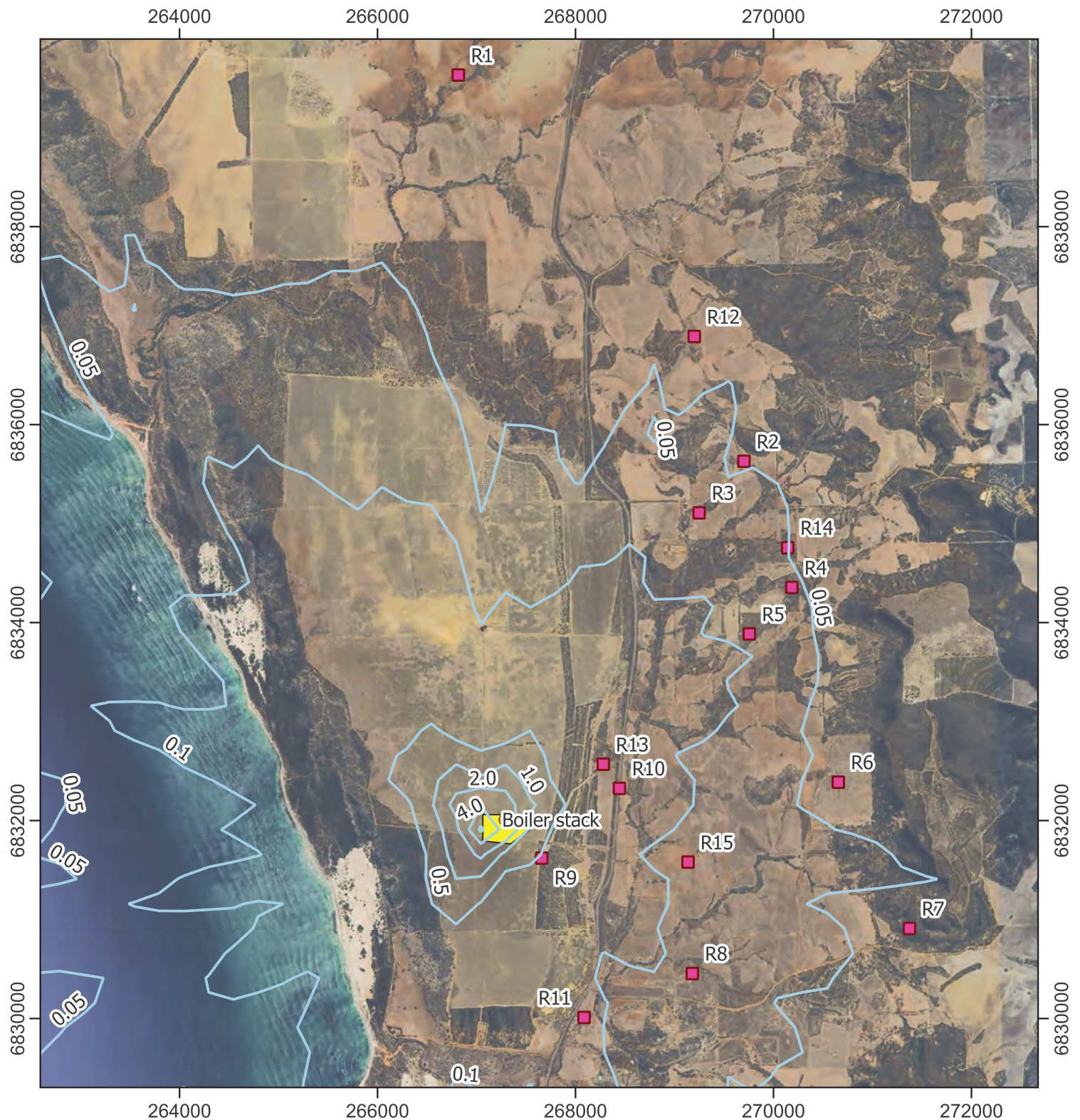
Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental maximum 1-hour  
SO<sub>2</sub> concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.3**





## Legend

- Site boundary
- Sensitive receptors
- Air quality criteria (µg/m<sup>3</sup>)
- Air emission source stacks
- Incremental GLCs (µg/m<sup>3</sup>)

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



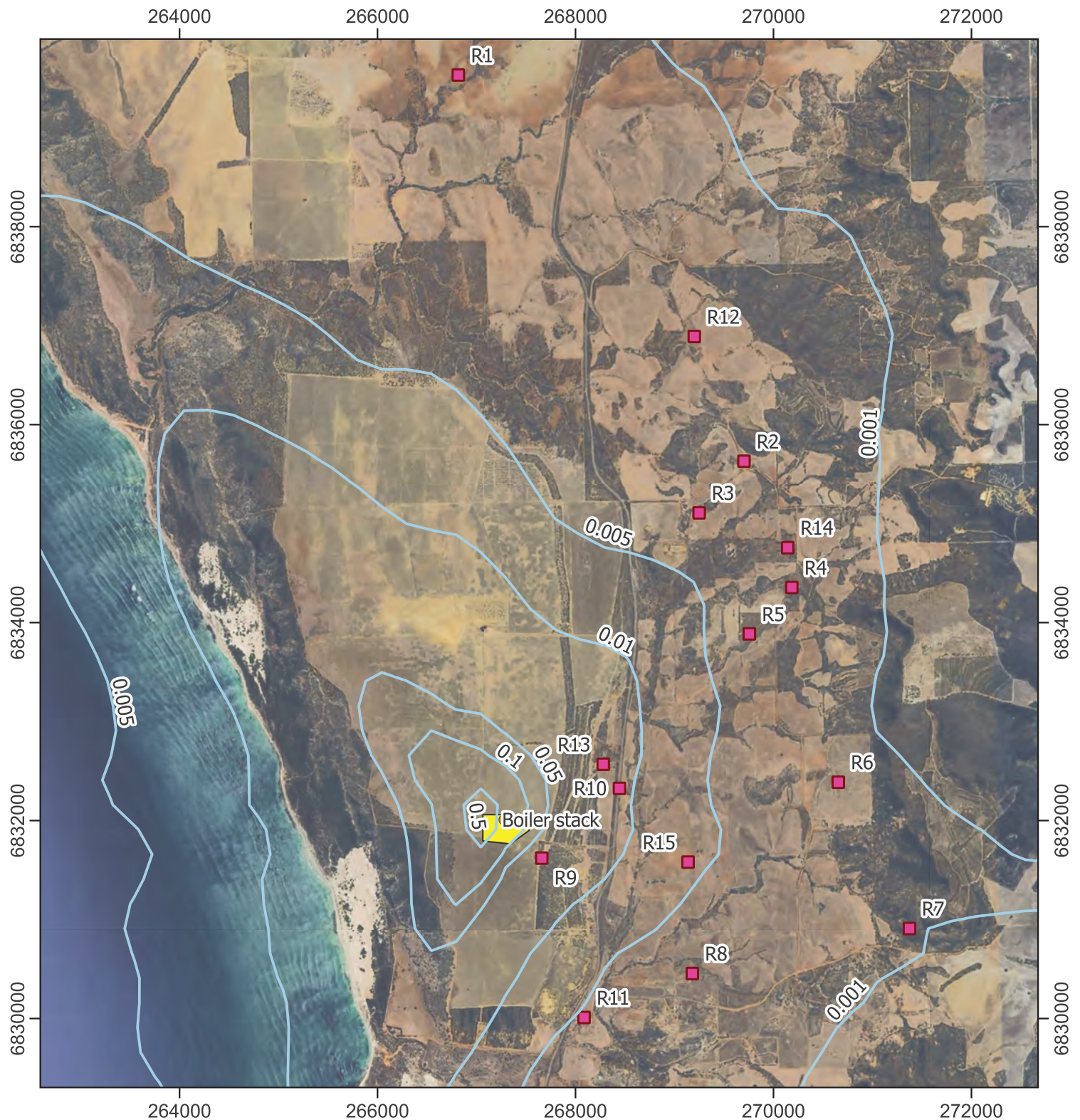
Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental maximum 24-hour  
SO<sub>2</sub> concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.4**





## Legend

- Site boundary
- Sensitive receptors
- Air quality criteria (µg/m<sup>3</sup>)
- Air emission source stacks
- Incremental GLCs (µg/m<sup>3</sup>)

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50

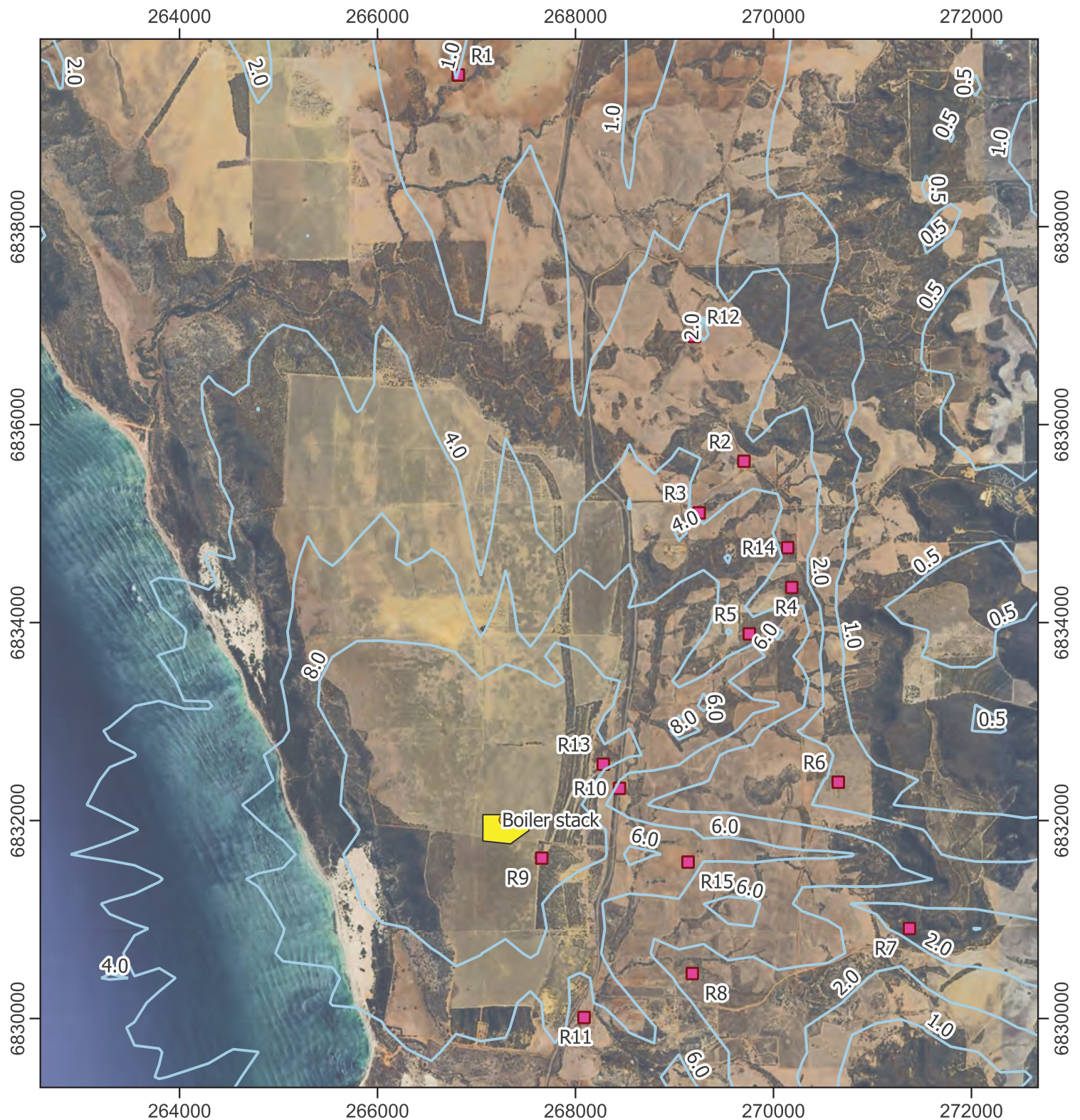


Blue Diamond Australia  
Project Terra Air Quality Impact Assessment  
**Predicted incremental annual SO<sub>2</sub> concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.5**





### Legend

- Site boundary
- Sensitive receptors
- Air quality criteria ( $\mu\text{g}/\text{m}^3$ )
- Air emission source stacks
- Incremental GLCs ( $\mu\text{g}/\text{m}^3$ )

Paper Size ISO A4  
0 1 2 km

Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



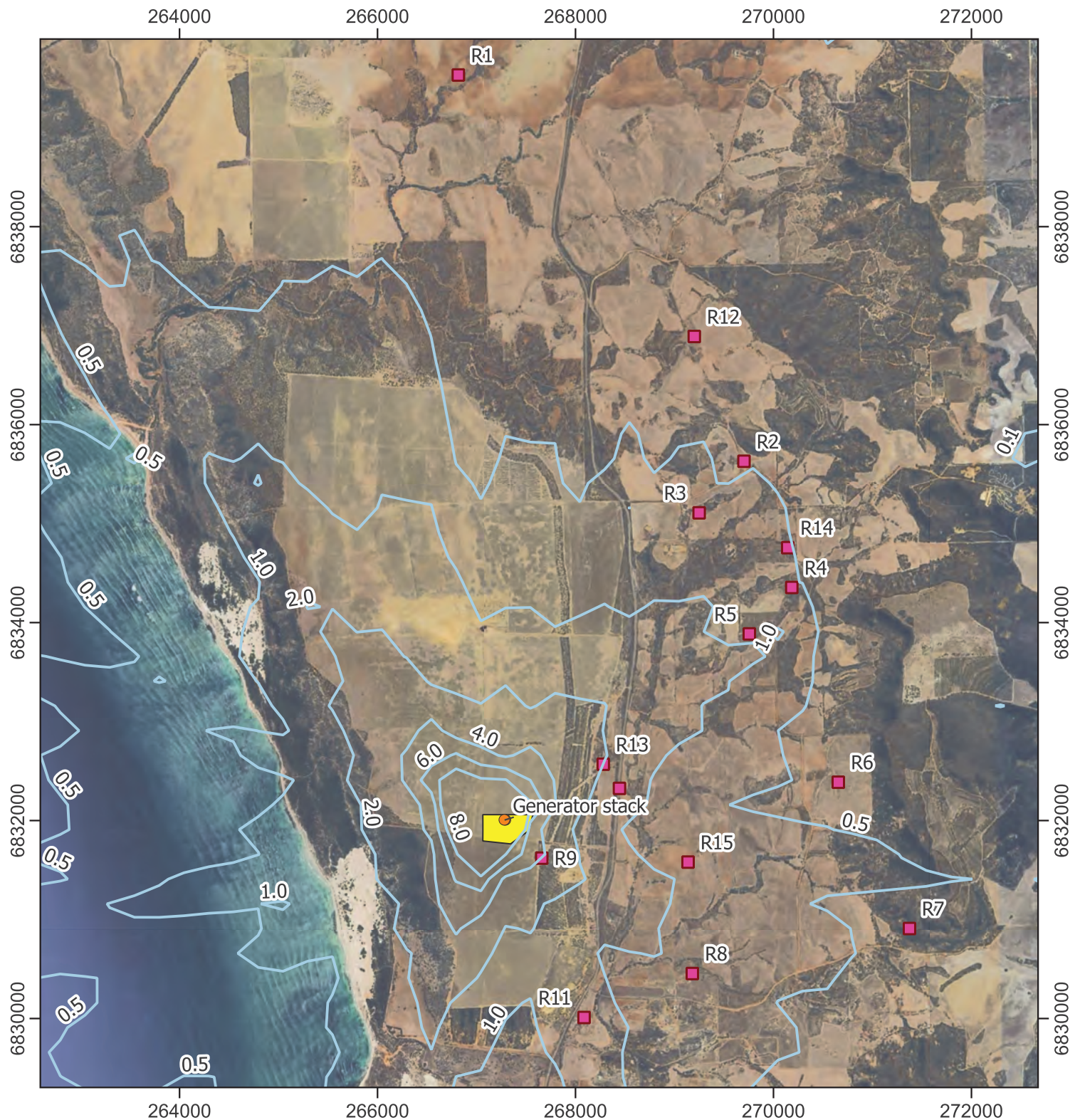
Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental maximum 1-hour  
CO concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.6**





## Legend

- Site boundary
- Air emission source stacks
- Sensitive receptors
- Incremental GLCs ( $\mu\text{g}/\text{m}^3$ )
- Air quality criteria ( $\mu\text{g}/\text{m}^3$ )

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental maximum 8-hour  
CO concentrations**

Project No. 12631761  
Revision No. A  
Date. 11/12/2024

**FIGURE 7.7**





## Legend

- Site boundary
- Air emission source stacks
- Sensitive receptors
- Incremental GLCs (µg/m³)
- Air quality criteria (µg/m³)

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



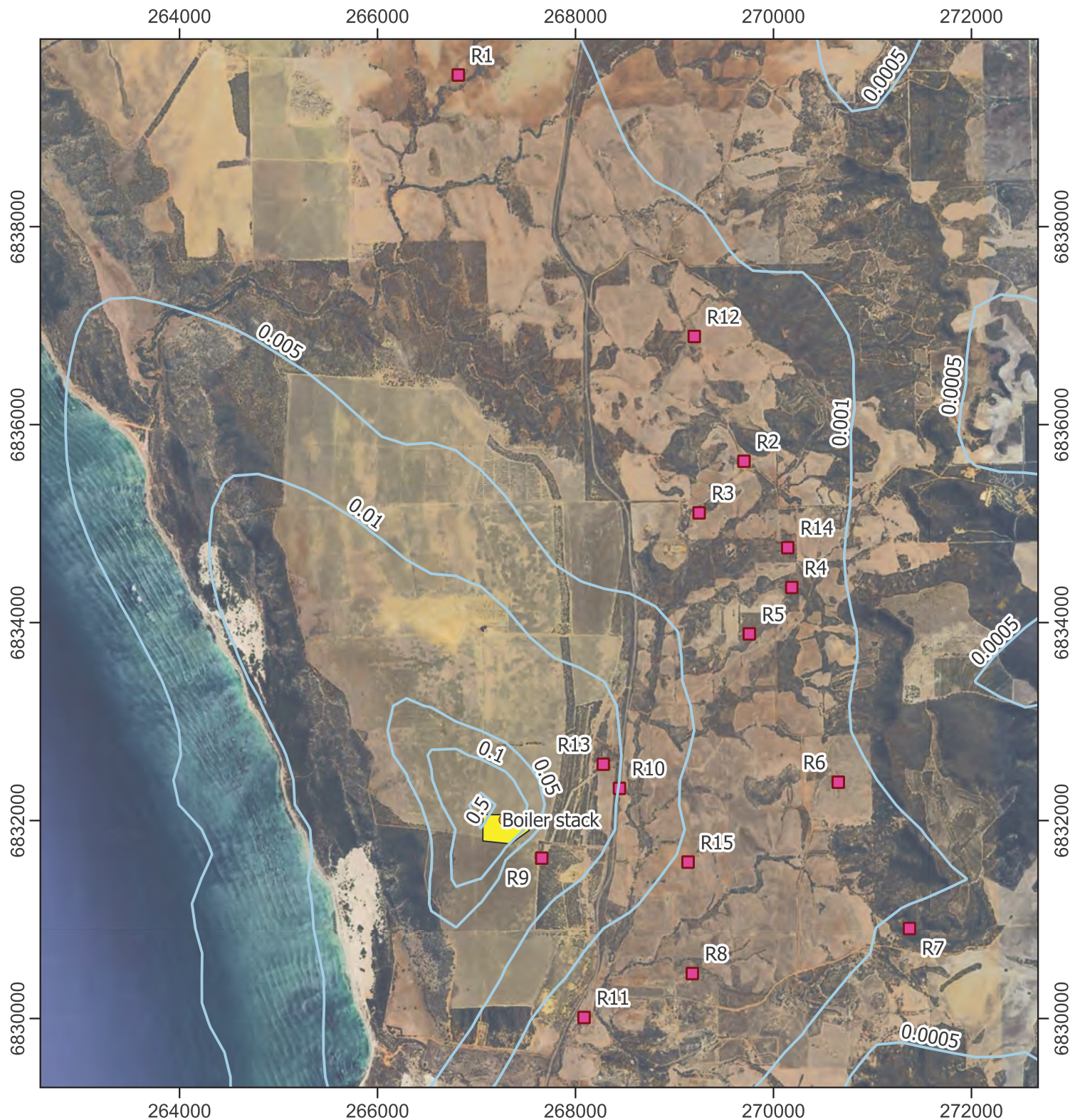
Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental maximum 24-hour  
PM<sub>10</sub> concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.8**





## Legend

- Site boundary
- Sensitive receptors
- Air quality criteria (µg/m³)
- Air emission source stacks
- Incremental GLCs (µg/m³)

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental annual PM<sub>10</sub>  
concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.9**





## Legend

- Site boundary
- Air emission source stacks
- Sensitive receptors
- Incremental GLCs (µg/m<sup>3</sup>)
- Air quality criteria (µg/m<sup>3</sup>)

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



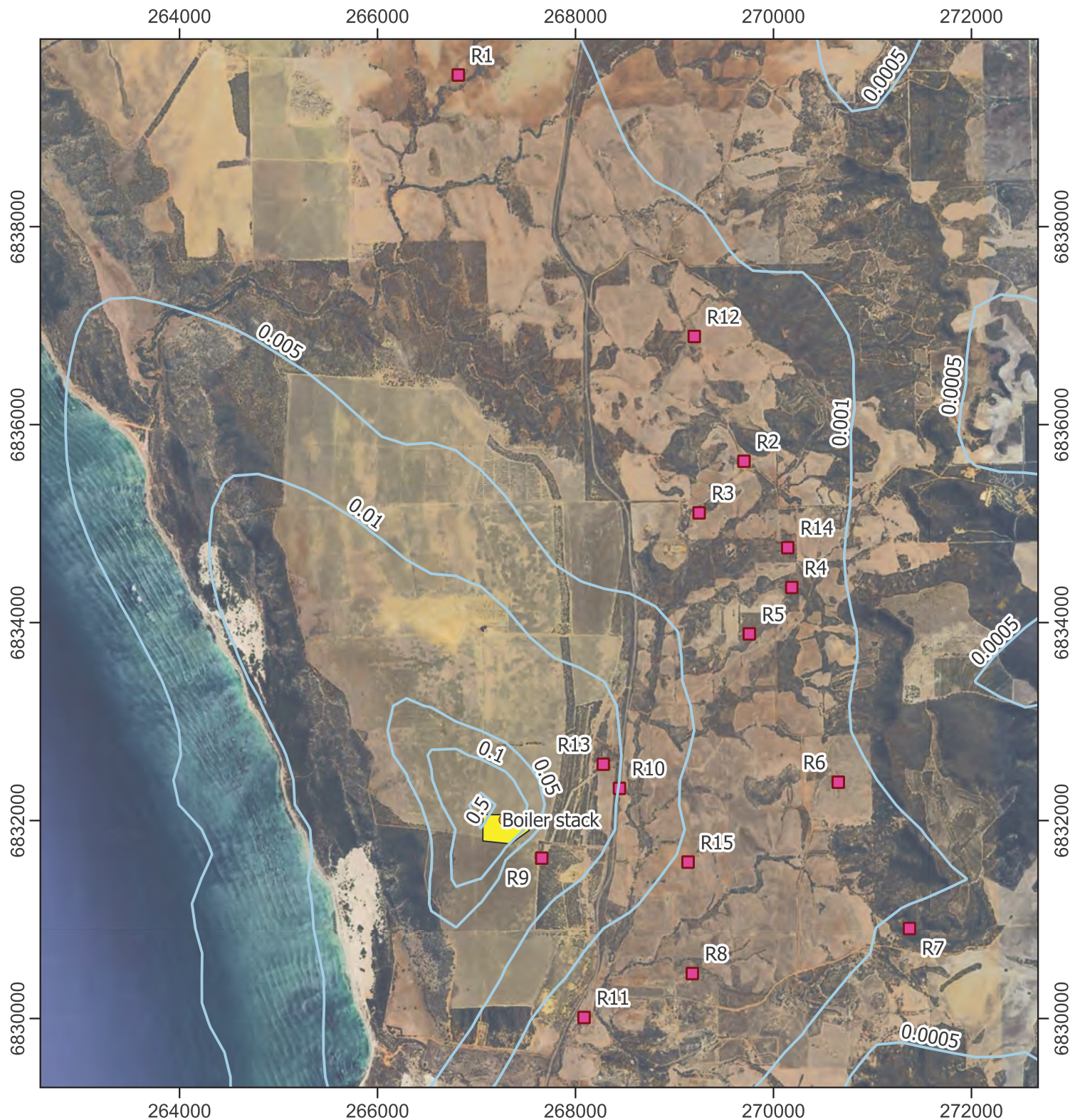
Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental maximum 24-hour  
PM<sub>2.5</sub> concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.10**





## Legend

- Site boundary
- Air emission source stacks
- Sensitive receptors
- Incremental GLCs (µg/m<sup>3</sup>)
- Air quality criteria (µg/m<sup>3</sup>)

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50

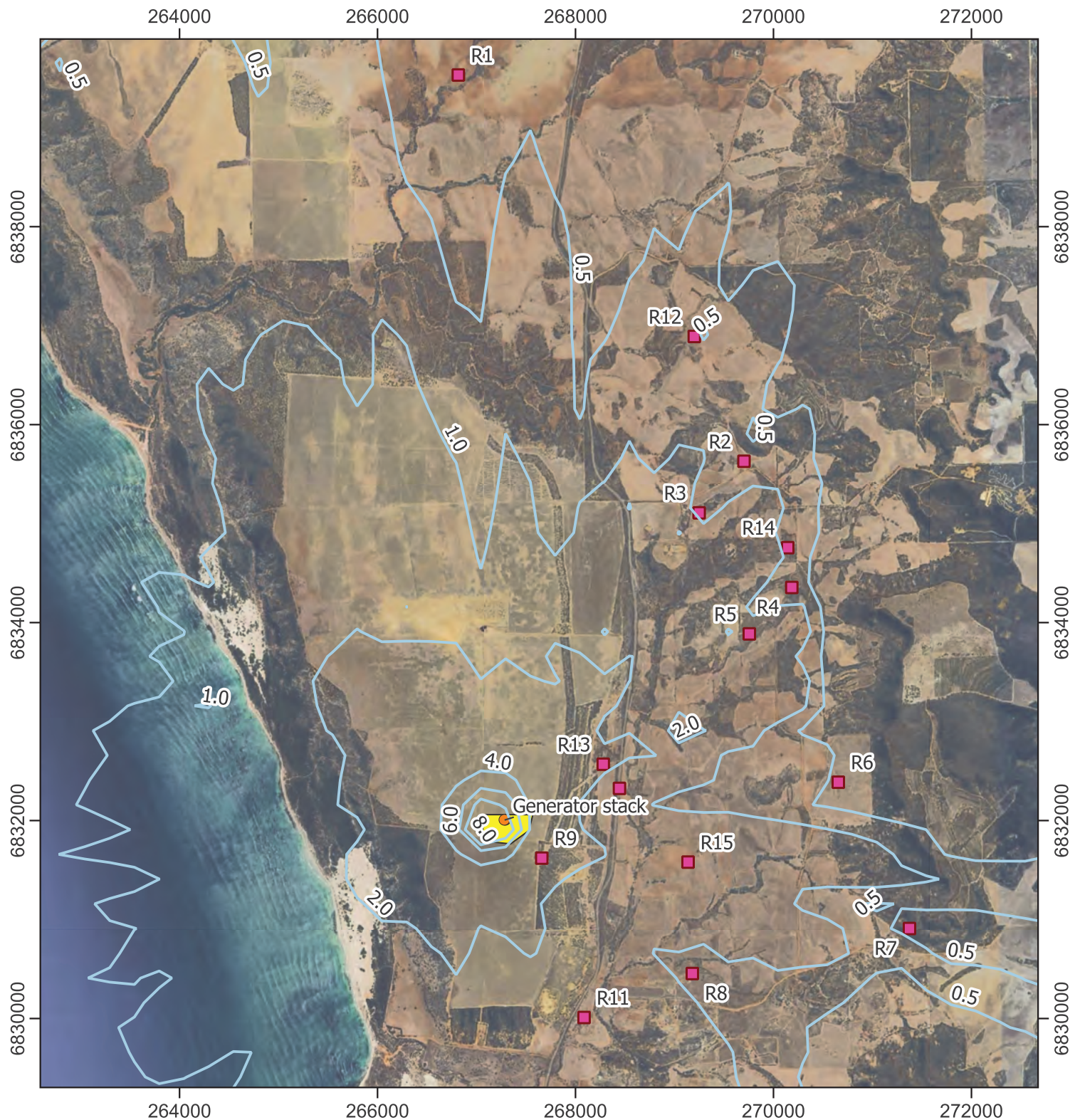


Blue Diamond Australia  
Project Terra Air Quality Impact Assessment  
**Predicted incremental annual PM<sub>2.5</sub> concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.11**





## Legend

- Site boundary
- Air emission source stacks
- Sensitive receptors
- Incremental GLCs (µg/m³)
- Air quality criteria (µg/m³)

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



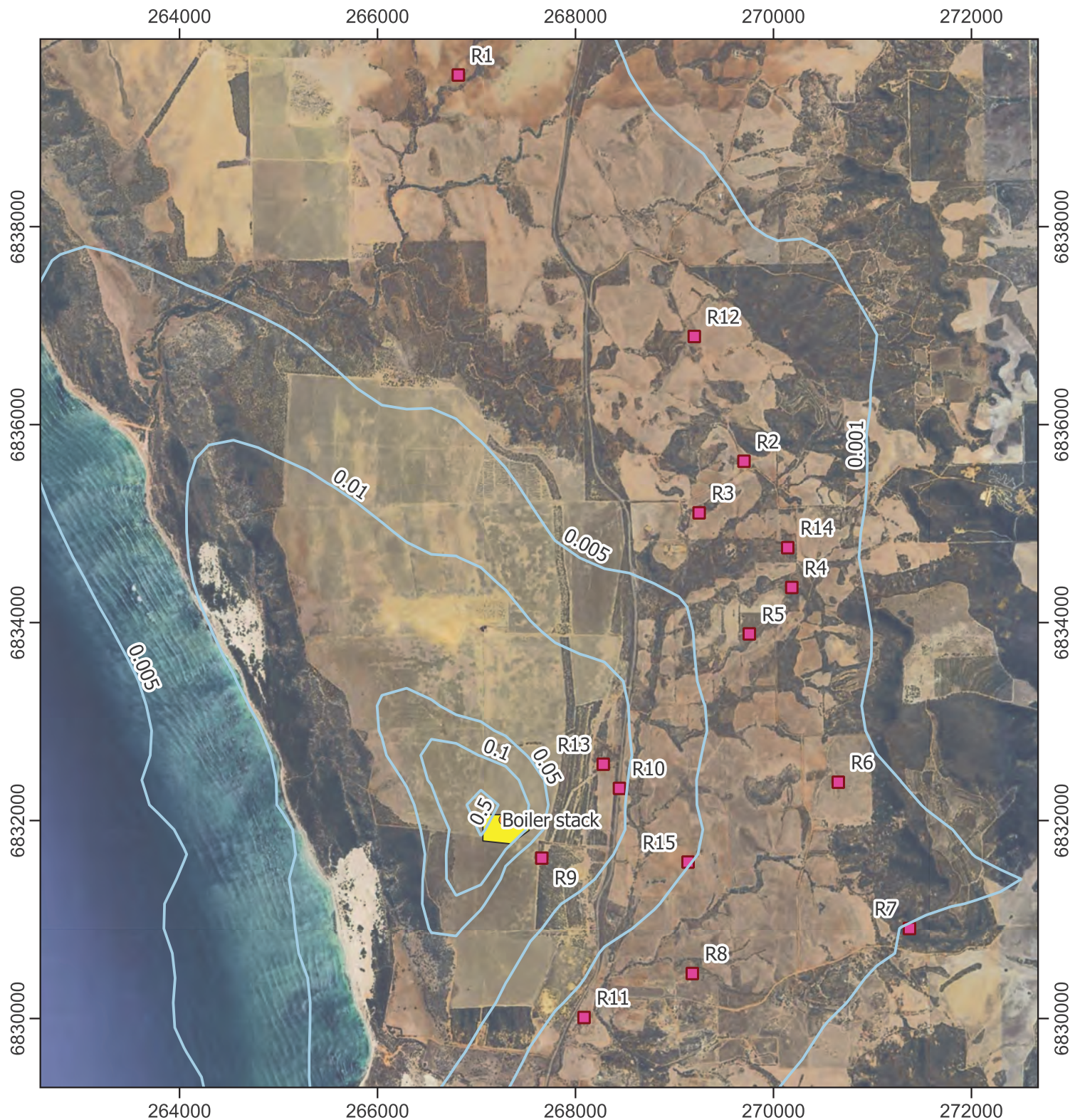
Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental maximum 1-hour  
total VOCs (as Benzene) concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.12**





## Legend

- Site boundary
- Sensitive receptors
- Air quality criteria ( $\mu\text{g}/\text{m}^3$ )
- Air emission source stacks
- Incremental GLCs ( $\mu\text{g}/\text{m}^3$ )

Paper Size ISO A4  
0 1 2 km  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



Blue Diamond Australia  
Project Terra Air Quality Impact Assessment

**Predicted incremental annual total VOCs  
(as Benzene) concentrations**

Project No. 12631761  
Revision No. A  
Date: 11/12/2024

**FIGURE 7.13**



## 8. Conclusion

GHD was engaged by BDA to assist in securing DA and environmental approvals for its proposed ANF. Project Terra is proposed to be located within the Oakajee SIA on a portion of land that has been allocated to BDA as part of an option to lease by DevWA.

A Works Approval and Licence will be required for the ANF as it will be a Prescribed Premises under Schedule 1 of the *Environmental Protection Regulations 1987*, with the ANF being categorised as a Category 75 (chemical blending and mixing) Prescribed Premises activity.

As part of the Works Approval, BDA requested GHD to undertake an Air Quality Impact Assessment (AQIA) for the operational phase of the Project.

Air quality dispersion modelling was undertaken to predict air quality impacts from standard operations of the ANF. Predicted incremental ground level concentrations (GLCs) were assessed against the relevant criteria, with the primary pollutants assessed being NO<sub>2</sub>, SO<sub>2</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub> and total VOCs (as benzene). A cumulative assessment for PM<sub>10</sub> and PM<sub>2.5</sub> was undertaken. A single scenario was modelled for this assessment, representing typical operations.

The results of the air dispersion modelling indicate that the Project will comply with the relevant air quality criteria for each of the pollutants across all scenarios, with the exception of the cumulative assessment for annual PM<sub>2.5</sub> GLCs, where the contribution of the background concentrations resulted in exceedances for all receptors. However, the proposed activities do not significantly contribute to the increase in annual PM<sub>2.5</sub> average concentrations, as the incremental contribution is approximately 0.01% of the total PM<sub>2.5</sub> concentration.

Overall, the proposed project does not pose a significant threat to air quality in the region.

## 9. References

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# **Appendix A**

**Gas boiler and diesel generators  
specifications**





# DCA-400



## Why Blue Diamond and Denyo Generators?

Denyo Generators are widely regarded as the most bullet proof generators in the world.

This fact, combined with Blue Diamonds huge stock levels, ability to service nationally and legendary support makes it a winning combination.

## Super Silent Technology

The frame and housing are built with high strength materials, and all doors are engineered to minimise vibration. Sound Attenuated Enclosure is lined with special vibration-absorbent polymer material to reduce vibrations. This oil resistant material is bonded to the walls of the canopy with resilient adhesive that enhances its performance. The unit's airflow has been engineered to provide proper cooling at an absolute minimum noise level.

## Control Panel

No complicated Electronics! Simple Analogue Dials are easier to operate and create fewer faults than sets controlled by Electronics, especially in very hot and dusty environments. Warning Lights and analogue gauges (including fuel, tachometer, oil pressure, coolant temperature and charging system amps) providing easy monitoring of engine operations.

## Compact Design

These Japanese engineered sets are generally more compact than other generators. This makes them far more versatile and portable.

## More Efficient

By only using the best Japanese engines available, such as Kubota and Isuzu, our generators will use less fuel than other machines on the market. In Prime power applications this can mean massive savings for the end user over the period of the project.

## Mine Site or Rental Options

Blue Diamond can customize your Denyo Generator to suit any application

## Denyo features below are optional extras:

- Heavy Duty Skid with Fork Points
- Power Outlets
- Lockable Battery Isolator
- Fire Extinguisher
- Long Rang Fuel Tank
- 3 Way Fuel Valve
- Hi Vis Tape



## DIESEL GENERATOR – DCA-400

Continuous Output	350/400KVA
Frequency/Standby Rating	50 Hz
Voltage	415V
Power Factor	Three Phase 0.8
Output Rating PS/rpm	421/1500
Excitation	Brushless, Rotating Exciter
No. of Phase	3-Phase 0.8
Engine Make And Model	Komatsu SA6D140A
No. of Cylinders	6-140x165
Type	Inlined, Direct Injected, Turbocharged, Aftercooled
Piston Displacement	15.240
Rated Output kW/rpm	310/1500
Fuel	Diesel
Fuel Tank Capacity	490L
Fuel Consumption (75% Load)	52.1 L/Hr
Lubricating Oil Capacity	74L
Cooling Water Capacity	68.4L
Battery	190H52x2 or 210H52x2
Overall Length	4200mm
Overall Width	1400mm
Overall Height	2100mm
Net Dry Mass	5420kg



## Efficient. Reliable. Bullet Proof.

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ABN 47 011 063 291

13<sup>th</sup> February 2023

## ***FLUE EMISSIONS VWT BOILER 500KW***

***General information for flue gas emissions for the Thermotech VWT series boilers 500KW fitted with packaged burners fired on Diesel only are as follows:***

- *Flue gas velocity at point of discharge min 8-12 m/s height and size dependent*
- *Flue gas temperature nominally 230<sup>0</sup> C to 250<sup>0</sup>C without economiser high fire*
- *O2 reading without O2 trim 5% to 7% Control dependent.*
- *Co reading nominally ppm <100ppm*
- *Co2 reading nominally 9.5% to 8%*
- *So2 nominally , 336kg/KWH NOTE: dependent of Sulphur fuel content*
- *NOx 170mg/KWH approximate*
- *The balance of gas emissions are normally inert gasses.*
- *Combustion efficiency will be greater than 80%*

***Where particulate matter is required to be monitored, this normally relates to solid fuel boilers, and obscuration monitoring is normally used for oil and solid fuel boilers.***

***Flue point of discharge is to be a minimum of 2m above the nearest building within 30m to comply with AGA and EPA requirements.***

***The above information is from burner output calculation and high accuracy Flue Gas Analyzing equipment.***

***The requirements of AS2593 and AS3814 are for fully unattended vessels above 500KW, to have 5 Weekly safety checks carried out by an independent service provider. To make sure the vessel complies with the safety standards and is operating effectively, efficiently and safely.***

**TEST RESULTS USING ECS COMBUSTION ANALYSER**

The below results were taken in December 2023 during the 5 Weekly Safety and testing inspections.

**BOILER No# VWT070821-1045**

	Low Fire	High Fire
CO	35 ppm	31 Ppm
O2	5 %	4.5 %
CO2	10.3 %	10.7 %
Efficiency	95.8 %	92.8 %
Temperature	150 °C	230 °C

**BOILER No# VWT130921-1055**

	Low Fire	High Fire
CO	16 ppm	17 Ppm
O2	6.6 %	4.9 %
CO2	9.5 %	10.6 %
Efficiency	94.5 %	92.8 %
Temperature	171 °C	220 °C

**Regards**

**Rob Fowler**

**East Coast Steam P/L, 17~19 Mica Street, Carole Park, QLD, 4300**  
**Ph-07 32713688, fax-07 32713284 [www.eastcoaststeam.com](http://www.eastcoaststeam.com)**





[ghd.com](http://ghd.com)

→ **The Power of Commitment**

# **Appendix G**

## **Waste Management Plan**



# Waste Management Plan

## Project Terra - Ammonium Nitrate Facility

Blue Diamond Australia Pty Ltd

11 March 2025

→ The Power of Commitment





<b>Project name</b>		DA & Environmental Approvals Support - Project Terra					
<b>Document title</b>		Waste Management Plan   Project Terra - Ammonium Nitrate Facility					
<b>Project number</b>		12631761					
<b>File name</b>		12631761_REP_0-Project Terra Waste Management Plan.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S3	A	V Davies	J Cramer	On file	M Pope	On file	26/09/2024
S4	0	V Davies	J Cramer	On file	H. Shigeyoshi	On file	13/12/2024
S4	1	E George	V Davies	On file	H. Shigeyoshi	On file	11/03/202

**GHD Pty Ltd | ABN 39 008 488 373**

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999 Hay Street, Level 10

Perth, Western Australia 6000, Australia

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## Acknowledgement of Country

GHD acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land, water and sky throughout Australia on which we do business. We recognise their strength, diversity, resilience and deep connections to Country. We pay our respects to Elders of the past, present and future, as they hold the memories, knowledges and spirit of Australia. GHD is committed to learning from Aboriginal and Torres Strait Islander peoples in the work we do.





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# Acronyms

Acronym	Definitions
ANF	Ammonium Nitrate Facility
ANE	Ammonium Nitrate Emulsion
AS	Australian Standards
BDA	Blue Diamond Australia Pty Ltd
DEMIRS	Department of Energy, Mining, Industrial Regulation and Safety
DG	Dangerous Goods
DWER	Department of Water and Environmental Regulation
EP Act	<i>Environmental Protection Act 1986</i>
MHF	Major Hazard Facilities
PBS	Platinum Blasting Services
SSAN	Security Sensitive Ammonium Nitrate
SIA	Strategic Industrial Area
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2007</i>
WMP	Waste Management Plan
WA	Western Australia

# 1. Introduction

## 1.1 Background

Blue Diamond (BDA) is planning to construct and own an Ammonium Nitrate Facility (ANF), commercially referred to as Project Terra (Proposal).

GHD acts on behalf of Blue Diamond Australia in preparing an application for development approval for Project Terra. Project Terra is proposed to be located within the Oakajee Strategic industrial Area (SIA) on a 12-hectare area that forms part of a larger 48-hectare option to lease area that BDA has been allocated by DevelopmentWA (DevWA).

The project will comprise of:

- An ammonium nitrate emulsion (ANE) manufacturing plant with a production capacity of up to 40,000 tonnes per year; and
- An ammonium nitrate storage facility with a capacity of up to 15,000 tonnes per year.

The proposed project area is located approximately 20 kilometres north of Geraldton, Western Australia, which is in the Shire of Chapman Valley local government area.

The proposed ANF will be a 'Prescribed Premises' under Schedule 1 of the *Environmental Protection Regulations 1987*, with the proposed activity being categorised under the following Prescribed Premises activities and design capacity thresholds (refer Table 1).

Table 1 Prescribed Premises Category

Category number	Description	Category Production or Design Category	Proposed Design Capacity
75	Chemical blending or mixing not causing discharge: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that does not cause or is not likely to cause a discharge of waste into the environment.	5,000 tonnes or more per year	40,000 tonnes/year

## 1.2 Project location

Project Terra is proposed to be located in Oakajee which is a locality in the Mid-West region of Western Australia, within the Shire of Chapman Valley local government area (the Shire).

BDA has been allocated 48 ha of land within the Oakajee SIA by DevWA to accommodate the project. Project Terra operations will occupy 12 ha of the 48 ha lease area.

The proposed installation site is approximately 20 kilometres north of the Geraldton township and 4.75 kilometres north-northwest of White Peak township. The land leased to BDA spans across the following parcels:

- Lot 11 on plan 18559 being the whole of the land in Certificate of Title Volume 2121 Folio 945, Land ID: 1731700
- Lot 12 on plan 18559 being the whole of the land in Certificate of Title Volume 2121 Folio 946, Land ID: 1731695

## 1.3 Purpose of this report

This Waste Management Plan (WMP) has been prepared to demonstrate how waste from the proposed ANF operations will be identified, recorded, and appropriately managed and removed for recovery, processing or disposal at authorised facilities, or to other areas within the ANF.

This WMP is for the operational phase only and construction waste will be addressed in a construction environmental management plan.



## 1.4 Objectives

The WMP objectives for the ANF include the following:

- Where practicable apply principles from the *Waste Avoidance and Resource Recovery Act 2007* (WARR Act) for waste avoidance and recovery (reuse, reprocessing, recycling).
- Accurately identify all known and potential waste streams associated with the operation of the ANF.
- Undertake reasonable and practicable measures to avoid and minimise discharge of hazardous and non-hazardous waste to the environment.
- Alignment with the Consultation draft: *Waste Avoidance and Resource Recovery Strategy 2030* (Waste Authority WA, 2024) goals and targets.
- Monitor and record outcomes of applying the principles of waste avoidance and recovery.

## 1.5 Limitations

*This report: has been prepared by GHD for Blue Diamond Australia Pty Ltd and may only be used and relied on by Blue Diamond Australia Pty Ltd for the purpose agreed between GHD and Blue Diamond Australia Pty Ltd as set out in section 1.3 of this report.*

*GHD otherwise disclaims responsibility to any person other than Blue Diamond Australia Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

*The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1.6 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.*

*GHD has prepared this report on the basis of information provided by Blue Diamond Australia Pty Ltd and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.*

*If this report is required to be accessible in any other format, this can be provided by GHD upon request.*

## 1.6 Assumptions

GHD has prepared this WMP for Project Terra relying on the information provided by BDA, datasets used sourced from government databases and datasets received from third parties. It is assumed that all provided information are reliable and suitable for the purpose of the WMP.

## 2. Legislation and governance framework

### 2.1 Legislation, policy and guidelines

The following legislation, policies and guidelines are relevant to the WMP for the Site:

- Western Australia:
  - *Environmental Protection Act 1986* (EP Act)
  - *Environmental Protection Regulations 1987*
  - *Environmental Protection (Controlled Waste) Regulations 2004*
  - *Waste Avoidance and Resource Recovery Act 2007* (WARR Act)
  - *Waste Avoidance and Resource Recovery Regulations 2008*
  - Commercial and Industrial Waste Management Plan Guidelines (WALGA)
  - Landfill Waste Classification and Waste Definitions 1996 (as amended 2018) (DWER, 2019b)
  - Waste Avoidance and Resource Recovery Strategy 2030 (Waste Authority WA, 2024)
  - Western Australia's Waste Avoidance and Resource Recovery Strategy Action Plan 2030 (Waste Authority WA).
- Commonwealth:
  - *Recycling and Waste Reduction Act 2020*
  - National Waste Policy 2018
  - National Waste Action Plan 2019
  - National Environment Protection (used packaging) Measure 2011
  - National Plastics Plan 2021.

## 2.2 Waste Management Hierarchy

### 2.2.1 Waste hierarchy

The waste hierarchy is set out in the WARR Act, which ranks waste management options in order of most preferred to least preferred (Refer Figure 1, Waste Authority WA (2020)).

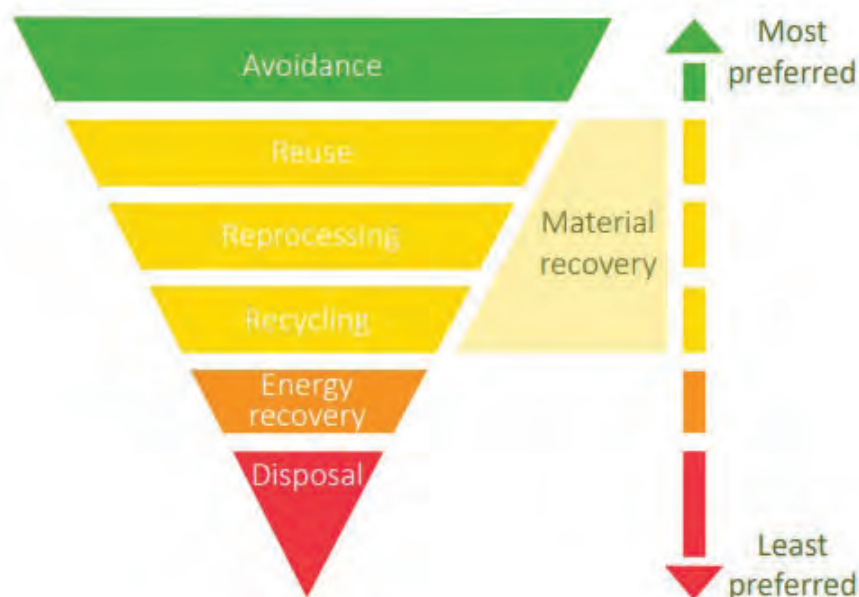


Figure 1 Waste hierarchy based on the WARR Act

## 2.2.2 Waste Resource and Recovery Strategy 2030

The Draft Waste Resource and Recovery Strategy 2030 was developed by the Waste Authority WA in 2019 and updated in 2024, in line with stakeholder feedback, to outline the vision, guiding principles, goals and targets, objectives and strategic priorities to 2030 summarised in Figure 2 (Waste Authority WA, 2024).

This includes the following specific targets for commercial and industrial (C&I) waste relevant to this WMP:

- Avoid: 10% reduction in generation per capita
- Recover: Increase recycling rate to 80%

<b>Avoid</b> Western Australians generate less waste.	<b>Recover</b> Western Australians recover more value and resources from waste.	<b>Protect</b> Western Australians protect the environment by managing waste responsibly.
<ul style="list-style-type: none"> <li>20% reduction in waste generation per capita                             <ul style="list-style-type: none"> <li>MSW: 10% reduction in generation per capita</li> <li>C&amp;D: 30% reduction in generation per capita</li> <li>C&amp;I: 10% reduction in generation per capita</li> </ul> </li> <li><b>New target:</b> Adopt national circular economy metrics (as they are developed) to measure avoidance and circularity</li> <li><b>New target:</b> Develop avoidance measures and targets for specific materials consistent with national targets</li> </ul>	<ul style="list-style-type: none"> <li>Recover energy only from residual waste</li> <li>Increase the recycling rate to 75%                             <ul style="list-style-type: none"> <li>MSW: Increase the recycling rate to 70% in Perth and Peel, 60% in major regional centres</li> <li>C&amp;D: Increase recycling rate to 80%</li> <li>C&amp;I: Increase recycling rate to 80%</li> </ul> </li> <li><b>New target:</b> Continue to deliver household and commercial FOGO/FO collection and recycling services in Perth, Peel and major regional centres.</li> </ul>	<ul style="list-style-type: none"> <li>No more than 15% of waste generated in Perth and Peel is landfilled</li> <li>Move towards zero illegal dumping</li> <li><b>New target:</b> Adopt the 2030 litter reduction target to be developed through the next litter prevention strategy (2025–30)</li> </ul>
<b>Avoid - Recover - Protect</b>		
<ul style="list-style-type: none"> <li>All waste is managed and/or disposed of using better practice approaches and facilities</li> <li><b>New target:</b> Reduce disposal of organic waste to landfill by 50% (from 2019–20 levels)</li> </ul>		
<b>Our 2030 strategy priorities</b>		
<div> <div>1. Better outcomes for regional and Aboriginal communities</div> <div>2. Increasing our focus on waste avoidance</div> <div>3. Better management of priority materials</div> <div>4. Realising the economic potential of recycling</div> <div>5. Contingency planning and climate resilience</div> </div>		
<b>Strategy roadmap</b>		
Actions and initiatives to be developed with stakeholders		

**Figure 2** Draft: Waste Avoidance and Resource Recovery Strategy 2030 goals and targets

The Draft Waste Resource and Recovery Strategy 2030 includes a vision of “a sustainable, low-waste future powered by a circular economy, where our communities, economies and environment thrive”. Moving towards a more circular economy for waste includes following four key principles:

- Reduce the impact of waste on the environment and climate.
- View waste management as an essential service.
- Share responsibility and empower everyone to make changes.
- Ensure circular economy benefits are felt by all communities.

The Draft Waste Resource and Recovery Strategy 2030 indicates that “a circular economy aims to keep products and materials circulating in the economy for longer, at their highest value, and brings multiple economic, social and environmental benefits” as shown in Figure 3 (Waste Authority WA, 2024).



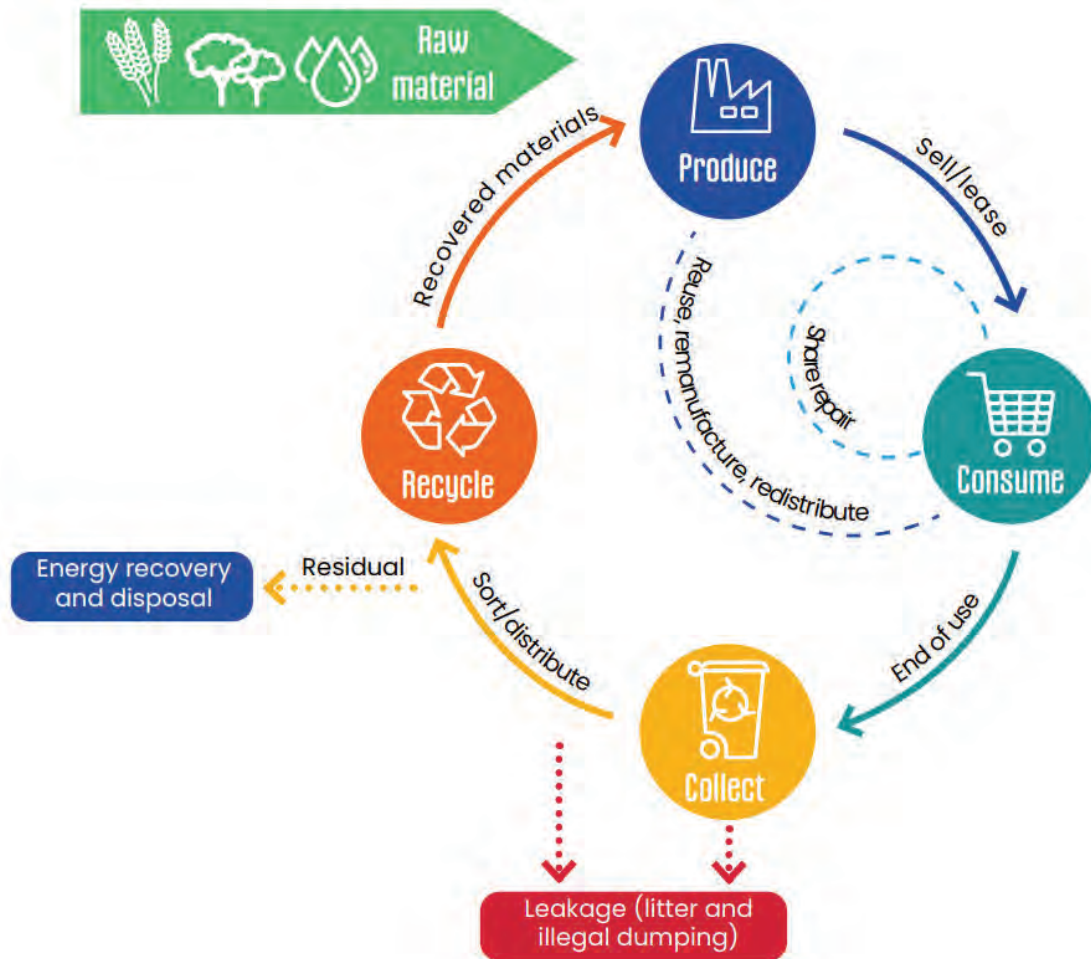


Figure 3 The Circular Economy

## 2.3 Licensing requirements

The *Environmental Protection Regulations 1987* provides a list of prescribed premises regulated under Part V of the EP Act. The Regulations state that if a prescribed premise triggers the threshold value for that category, a licence should be obtained by the occupier of that prescribed premises in accordance with the requirements of the Regulations.

As per Schedule 1 of the *Environmental Protection Regulations 1987*, the specific description and threshold values applicable for the ANF are identified in Table 2.

Table 2 Infrastructure and equipment

Infrastructure and equipment	Relevant categories
Emulsion Plant	75
Wastewater Treatment Plant	-
Diesel Powered Generator	-
Diesel Fired Steam Boilers	-
Diesel Powered Forklifts	-
Diesel Tank	-
Emulsifier Tanks	-
ANE Tanks	-

## 2.4 Other approvals

A summary of other approvals relevant to the ANF which are currently being undertaken by BDA are included below:

- Development Approval under the *Planning and Development Act 2005*.
- BDA proposes to treat and dispose of sewage from the crib room during the operational phase via septic system. Approval will be sought from the Department of Health / Shire of Chapman Valley under the *Health Act 1911*. Appropriate permits will be sought for collection of sewage and disposal off site during construction works.
- Assessment to determine if the ANF will be managed as a major hazard facility under the *Dangerous Goods Safety (Major Hazard Facilities) Regulations 2007*.
- A Security Sensitive Ammonium Nitrate (SSAN) manufacture licence, or an SSAN storage licence, granted under the *Dangerous Goods Safety (Security Sensitive Ammonium Nitrate) Regulations 2007* and *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007* by Department of Energy, Mining, Industrial Regulation and Safety (DEMIRS) in respect of a dangerous goods Site. Ammonium nitrate and ammonium nitrate emulsion are classed as a 5.1 oxidising agents under the Australian Dangerous Goods (ADG) code.
- A dangerous goods licence under the *Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007* for diesel storage (combustible liquid) and other potentially dangerous goods stored onsite.
- A Department of Water and Environmental Regulation (DWER) works approval to construct the premises and subsequent licence to operate the ANF.
- Water will be source off site and tankered in for storage on Site therefore a groundwater abstraction licence is not required.

Schedule 1 of the *Environmental Protection (Controlled Waste) Regulations 2004* provides a list of controlled wastes. This Regulation stipulates that for facilities handling controlled waste, an application for a licence is to be made in the approved manner and with the approved form duly completed. It is expected that the ANF will handle and store, potential controlled wastes such as waste oil and water, hydrocarbons and water, mixtures or emulsions, industrial solvents etc. The determination as to whether a Controlled Waste license application for the ANF should be lodged is the responsibility of the owners / managers.

## 3. Proposed activities and waste streams

### 3.1 Proposed activities

This application seeks approval for the development of an ANF within the Oakajee SIA. The ANF will comprise of an emulsion manufacturing plant and a storage facility.

The manufacturing plant will have capacity to produce up to 40,000 tonnes of ANE per year, and the storage facility will house up to 15,000 tonnes of AN.

The project installation comprises of:

- Four emulsion storage tanks
- Two emulsifier tanks
- One diesel tank
- Generator, boilers
- Two AN domes
- AN stacks
- Office, crib hut, W/C, stores and two trace manufacturers
- Eight water tanks

#### 3.1.1 AN Handling

The AN is delivered to the Site in 1.2 t bulk plastic bags where it is unloaded to the AN stacking on the Site. From here the AN is transferred to the ANE plant, or is loaded in the bags onto trucks, augered into tippers or 20 ft containers for delivery to mine sites. Site layout plans are contained in Appendix A, Figure 6)

A simplified production process for ANE is shown in Figure 4. The first step of the ANE manufacturing process is the blending of diesel and emulsifier to produce a Fuel Phase. The second step is the mixing and heating of water and AN in “melt tanks” to produce AN solution (ANSOL). The ANSOL is then mixed with the Fuel Phase to produce ANE. The ANE product is then pumped from the melt tanks into storage tanks located on the Site.

ANE is primarily utilised in blasting activities to prevent explosives in blast holes from deteriorating due to water in the holes or surrounding strata. This maximises the energy efficiency of the blast and minimises the production of blast fumes (nitrous oxide), thereby reducing the potential environmental and community impacts.

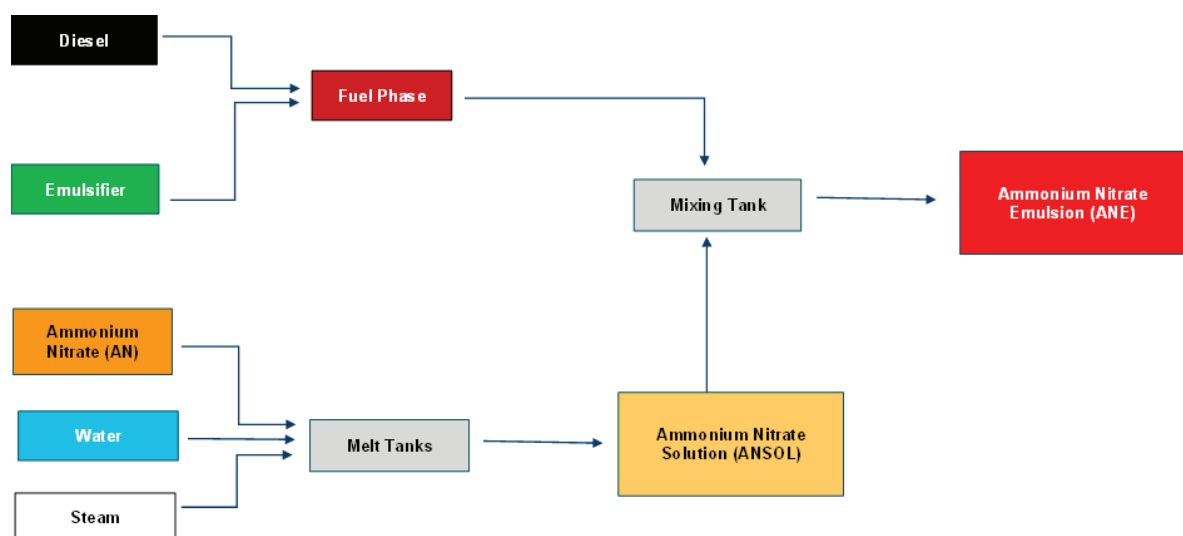


Figure 4 Process Flow Diagram



### 3.1.2 Materials through-put

Table 3 shows the materials through-put on the Site.

**Table 3** *Material volumes used on the Site*

Material	Annual volume/mass
Ammonium nitrate (AN)	50,000 tonnes/year
Diesel – ANE production	1,600,000 L/year
Diesel – Steam boilers	650,000 L/year
Diesel – generator	157,000 L/year
Diesel – forklifts	-
Emulsifier (surfactant)	2,500 tonnes/year
Water	1,300,000 L/year

### 3.1.3 ANF Site operations

A summary of the expected standard and non-standard operation for the ANF Site is outlined in Table 4.

**Table 4** *Site operations*

Phase	Timing	Staff	Vehicle movements/day (light and heavy)
Standard Operations	6:30 AM to 5:30 PM (Mon to Fri)	6	10 to 16
Non-standard Operations (20 - 30 days/year)	24-hours	10	65 to 71

### 3.1.4 ANF elements

The ANF generally comprises of AN storage areas, the emulsion plant and associated infrastructure, as well as staff facilities and internal roads. The plant and building components will be prefabricated, where possible, and assembled on Site. The ANF Site perimeter will be gated and fenced.

Table 5 summarises the elements that comprise the proposed ANF and the surface treatment for each.

**Table 5** *Elements and surface treatments within the ANF*

Element	Activity	Surface treatment
Diesel storage	One diesel tank, diesel fired steam boilers and generator	Any stormwater within the diesel tank area is considered to be potentially contaminated with hydrocarbons.  The potential hydrocarbon contaminated catchment is to be bunded to isolate the runoff and direct it to the hydrocarbon separator system, SPEL Puraceptor (now known as a Spillceptor) via spill kits. Both the surface of the catchment and bunding are required to be impervious with a permeability of $1 \times 10^{-9}$ m/s.  The SPEL Puraceptor is a full retention separator that provides hydrocarbon capture and spill containment that will be sized to contain more than the anticipated maximum fuel / oil spillage. This will enable the treatment system to be fully operational in treating stormwater runoff at all times (GHD, 2024).
Emulsion plant, Emulsifier tanks, AN and ANE storage tanks	Two emulsifier tanks	Any stormwater runoff within the proposed AN emulsion plant, container stacks, and dome areas is considered to be potentially contaminated with AN and ANE.  <ul style="list-style-type: none"> <li>The container storage area will be compacted hardstand – containers will be sealed to reduce potential for environment impact.</li> <li>The area under the ammonium nitrate storage domes will be compacted hardstand.</li> <li>The northern most road will be bitumen with the area in front of the emulsion plat being concrete.</li> </ul>
	AN bag stacks with two dome structures above	
	AN container stacks	
	Four ANE tanks with HESCO barriers (blast barriers)	

Element	Activity	Surface treatment
		<ul style="list-style-type: none"> <li>The area under the boilers, diesel tank, emulsifier tank, manufacturing plant and emulsion storage tanks will be concrete.</li> </ul> <p>Stormwater within the potential AN / ANE contaminated catchment will be directed to the water quality basin via a pit and pipe network (GHD, 2024).</p> <p>All non-process waste will be stored in suitable waste receptacles (self-bunded as required).</p>
Staff facilities and storage areas	Office, crib room facilities, store and W/C facilities	Wastewater generated from staff facilities will be treated via a WWTP for domestic wastewater only and treated wastewater will be discharged to land on site.
Stormwater management	Collected and discharged to ground on Site	<p>The water quality basin shall be lined and shall intercept the first flush runoff with possible contamination from AN spillage within the bunded area (GHD, 2024).</p> <p>The basin will divert the excess runoff from the storm event to the constructed open channel via a diversion pipe. This will ensure the contaminated runoff will be within the water quality basin and the clean water runoff will be diverted to the detention basin to the south-west end via the constructed open channel (GHD, 2024).</p> <p>The detention basin shall comprise of a vegetated layer to improve quality of stormwater. The vegetated basin is designed to target the management of nutrients during smaller frequent events as the proposed GPTs upstream of the basin are not expected to provide the level of nutrient removal desired (GHD, 2024).</p>
Water source	Tankered in and stored in water tanks for process water and firefighting purposes	No surface treatment required.
Access	Internal roadway throughout the facility	A combination of bitumen sealed and concrete road surfaces.

## 3.2 Waste streams

### 3.2.1 Waste categories

Waste has the potential to impact human health and/or the surrounding environment. The WMP has been developed to provide a framework for waste management at the ANF. Waste in the context of this WMP refers to all substances requiring reuse, recycling or disposal generated by the operation of the ANF and includes storage, handling and disposal requirements.

#### 3.2.1.1 Non-hazardous waste

Non-hazardous wastes are wastes composed of, or containing, materials which are not harmful to humans and which would not have a serious impact on the environment. Non-hazardous wastes can include putrescible solids and liquids, inert solids, food waste, domestic waste, plastics and concrete (DWER, 2019b).

#### 3.2.1.2 Hazardous waste

Hazardous wastes are defined by the “*Landfill Waste Classification and Waste Definitions (December 2019)*” (DWER, 2019b) as “*the component of the waste stream which by its characteristics poses a threat or risk to public health, safety or the environment (includes substances which are toxic, infectious, mutagenic, carcinogenic, teratogenic, explosive, flammable, corrosive, oxidising and radioactive)*”.

#### 3.2.1.3 Recyclables

Recycle/ recovery is the conversion of wastes into usable materials and/ or extraction of energy or materials from wastes. Recyclable materials can include paper, cardboard, plastics, glass, metal, wood, tyres, vegetation and organic matter.

### 3.2.1.4 Liquid waste

For the purposes of this management plan liquid waste will include all effluent and grey water from staff buildings which will be disposed of onsite via a wastewater treatment plant.

## 3.2.2 ANF waste streams

The various waste categories expected to be handled at the ANF are included in Table 6. This list of waste types is not considered to be exhaustive and will be required to be updated on a regular basis during review of the WMP (Section 4.8).

The primary source of waste from the ANF is expected to be the empty AN bulka bags. The empty bags are compacted in a baling machine and the bales are disposed through the National Big Bag Scheme. This is a federally funded recycling scheme which must demonstrate all waste collected is 100% recycled and then the recycled products are 100% recyclable. Approximately 62,000 t of waste AN bags will go to recycling (20,800 bags at 3 kg per bag).

Table 6 Process and non-process waste streams handled at ANF during the operational phase

Waste type	Waste materials
<b>Hazardous process waste</b>	
Controlled wastes	Spills and leakages: <ul style="list-style-type: none"><li>– Ammonium nitrate (AN)</li><li>– Ammonium nitrate emulsion (ANE)</li><li>– Diesel</li><li>– Emulsifier</li></ul>
Other hazardous wastes	Batteries, flammable liquids (hydrocarbons and fuels), fluorescent tubes, gas cylinders, cleaning chemicals, pesticides, herbicides, paint, solvents etc.
<b>Non-hazardous process waste</b>	
Inert wastes	Polypropylene bulka bags
Putrescible waste	Packaging waste (cardboard) General mixed waste
<b>Hazardous non-process waste</b>	
Controlled wastes	Diesel fuel – waste from spills Thinners, paints and solvents Waste oil and other used chemicals
Other hazardous wastes	Batteries Oil filters
<b>Non-hazardous non-process waste</b>	
Inert wastes	Scrap metal Wooden pallets Mixed recyclables
Putrescible waste	Food waste Office and packaging waste (paper and cardboard) General mixed waste Wastewater and biosolids from toilets and kitchen

## 3.2.3 Potential environmental impacts

As per code of practice Safe Storage of Solid Ammonium Nitrate, AN (Ammonium Nitrate,  $\text{NH}_4\text{NO}_3$ ) has the potential to cause algal blooms and the eutrophication of inland and coastal waters and it poses an environmental hazard.

If waste is not appropriately managed within the ANF the following potential environmental impacts/ risks may occur:



- Contamination of surrounding soil, groundwater and surface water
- Poor on site waste category segregation resulting in cross-contamination of waste streams
- Poor visual amenity and landscape value
- Waste data collection and tracking information is insufficient to demonstrate effective waste management
- Community and stakeholder dissatisfaction.

## 4. Waste management practices

Best practice waste management processes outlined in Section 4 shall be implemented at the ANF to comply with the relevant legislation and regulations outlined in Section 2.

No waste, generated off Site, shall be accepted at the ANF.

### 4.1 Waste handling and storage

#### 4.1.1 Design considerations

The following will be practiced for the design of the ANF and specifically for the waste laydown areas:

- The ANF will have dedicated waste storage areas which can accommodate sufficient bin/s to manage waste generation
- Waste storage containers will be suitably enclosed, covered and maintained (such as waste oils stored in under cover self-bunded storage tanks) to prevent polluted wastewater runoff from entering the stormwater system
- Each storage area should be segregated from other areas with signage etc.
- Stormwater interception system including diversion drains should be maintained around laydown areas to control discharges, run-offs, or incidental waste spills as per the conceptual drainage plan outlined in the Surface Water Management Plan (GHD, 2024) and illustrated in Figure 2 (Appendix A).

The general engineering standards defined in *Water Quality Protection Note No. 56 "Tanks for fuel and chemical storage near sensitive water resources"* will be applied at the ANF (DoW, 2018).

Tanks should be designed in accordance with the appropriate Australian Standards. Details regarding above-ground fuel and chemical storage include, but not limited to, the following:

- Bunded compounds should extend sufficiently beyond the plan perimeter of the tank (when projected down to the bund) so that a jet of liquid from any perforation of the tank or process equipment will be contained.
- The bunded compound should be lined with low permeability (less than  $10^{-9}$  metres per second (m/s)) material that is not adversely affected by contact with stored fuels or chemicals. Where permitted in Public Drinking Water Source Areas, the bund should be constructed of waterproof reinforced concrete or an approved equivalent.
- The bunded compound should have sufficient capacity to fully contain leakage from storage tanks and not be overtopped during extreme rainfall events. This capacity should equate to no less than 110% of the capacity of the largest contained tank system and at least 25% of the total capacity of all tanks for a multiple tank system that does not have manifolded connections between tanks. Consideration must be given to the volume of any additional objects stored inside the bund.
- The compound should also contain, where it is uncovered, sufficient freeboard to contain incident rainfall from a 1-in-20-year return frequency 72-hour storm event and 110% of tank content.
- The base of the bund should be graded towards a sump to allow for the collection of any liquids from within it.
- Incompatible or reactive chemicals should be stored in separate bunds.

With regard to maintenance, it is noted that primary containment, such as self-bunded palettes, should be maintained at full capacity. This requires regular emptying of rainwater that may have accumulated within those bunded palettes. If rainwater were left in the bunded palettes, the capacity for containment of a spill would be reduced, which could impact on the capacity of the secondary containment, i.e., the flexible bunding.

#### 4.1.2 Waste receptacles

Suitable waste receptacles will be provided for each expected waste stream, as per the Platinum Blasting Services Waste Management Procedure (Appendix B), incorporating the following:

- Different waste streams (hazardous and non-hazardous) will be appropriately separated and suitably stored in designated sealed receptacles provided by the waste management contractor
- Waste oils will be stored in bunded storage tanks
- These receptacles will be collected and emptied off-site at a suitable waste collection facility

- Receptacles will be maintained in good working condition and will be repaired as required
- Diesel fuel will be stored in a self-bunded above ground tank
- In case of putrescible waste, steps will be taken to prevent infestation with pests such as flies, rodents, maggots etc. and to prevent emission of offensive odours
- If a decision is made to recycle a waste stream and recycling waste receptacles to be supplied, all recycling waste must be deposited in the designated receptacle and not disposed with the general-purpose waste
- General purpose waste such as putrescible and inert non-hazardous waste will not be deposited in recycling waste receptacles.

All non-process wastes will be temporarily stored in the waste separate/ storage area, pending recycling or disposal to appropriately licensed waste management facility, preferably within a reasonable proximity.

All non-process (hazardous and non-hazardous) waste will be stored in suitable receptacles, provided by the nominated waste management contractor, in dedicated waste management areas. Hazardous non-process waste, such as fuel and oil, will be stored in self-bunded proprietary infrastructure as required, to allow the capture of all potentially contaminated runoff. The sealed waste receptacles will be collected and emptied off-site at a suitable waste management facility.

### 4.1.3 Storage and handling practices

The following practices will be implemented with regard to storage and handling at the ANF:

- Suitable waste storage and collection point locations will be designated with easy, direct and convenient access for waste disposal and collection
- Signage – clear and appropriate labels on and directions to all waste storage areas will be maintained
- Security and protection against potential vandalism will be ensured
- Good housekeeping practices will be implemented and enforced. Materials will be neatly stored on shelves with appropriate labels
- Safety Data Sheets will be made available near all storage areas, as applicable
- Emergency contact information will be adequately displayed, in case there are any issues with the waste systems/services
- Proper handling, storage and management of controlled waste be made available to all ANF operators.

Further, the following storage and handling practices will be implemented at the ANF to comply with the site Bushfire Management Plan (BMP).

## 4.2 Waste transportation

The following will be implemented for the transport of waste to the Site:

- Controlled waste will be transported by a carrier licensed under the *Environmental Protection (Controlled Waste) Regulations 2004*
- A waste tracking form (Form CW11) will be completed for transport of any controlled waste, which includes a waste tracking number generated/ provided by DWER (DWER, 2019a)
- All vehicles transporting materials will include appropriate storage compartments to prevent waste materials spilling, discharging, or falling from the vehicle
- The type and quantity of all waste materials being transported from the ANF will be recorded.

## 4.3 Waste management plan

Objectives, targets and proposed emission controls for potential waste streams generated by operation of the ANF include, but may not be limited to, those outlined in Table 7.



Table 7 Objectives, targets and proposed emission controls for potential waste streams

Objective	Management Target	Potential impact	Management Actions	Monitoring & frequency	Reporting	Responsibilities
Where practicable apply principles from the Waste Avoidance and Resource Recovery Act 2007 (WARR Act) for waste avoidance and recovery (reuse, reprocessing, recycling)	Maximise avoidance of potential waste materials entering the ANF.	Increased volumes of waste landfilled unnecessarily	<ul style="list-style-type: none"> <li>Diesel and Emulsifier are delivered to Site in bulk tankers to eliminate any product packaging waste.</li> <li>Procurement of other required materials via bulk quantities to reduce packaging waste.</li> </ul>	Monitor waste types and quantities as removed from Site	Internal records of waste removed from Site.	ANF Supervisor All staff and contractors
	Maximise recovery of waste materials generated by operation of the ANF.	Increased volumes of waste landfilled unnecessarily	<ul style="list-style-type: none"> <li>The primary source of waste from the Site is the empty AN bulka bags.</li> <li>The empty AN bulka bags shall be treated as contaminated waste and shall not be disposed of as general waste articles</li> <li>The empty bags are compacted in a baling machine and the bales are disposed through the National Big Bag Scheme (BBS).</li> <li>The waste AN bags are stored under tarpaulins until sufficient quantities reached to schedule a collection by the Big Bag Scheme.</li> </ul>	Monitor waste types and quantities as removed from Site	Internal records of waste removed from Site.	ANF Supervisor All staff and contractors
	Minimise disposal of waste materials, generated by the ANF, to landfill.	Increased volumes of waste landfilled unnecessarily	<ul style="list-style-type: none"> <li>All responsible ANF staff and contractors to undertake a Site induction and necessary training for handling waste material generated by operation of the ANF.</li> <li>Ensure sufficient, appropriately labelled, waste bins are provided to allow separation of various waste streams onsite and recoverable materials can be recycled.</li> <li>All general waste and recyclable waste will be disposed of by an authorised service provider in accordance with local government requirements.</li> </ul>	Monitor waste types and quantities as removed from Site	Internal records of waste removed from Site.	ANF Supervisor All staff and contractors
Accurately identify all known and potential waste streams associated with the operation of the ANF	Dispose of waste materials, generated by the ANF, appropriately.	Inappropriate disposal of wastes resulting in contamination of waste streams at off site facilities	<ul style="list-style-type: none"> <li>Characterise waste streams generated by the ANF, based on the DWER (2019b) <i>Landfill Waste Classifications and Waste Definitions 1996 (As amended 2019)</i> for recovery and disposal at appropriate off site facilities.</li> <li>All waste generated when servicing equipment will be removed from site by the service contractor.</li> </ul>	Monitor waste types and quantities as removed from Site	Internal records of waste removed from Site.	ANF Supervisor All staff and contractors
Undertake reasonable and practical measures to avoid and minimise discharge of hazardous and non-hazardous waste to the environment	Avoid contamination of surface water and groundwater.	Potentially contaminated stormwater from the ANF being discharged from the Site.	<ul style="list-style-type: none"> <li>All stormwater with the proposed development area requires pre-treatment before discharging to the environment.</li> <li>Stormwater treatment for the detention basin will be via a treatment train to capture, filter, or treat pollutants as per the Surface Water Management Plan (GHD, 2024) using the following steps: <ul style="list-style-type: none"> <li>Water shall pass through a primary treatment gross pollutant trap (GPT) in order to screen solids and some sediments before discharging into the detention basin.</li> <li>Remaining sediments will also settle in the basin. The conceptual locations of GPTs are shown in Figure 2.</li> <li>The detention basin is proposed to control discharge prior to any off facility discharge. This basin is to be vegetated to allow final treatment of stormwater. The vegetation species should be native, have a high nutrient uptake should be able to survive in a dry weather condition, and not increase the bushfire risk as per specifications in the Surface Water Management Plan (GHD, 2024).</li> </ul> </li> </ul>	Daily inspections of control measures to be conducted and immediately rectified as required.	Any waste incidents identified during Site inspections, which have not met the performance criteria, will be documented and corrective actions raised to correct these issues. These will be entered into the ANF Incident Register to track and monitor completion of corrective actions. Incidents shall be reported to DWER in the Annual Environmental Report. Where a waste related pollution incident is a life-threatening incident or pollution emergency it will be reported to Department of Fire and Emergency Services (DFES)/ Emergency WA by calling 000/ 13 33 37. DFES will call out Department of Water and Environmental Regulation (DWER) for major pollution/ hazardous materials incidents. Where a waste related pollution incident occurs, which causes or threatens to cause a pollution emergency, that is not life-threatening it will be reported to DWER via the 24-hour Pollution Watch hotline as soon as practicable.	ANF Supervisor All staff and contractors
		The stormwater runoff within the hydrocarbon storage containment area (Figure 2) has potential for spill of leaked fuels causing local and downstream environmental impacts.	<ul style="list-style-type: none"> <li>All responsible ANF staff and contractors to undertake a Site induction and necessary training for handling waste material generated by operation of the ANF.</li> <li>All hydrocarbon storage tanks and catchment area to be installed on an impervious, bunded surface in tanks as per relevant Australian Standards.</li> <li>Ensure all refuelling is undertaken in approved locations.</li> <li>Manage minor hydrocarbon spills as required using spill kits.</li> <li>Fuel and oil Containment Booms (Land Socks), or similar, to be held on Site in the event of a serious hydrocarbon spill resulting in surface runoff. Containment Booms are to be placed around the perimeter of a spill in order to contain the liquid spilled and assist with stopping its spread.</li> <li>All waste oils and oily materials, including oil filters and rags, used spill kit materials will be collected and stored in properly labelled waste bins an approved undercover waste oil storage area until they are collected by the waste oil recycler for disposal or recycling according to the relevant legislation and guidelines.</li> </ul>	<p>The outlet of the Puraceptor will be kept closed at all times. After rainfall events, water from the bunded area will be sampled and tested before internal transfer to the pit that is connected to the water quality basin.</p> <p>Daily inspections of control measures to be conducted and immediately rectified as required.</p> <p>Waste oils and oily materials removed off site on an as required basis.</p>		ANF Supervisor All staff and contractors Licenced disposal contractor

Objective	Management Target	Potential impact	Management Actions	Monitoring & frequency	Reporting	Responsibilities
			<ul style="list-style-type: none"> <li>The stormwater runoff from the diesel tank bund areas shall be directed to the SPEL Puraceptor and water would be released through the Puraceptor to the detention basin via the pipe system. Puraceptor shall be designed to provide adequate storage and treatment of the catchment area it is servicing as per specifications in the Surface Water Management Plan (GHD, 2024).</li> <li>Hydrocarbon contaminated wastewater will be emptied as required by a licensed waste oil/ separator contractor.</li> </ul>			ANF Supervisor All staff and contractors Licenced disposal contractor
		Contamination of stormwater runoff from AN and ANE catchment area	<ul style="list-style-type: none"> <li>All responsible ANF staff and contractors to undertake a Site induction and necessary training for handling waste material generated by operation of the ANF.</li> <li>Stormwater from the possible AN and ANE contaminated bunded catchments shall be directed to respective stormwater pits which are directly connected to the WQ Basin (Figure 2) as per the Surface Water Management Plan (GHD, 2024).</li> <li>The water quality within the basin shall be tested after each storm event. In the event that testing of stormwater within the basin identifies that it does not meet the water quality criteria, if this indicates the presence of AN and ANE contamination, a licenced contractor would be engaged to pump out the stormwater storage and dispose of the water at a licenced facility.</li> </ul>	<p>After each rainfall event, a contamination test shall be undertaken for water quality basin to detect the possible contamination.</p> <p>Daily inspections of control measures to be conducted and immediately rectified as required.</p>		
		Uncontrolled discharge of untreated wastewater to land	<ul style="list-style-type: none"> <li>Installation and maintenance of a suitably sized WWTP by an appropriately licenced contractor as per Department of Health and local government requirements.</li> </ul>	Regular maintenance and monitoring of the WWTP by an appropriately licenced contractor.		ANF Supervisor
	Minimise odour, wind blown waste and health and safety issues.	Reduced health and safety and amenity due to poor house keeping	<ul style="list-style-type: none"> <li>Storage areas are to be kept clean, free of rubbish with no combustibles such as pallets, rubber hoses or conveyor belting, aerosol cans, rags, etc. Good housekeeping practices must be in place.</li> <li>Ensure sufficient, appropriately labelled, waste bins are provided to allow separation of various waste streams onsite and recoverable materials can be recycled.</li> <li>Reduce odour issues and access to vermin and birds by keeping waste bins in covered bins or in closed undercover areas.</li> <li>Any windblown waste to be collected in a litter pick up on an as required basis.</li> </ul>	<p>Daily inspections of ANF conducted and issues immediately rectified as required.</p> <p>Windblown waste to be collected on an as required basis.</p>	Internal incident register	ANF Supervisor All staff and contractors
Alignment with the Consultation draft: Waste Avoidance and Resource Recovery Strategy 2030 goals and targets	<p>Maximise avoidance and recovery of waste to contribute to the C&amp;I waste targets:</p> <ul style="list-style-type: none"> <li>Avoid: 10% reduction in generation per capita</li> <li>Recover: Increase recycling rate to 80%</li> </ul>	Increased volumes of waste landfilled unnecessarily	<p>Avoidance:</p> <ul style="list-style-type: none"> <li>Diesel and Emulsifier are delivered to Site in bulk tankers to eliminate any product packaging waste.</li> <li>Procurement of other materials via bulk quantities to reduce packaging waste.</li> </ul> <p>Recovery</p> <ul style="list-style-type: none"> <li>100% of waste AN bulka bags to be recycled via the National Big Bag Scheme.</li> <li>Ensure sufficient, appropriately labelled, waste bins are provided to allow separation of various waste streams onsite and recoverable materials can be recycled.</li> </ul>	Monitor waste types and quantities as removed from Site	Internal records of waste removed from Site.	ANF Supervisor All staff and contractors
Monitor and record outcomes of applying the principles of waste avoidance and recovery	Accurate records of all waste generated by the ANF.	Poor/ incomplete records of waste generated by the ANF.	<ul style="list-style-type: none"> <li>Maintain accurate records of waste generated and removed from the ANF in an internal waste register.</li> <li>Keep and record waste receipts from waste collection contractors.</li> </ul>	Monitor waste types and quantities as removed from Site	Internal records of waste removed from Site.	ANF Supervisor All staff and contractors

## 4.4 Site induction and training

All responsible ANF staff and contractors to undertake a Site induction and necessary training for handling waste material generated by operation of the ANF including (but not limited to):

- Identification of waste types and associated recycling/ disposal requirements
- Waste/ items to be removed from the ANF for appropriate recycling/ disposal
- AN, ANE and hydrocarbon management
- Record keeping.

## 4.5 Monitoring

All waste types and volumes generated on-site and being transported off-site will be recorded for the purpose of annual reporting.

Monitoring of the ANF will be undertaken by PBS so as to meet the following performance criteria:

- Waste collection sites containing wastes with limited interaction with vermin/ pests
- No cross contamination of waste disposal bins
- All non-hazardous, recyclable, hazardous and liquid wastes removed off site to appropriately approved disposal locations on an as required basis
- Identifying locations where additional bins may be required
- Presence of litter and windblown waste around the ANF cleaned up on a weekly basis
- Record waste types and volumes generated on-site and being transported off-site.

Any waste incidents identified during Site inspections, which have not met the performance criteria, will be documented and corrective actions raised to correct these issues. These will be entered into the ANF Incident Register to track and monitor completion of corrective actions.

Where a waste related pollution incident is a life-threatening incident or pollution emergency it will be reported to Department of Fire and Emergency Services (DFES) by calling 000. DFES will call out Department of Water and Environmental Regulation (DWER) for major pollution/ hazardous materials incidents.

Where a waste related pollution incident occurs, which causes or threatens to cause a pollution emergency, that is not life-threatening it will be reported to DWER via the 24-hour Pollution Watch hotline as soon as practicable.

Nuisance issues and minor waste discharges will be reported to the Shire of Chapman Valley.

## 4.6 Reporting and record keeping

Reports will be prepared, and records kept for all monitoring undertaken at the ANF, as detailed in Section 4.3, and for waste materials handled at the ANF. Potential reports required for the ANF are listed below:

- Internal quality and safety reports
- Environmental audit reports
- Waste and material tracking register, including unacceptable waste
- Incident and non-conformance reporting, detailed in Section 4.7
- Government agencies reporting, such as licence compliance reporting, if required
- Groundwater and surface water monitoring reports – comparison of the analytical results with data from the previous event and comparison of the analytical results with relevant human health and environmental assessment criteria for the current Site use.

## 4.7 Non-conformance and corrective actions

In case an environmental, safety or plant non-conformance (such as an oil spill or release of contaminants) occurs, a report shall be prepared to detail the incidents and non-conformance. PBS has a responsibility to report all major environmental incidents that risk causing environmental harm under the *Environmental Protection Act 1986*.

When a non-conformance has occurred, the following mitigation strategies will be adopted as a minimum:

- All non-conformances and incidents will be corrected as soon as possible, and strategies implemented to reduce the likelihood of the incident reoccurring
- Containment of the contaminant, where possible
- Review of the engineering and administrative controls in place for effectiveness and check maintenance records
- Preparation of an incident / accident report for all incidents and non-conformances.

Where incidents have occurred, PBS will ensure that all reasonable and practical controls are implemented for future operations. This may include reviewing of the storage and handling procedures, location and type of stormwater infrastructure, as well as emergency response procedures, and implementing additional and/or alternative controls to achieve the required outcomes.

## 4.8 Review and improvement

Waste management review meetings are proposed to occur quarterly for the ANF. To ensure the WMP is working effectively and to identify any opportunities for improvement, review of current management plans should be undertaken on an annual basis. The review and assessment should consider all stages of waste management from the source to destination. A review should also be undertaken in the following circumstances:

- New information on a waste type becomes available that would alter its management requirements
- New/ unforeseen waste streams are stored, handled, or generated at the ANF that require management
- There are significant changes to the process and/or operations at the ANF
- If monitoring and reporting indicates that management targets are not being achieved.



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# Appendix A

## Figures

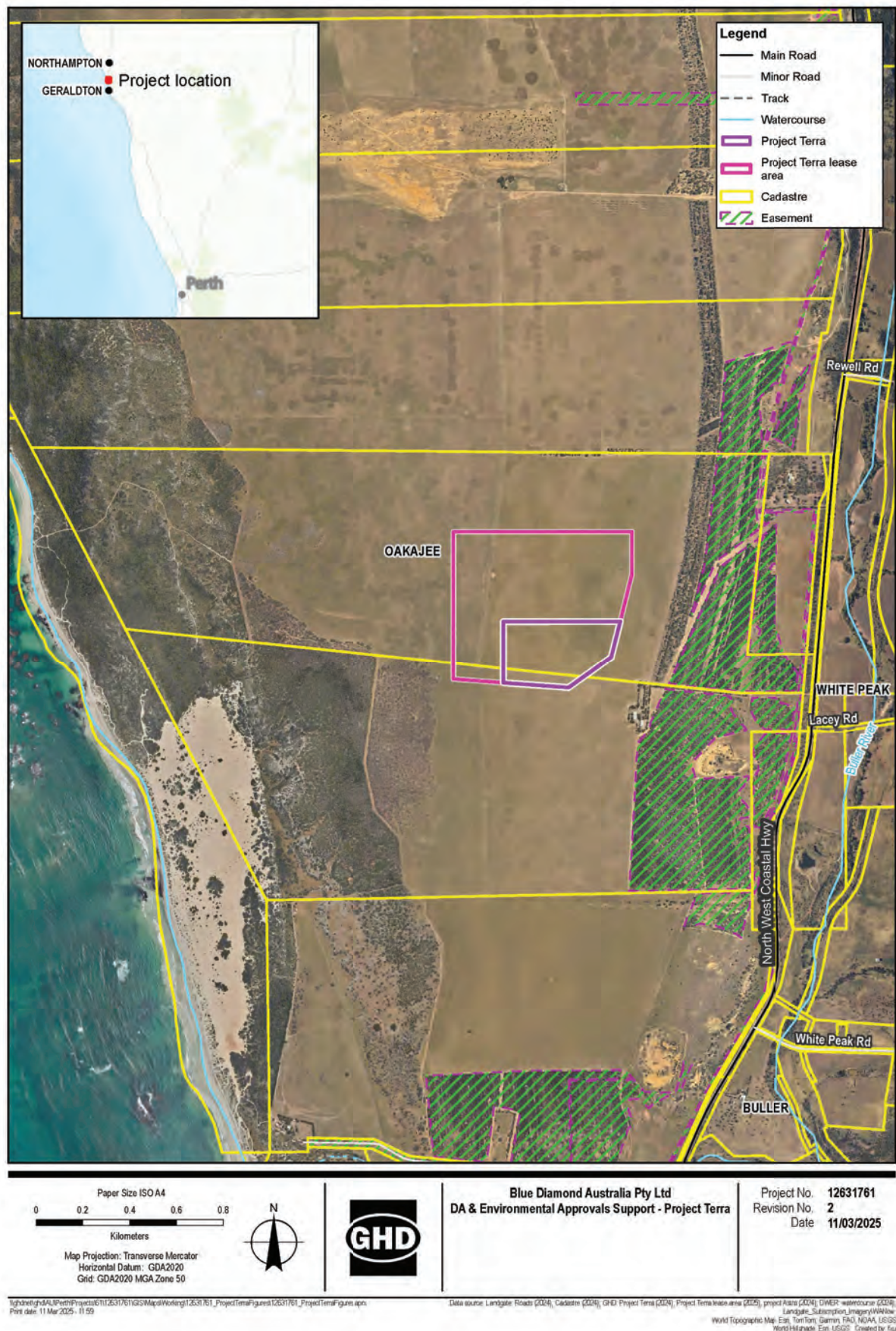
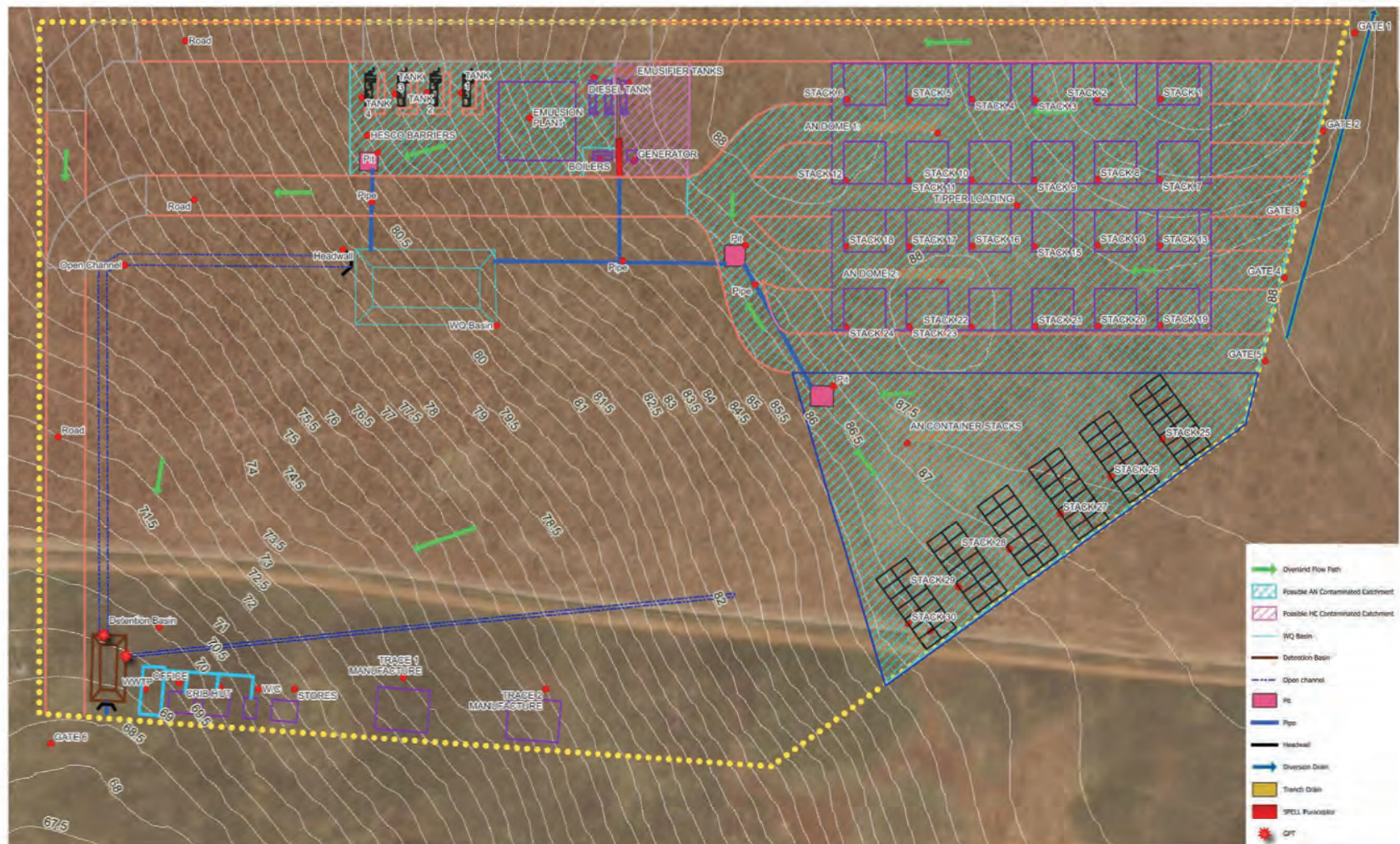


Figure 5 Regional Context





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0 30 60 90 m  
Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 50



BLUE DIAMOND AUSTRALIA  
DA & ENVIRONMENTAL APPROVALS  
SUPPORT - PROJECT TERRA  
CONCEPTUAL DRAINAGE  
ARRANGEMENT

Project No. 12631761  
Revision No. A  
Date 10/11/2024

Data Source: ESRI: World Imagery (Imagery Date: 2023; Date Extracted: 11/06/2024) Created by: S. Alam

Figure 6 Site Plan and Drainage Layout



# **Appendix B**

**Platinum Blasting Services waste  
management procedure**

## WASTE MANAGEMENT

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### 1.0 Application

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To provide for the safe management and disposal of all contaminated materials or excess materials within Emulsion Manufacturing Plant are, as required by Legislation.

### 2.0 Key hazards

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The key hazards associated with undertaking this task are:

- Mixing incompatible chemicals and waste
- Inadequate governance of waste handling and waste disposal contractor management

### 3.0 References

---

- Australian Standard 2187.2 - The Storage, Handling and Use of Explosives
- Australian Standard 4326 - The Storage and Handling of Oxidizing Agents
- Australian Standard 1940 - The Storage and Handling of Combustible Liquids.
- Australian Dangerous Goods Code (ADG7)
- Controlled Waste Disposal
- Hydrocarbon and Chemical Spill Response
- Environmental Compliance Register
- Waste Management
- Product specific Safety Data Sheets (SDS)

### 4.0 Requirements

---

Before considering the collection and disposal of any waste materials refer to the product SDS for specific product information relating to the safe handling procedures.

Legislative and regulatory security and accountability requirements apply to wastes and residues.

All waste products shall be prevented from entering into natural water system, wetlands, stormwater and drainage system or disposed of with general waste.

All waste shall be disposed of as per Controlled Waste Disposal.

All SSAN waste shall be recorded monthly on Waste Generation form.

Waste materials will be stored in appropriately labelled waste containers in clearly defined areas allocated for that particular waste storage.

All Ammonium Nitrate waste must be collected using the appropriate personal protective equipment and authorised hand tools including shovels, brooms and dust pans. It is recommended that no ferrous metal objects be used in the waste material collection process.


#### 4.1 Ammonium Nitrate.

All Ammonium Nitrate waste must be placed into the approved Ammonium Nitrate Waste bins properly coloured (White) and labelled prior to the disposal of the product. These bins are not approved to be used to store any other product

## WASTE MANAGEMENT

All waste bins that are full and awaiting disposal must be secured using a security tag which is to be removed immediately prior to the product disposal of when the bins are unsupervised.

All other methods of waste / contaminated Ammonium Nitrate disposal must be approved by the Plant Supervisor prior to the disposal of any material in this manner.

An Example of an Approved Ammonium Nitrate Waste Bin		
Product	Ammonium Nitrate	
Bin Colour	White	
Bin Stripe	Nil	
Labels	Black lettering on a white background	

### 4.2 Combustible Liquids (Emulsion/Fuel Oil/Diesel).

All hydrocarbon (emulsion/fuel oil/diesel) waste produced must be placed into the approved Hydrocarbon Waste bins properly coloured (Brown) and labelled prior to the disposal of the product. These bins are not approved to be used to store any other product

Re-work of emulsion is transferred into IBC's for recovery in the production process when production permits. Not all of the re-work emulsion can be recovered from the IBC's and the residue emulsion product is deemed a controlled waste. The IBC's containing the waste emulsion are isolated in a designated storage area before being transferred to a licensed facility for disposal. The waste IBC's are clearly labelled "Waste Emulsion" to avoid cross contamination with other products.

Small spills may be covered with a suitable non-combustible absorbent material (vermiculite or similar) before the product is collected and placed in suitable storage container.  
Large storage including waste collection areas should be bunded to contain the effects of any product spills.


Where possible the material should transferred into the storage container in a method which reduces the potential for any static electricity build up and / or discharge.

Combustible liquid wastes must not be allowed to accumulate, and must be removed by a specialist hazardous waste disposal contractor.

Solid combustible waste (e.g. rags soaked with combustible liquids) may be kept in the appropriate waste disposal container allocated for the product.

Recycling of the any waste combustible liquid is to be considered and implemented if possible, after a detailed and formal risk assessment is completed.

### An Example of a Hydrocarbon Waste Bin

<b>Product</b>	<b>Diesel (includes rags)</b>	
<b>Bin Colour</b>	<b>Brown</b>	
<b>Bin Stripe</b>	<b>Nil</b>	
<b>Labels</b>	<b>Brown lettering on a white background</b>	

### 4.3 Oils and Greases

All oil and grease waste generated during the maintenance of explosives equipment must be placed into the approved Oils and Greases Waste bins properly coloured (Brown) and labelled prior to the disposal of the product.

This will include all rags and other materials used to handle and clean up spills of grease and oils. These bins are not approved to be used to store any other product

Surface oil spills are to be isolated and absorbed with an appropriate absorbent material. This material is then to be placed in a 'Waste grease and oil' container.

Where possible, old oils (not contaminated by absorbent material) should be transferred from the catchment container into the storage container in a method which reduces the potential for any static electricity build up and / or discharge.


Large storage including waste collection areas should be bunded to contain the effects of any product spills.

Disposal of waste oils and other combustible liquids must be carried out in accordance with the relevant site procedures (waste oil facilities) and / or relevant local legislation outlined in Controlled Waste Disposal.

Combustible liquid wastes must not be allowed to accumulate, and must be removed by a specialist hazardous waste disposal contractor.

Recycling of any waste combustible liquid is to be considered and implemented if possible, after a detailed and formal risk assessment is completed.




An Example of an Oils and Greases Waste Bin		
Product	Oils and Greases	
Bin Colour	Brown	
Bin Stripe	Yellow	
Labels	Brown lettering on a yellow background	

### 4.4 General Waste

General waste is to be placed in a clearly coloured and labelled 'General Waste' bin.

General waste shall be collected and managed in accordance with the site specific waste management procedures.

General waste will be collected from site by approved waste management sub-contractors or managed onsite as per the Waste disposal procedure on site.

An Example of a General Waste Bin		
Product	General Waste	
Bin Colour	Green	
Bin Stripe	Nil	
Labels	Green lettering on a white background	

### 4.5 Recycled Waste


Waste which can be safely recycled is to be placed in a clearly coloured and labelled 'Recycle Waste' bin.

Recyclable waste shall be collected and managed in accordance with the site specific waste management procedures.

Recyclable waste will be collected from site by approved waste management sub-contractors or managed onsite as per the Waste disposal procedure on site.

An Example of a Recycled Waste Bin	
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## WASTE MANAGEMENT

<b>Product</b>	<b>Recycle Waste</b>	
<b>Bin Colour</b>	<b>Blue</b>	
<b>Bin Stripe</b>	<b>Nil</b>	
<b>Labels</b>	<b>Blue lettering on a white background</b>	

### 4.6 Packaging

The empty bulk bags of ammonium nitrate shall be treated as contaminated waste and shall not be disposed of as general waste articles.

Ammonium Nitrate bulks bags (including inner linings) shall have the ammonium nitrate product removed and stored on site until the removal of the bags can be arranged by an appropriate licensed contractor as relevant local legislation outlined in Controlled Waste Disposal.

Hazardous material packaging shall be disposed of as a product waste and is to be stored in the appropriate coloured and labelled waste bin for that product.

Do not progress with the disposal of any SSAN material unless authorised to do so.

### 4.7 Off Site Waste Disposal

It is the responsibility of the Plant Supervisor to ensure that waste is controlled and removed from site by a licensed waste contractor. It is a requirement to demonstrate that the waste is going to a facility licensed to accept that type of waste.

### 4.8 General Requirements

It is the responsibility of all Platinum Blasting Services personnel to adhere to this Procedure.

It is the responsibility of the Plant Manager/Supervisor to ensure that all persons adhere to this Procedure.

Any defect and hazard that is identified during any activity involving Ammonium Nitrate handling equipment, is to be reported to the Plant Supervisor immediately.

It is the responsibility of all persons involved to use the appropriate Risk Management tools to assess any hazards and implement any necessary controls for any event that may be undertaken where there is risk of personal injury or equipment damage.

### 5.0 Competency required

## WASTE MANAGEMENT

Any person who will utilise this procedure and have access to these materials, must be competent or in training for the following:-

- Relevant State Security Sensitive Ammonium Nitrate Police Check.
- Competent Person (as per AS2187)

### 6.0 Personal Protective Equipment (PPE) / Special equipment

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- Approved Hi Visibility Clothing
- Approved Safety Footwear
- Approved Eye Protection
- Approved Hand Protection
- Approved PPE as specified by the product MSDS

### 7.0 Special Equipment

---

- Spill kits
- Product specific, colour coded material waste bins
- SDS Registers

### 8.0 Records

---

- Personal Risk Management (MySafe)
- SSAN Material Stock documents
- Waste Generation form
- Stock Transfer dockets



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→ **The Power of Commitment**



# **Appendix H**

## **Noise Impact Assessment**



# Project Terra

## Noise Impact Assessment

Blue Diamond Australia Pty Ltd

11 March 2025

→ The Power of Commitment



<b>Project name</b>		DA & Environmental Approvals Support - Project Terra					
<b>Document title</b>		Project Terra   Noise Impact Assessment					
<b>Project number</b>		12631761					
<b>File name</b>		12631761-REP-0_Project Terra - Noise Impact Assessment.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S3	A	A Farhath	B Hillion	On file	M Pope	On file	13/09/24
S4	0	A Farhath	B Hillion	On file	M Pope	On file	19/11/24
S4	1	E George	A Farhath	On file	H Shigeyoshi	On file	11/03/2025

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# Glossary and abbreviations

Term	Description
°C	Degrees Celsius
AS	Australian Standard
ANF	Ammonium Nitrate Facility
AN	Ammonium Nitrate
CONCAWE	Conservation of Clean Air and Water in Europe
Day	7:00 am to 7:00 pm Monday to Saturday
dB	Decibel, unit of sound pressure level
dB(A)	Decibel (A-weighted)
DWER	Western Australia's Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
Evening	7:00 pm to 10:00 pm all days
GHD	GHD Pty Ltd
IF	Influencing factor
SPL	Sound pressure level
SWL	Sound power level
L <sub>Aeq</sub>	Equivalent sound pressure level over A-weighted spectra, in dB
L <sub>A90</sub>	Noise level exceeded for 90 percent of the measurement period over A-weighted spectra, in dB
L <sub>A10</sub>	Noise level exceeded for 10 percent of the measurement period over A-weighted spectra, in dB
L <sub>A1</sub>	Noise level exceeded for one percent of the measurement period over A-weighted spectra, in dB
m	metre
m/s	metres per second
Night	10:00 pm on any day to 7:00 am Monday to Saturday and 9:00 am Sunday and public holidays
PH	Public holiday
Monday to Saturday (Day)	7am to 7pm Monday to Saturday
Sunday and public holidays (Sunday Day)	9:00 am to 7:00 pm Sunday and public holidays
The Regulations	<i>Environmental Protection (Noise) Regulations 1997</i>



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# 1. Introduction

GHD has been engaged by Blue Diamond Australia (BDA) to assist in securing development approval (DA) and environmental approvals for its proposed ammonium nitrate facility (ANF), commercially named 'Project Terra'. Project Terra is proposed to be located within the Oakajee Strategic Industrial Area (SIA) on a portion of land that has been allocated to BDA as part of an option to lease by DevelopmentWA.

The purpose of this noise assessment is to understand the noise impacts on nearby noise sensitive receivers due to operation of the ANF. The noise impact assessments have been carried out in accordance with *Environmental Protection Noise Regulations 1997* (Noise Regulations), which outline the statutory requirements for noise emissions in Western Australia (WA) in relation to the properties nearest to the site.

## 1.1 Scope of works

The scope of works for this noise assessment is as follows:

- 3D Acoustic modelling prediction in accordance with WA statutory requirements (i.e. DWER Draft Guideline Assessment of Environmental Noise Emissions - May 2021), based on SoundPLAN or CadnaA software package. The modelling has been carried out for one typical operational scenario. Modelling is based on plant layouts and sound power levels provided by Client (or file data from similar projects).
- Prepare an environmental noise assessment report outlining background information, methodology and results of the modelling and impact assessment.
- The noise criteria are calculated based on the *Environmental Protection (Noise) Regulations 1997*.
- Carry out an initial desktop assessment to characterise the existing noise environment based on baseline monitoring data available (based on publicly available noise data).
- Review sensitive receivers adjacent to the project area as required to be included in study.
- Develop noise emission inventories for operational phase of the project, based on equipment and plant location to be provided by Client.
- Undertake noise modelling predictions for operational phase of the project and compare modelling results against relevant assessment criteria.
- Where any exceedances are predicted, provide reasonable and practicable mitigation and control measures on the basis of iterating noise modelling process, in order to achieve compliance with statutory requirements.

## 1.2 Limitations

*This report has been prepared by GHD for Blue Diamond Australia Pty Ltd and may only be used and relied on by Blue Diamond Australia Pty Ltd for the purpose agreed between GHD and Blue Diamond Australia Pty Ltd as set out in Section 1.1 of this report.*

*GHD otherwise disclaims responsibility to any person other than Blue Diamond Australia Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

*The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer Section 1.1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.*

## 1.3 Assumptions

Information provided by BDA and its subcontractors is representative of operation at the ANF site.

## **2. Project Background**

### **2.1 Facility Description**

Project Terra is proposed to be located within the Oakajee SIA on a portion of land that BDA has been allocated as part of an option to lease by DevelopmentWA (DevWA). BDA has engaged Platinum Blasting Services (PBS) to operate the ANF.

The ANF comprises of an emulsion manufacturing plant and a storage facility. The manufacturing plant will have capacity to produce up to 40,000 tonnes of ammonium nitrate emulsion (ANE) per year, and the storage facility will house up to 15,000 tonnes of AN. The target commissioning date of the facility is Q4 of 2025.

### **2.2 Locational Context**

The ANF is proposed to be located in Oakajee which is a locality in the Mid-West region of Western Australia, within the Shire of Chapman Valley local government area (the Shire).

BDA has been allocated 48 ha of land within the Oakajee SIA by DevWA to accommodate Project Terra. Project Terra will occupy 12 ha of the 48 ha lease area.

The proposed installation site is approximately 20 kilometres north of the Geraldton township and 4.75 kilometres north-northwest of White Peak township. The land allocated to BDA is located across the following parcels:

- Lot 11 on plan 18559 being the whole of the land in Certificate of Title Volume 2121 Folio 945, Land ID: 1731700
- Lot 12 on plan 18559 being the whole of the land in Certificate of Title Volume 2121 Folio 946, Land ID: 1731695

Refer to Figure 2-1 which shows the project in its regional context, and Figure 2-2 which depicts local context and lot allocation.



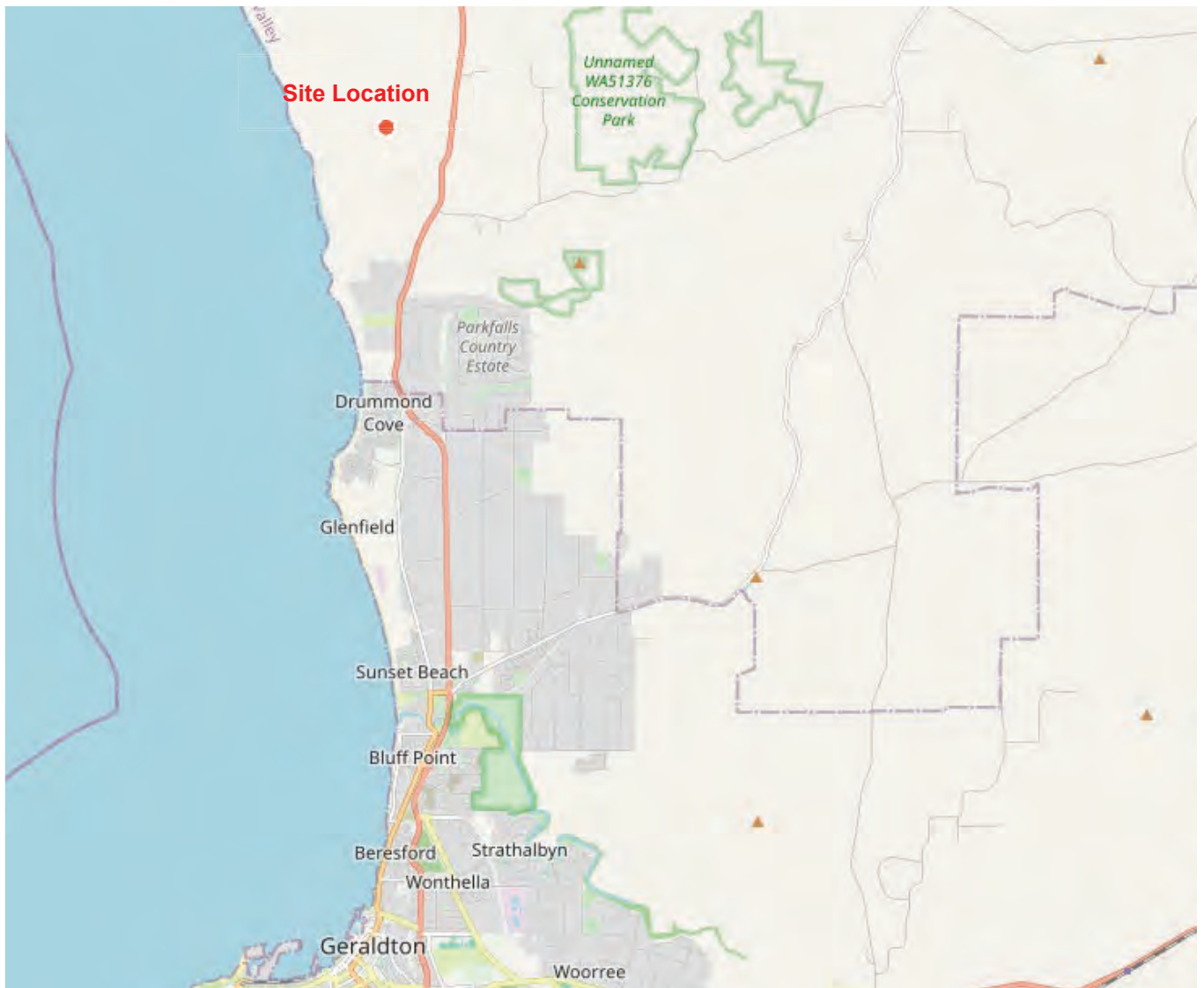


Figure 2-1 Regional Context

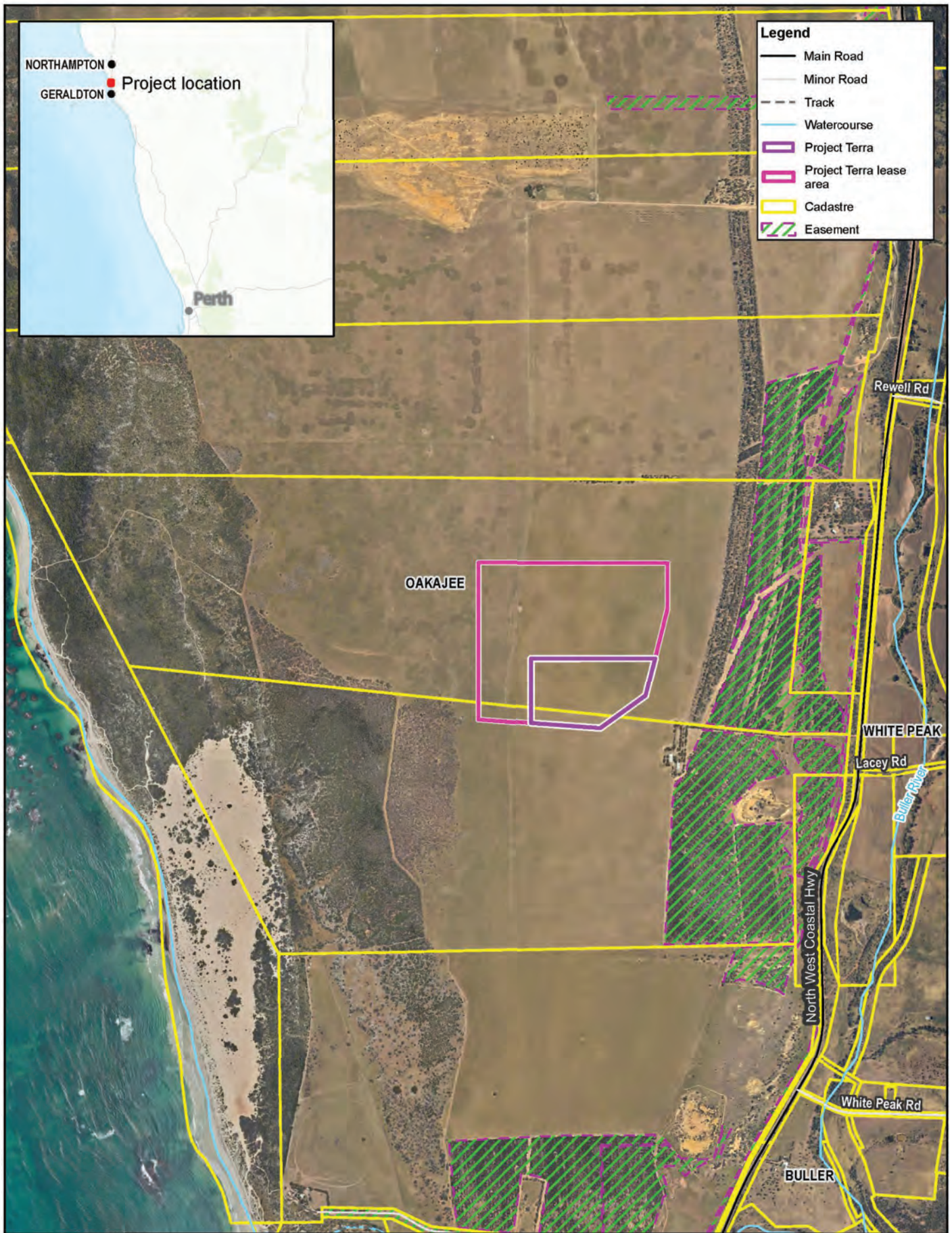


Figure 2-2 Local Context and Land Allocation



## 3. Noise criteria

### 3.1 Regulations and guidelines

In WA the emission of noise is assessed on a premises-to-premises basis.

The noise emissions from the Site are regulated by the assigned noise levels set in the Regulations. To comply with the Regulations the emissions from site cannot exceed the assigned levels.

Regulation 8 sets out the assigned noise levels (maximum allowable noise levels) based on different times of day and land use (i.e., noise sensitive premises, commercial and industrial premises) applicable at the premises receiving the noise.

The assigned noise levels of various parameters ( $L_{A10}$ ,  $L_{A1}$  and  $L_{Amax}$ ) are also dependent on influencing factor (IF) calculated in accordance with Schedule 3 of the Regulations. Assigned levels take into account the amount of industrial and commercial land and the presence of major roads adjacent to the noise receiver.

A summary of the assigned noise levels from Regulation 8 is presented in Table 3.1.

**Table 3.1** Assigned noise levels from the WA Noise Regulations

Type of premises receiving noise	Time of day	Assigned noise level. dB(A)		
		$L_{A10}$	$L_{A1}$	$L_{Amax}$
Noise sensitive premises: highly sensitive area (i.e., noise sensitive premises at locations within 15 m of a building directly associated with a noise sensitive use)	7:00 am to 7:00 pm Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	9:00 am to 7:00 pm Sunday and public holidays	40 + IF	50 + IF	65 + IF
	7:00 pm to 10:00 pm all days (Evening)	40 + IF	50 + IF	55 + IF
	10:00 pm on any day to 7:00 am Monday to Saturday and 9:00 am Sunday and public holidays (Night)	35 + IF	45 + IF	55 + IF
Noise sensitive premises: any area other than highly sensitive area (i.e., noise sensitive premises at locations further than 15 m from a building directly associated with a noise sensitive use)	All hours	60	75	80
Commercial premises	All hours	60	75	80
Industrial and utility premises	All hours	65	80	90

#### 3.1.1 Influencing factor

Influencing factors (IFs) have been calculated and used to determine assigned noise level criteria which are shown in Table 3.2 for the noise sensitive receivers located nearest site.

Schedule 3 of the Regulations details the process how to determine the IF on noise sensitive premises, which can be summarised as the following steps:

1. Obtain a Council zoning map covering an area up to 500 m from the receiving location.
2. Draw two circles around the receiving point, of 100 m radius and 450 m radius.
3. Determine the percentage of each circle that is taken up with industrial and commercial zonings. Note that the industrial and commercial areas in the inner circle are also counted in the outer circle.
4. Add up the percentages as follows:

- $(\text{Percent industrial in small circle} + \text{percent industrial in a large circle}) \times 1/10 = I$
  - $(\text{Percent commercial in small circle} + \text{percent commercial in large circle}) \times 1/20 = C$
- Determine the transport factor (TF) as follows (Note – TF cannot be more than 6):
    - Major road (more than 15,000 vehicles/day) in small circle, TF = 6
    - A major road in a large circle, TF = 2
    - For each secondary road (6,000 - 15,000 vehicles/day) in small circle, TF = 2
  - Add I, C and TF from steps 4 and 5 above to obtain the IF (i.e.,  $IF = I + C + TF$ ), and
  - Fill in the table of assigned levels by adding in the IF to obtain the  $L_{A10}$ ,  $L_{A1}$  and  $L_{Amax}$  assigned levels.

**Table 3.2** Influencing factor (IF) calculated for nearest noise sensitive receivers

Receiver	Address	Commercial zoning	Industrial zoning	Transport corridor	IF
1	2097 North West Coastal Highway, OAKAJEE 6532	0%	0%	Nil	1
2	1789 North West Coastal Highway, OAKAJEE 6532	N/A	N/A	Nil	N/A
3	60 Wells Road, WHITE PEAK 6532	0%	0%	Nil	0
4	1836 N W Coastal Hwy, BULLER WA 6532	0%	0%	Nil	0

**Notes:**

- Industrial zoning currently shown in the local planning scheme and SIA structure plan have been considered. However, as the area is likely to accommodate an increase in land dedicated to industrial use as part of Oakajee SIA, it is possible that assigned levels might increase over time at some locations.
- Receiver 2 is located on industrial premises as per Schedule 1A clause 8 of the Regulations and hence assigned noise level is not dependant on IF.

PlanWA, an online public mapping tool provided by the Department of Planning, Lands and Heritage, was accessed on 28 August 2024 which illustrates that the site is zoned industrial relative to the Oakajee SIA area with surrounding rural residential zoned land. Appendix A shows the 100 m and 450 m radius circles which have been drawn around the noise receivers for the purpose of IF calculation.

## 3.1.2 Annoying noise characteristics

Regulation 7 requires that the noise character received at sensitive receivers must be 'free' of annoying characteristics of tonality, modulation, and impulsiveness. If these characteristics cannot be reasonably and practicably removed, then a series of adjustments to the measured or calculated received levels are set out, and the adjusted level must comply with the assigned level. The adjustments are set out in Table 3.3 and are further defined in Regulation 9(1).

**Table 3.3** Table of adjustments

Adjustment where noise emission is not music (adjustments are cumulative to a maximum of 15 dB)			Adjustment where noise emission is music	
Where tonality is present	Where modulation is present	Where impulsiveness is present	Where impulsiveness is not present	Where impulsiveness is present
+5 dB	+5 dB	+10 dB	+10 dB	+15 dB

Tonality is defined in Regulation 9(1) as being present where the difference between the A-weighted sound pressure level in any one third octave band and the arithmetic average of the A-weighted sound pressure levels in the two adjacent one-third octave bands is greater than 3 dB in terms of  $L_{Aeq, T}$  where the period T is greater than



10 percent of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as  $L_{A, \text{Slow}}$  levels.

Modulation is defined as a variation in the emission of noise that:

- Is more than 3 dB  $L_{A, \text{Fast}}$  or is more than 3 dB  $L_{A, \text{Fast}}$  in any one third octave band; and
- Is present for at least 10 percent of the representative assessment period; and
- Is regular, cyclic and audible.

Impulsiveness is defined as present where the difference between  $L_{A, \text{peak}}$  and  $L_{A\text{max}}$  is more than 15 dB when determined for a single representative event.

### 3.1.3 Regulation 3

The Regulations do not apply to certain noise emissions, this being:

*(1) Nothing in these regulations applies to the following noise emissions —*

*(a) noise emissions from the propulsion and braking systems of motor vehicles operating on a road;*

Based on Regulation clause 3, noise emissions from vehicles whilst on public roads is exempt from meeting the assigned levels. Therefore, only noise from vehicles associated with the project has been assessed whilst they travel on private road. When these same vehicles travel on a public road their noise levels have not been assessed as they are not subject to the assigned levels at these locations.

### 3.1.4 Assigned noise levels

**Table 3.4** Assigned noise levels at project receivers

Type of premises receiving noise	Time of the day	Assigned noise level (dB)		
		$L_{A10}$	$L_{A1}$	$L_{A\text{max}}$
<b>Receiver 1</b> Noise sensitive premises at locations within 15 m of a building directly associated with a noise sensitive use	7:00 am to 7:00 pm Monday to Saturday (Day)	46	56	66
	9:00 am to 7:00 pm Sunday and Public holidays (Sundays and Public Holidays)	41	51	66
	7:00 pm to 10:00 pm All days (Evening)	41	51	56
	10:00 pm to 7:00 am Monday to Saturday and; 10:00 pm to 9:00 am on Sundays and Public Holidays (Night)	36	46	56
<b>Receiver 3 and 4</b> Noise sensitive premises at locations within 15 m of a building directly associated with a noise sensitive use	7:00 am to 7:00 pm Monday to Saturday (Day)	45	55	65
	9:00 am to 7:00 pm Sunday and Public holidays (Sundays and Public Holidays)	40	50	65
	7:00 pm to 10:00 pm All days (Evening)	40	50	55
	10:00 pm to 7:00 am Monday to Saturday and; 10:00 pm to 9:00 am on Sundays and Public Holidays (Night)	35	45	55
<b>Receiver 2</b> Residence located on industrial and utility premises	All hours	65	80	90

## 4. Existing environment

### 4.1 Sensitive receivers

Sensitive receivers are identified in relation to the ANF and within the SIA buffer zone. These are confirmed to be tenanted residential lots as confirmed with DevelopmentWA (September 2024). The nearest sensitive receivers are listed in Table 4.1.

It is noted that 2017 North West Coastal Hwy, Oakajee WA 6532 is the closest tenanted lot to the ANF, when compared to all other receivers identified in below table (~220 m SE of ANF). However, this lot is within the tenement of the ANF development boundaries and an agreement has been signed by BDA and the tenant for this lot to be vacated prior to Project commencement. Therefore, this lot has been excluded for the purpose of the noise impact assessment.

Table 4.1 Noise receivers

Receiver ID	Type of land	Address	Location (Universal Transverse Mercator (UTM) zone 50 (m))
R1	SCA1 buffer - residential	1836 N W Coastal Hwy, Buller WA 6532	268074.6, 6830021
R2	SCA1 buffer - residential	1789 North West Coastal Highway, Oakajee 6532	266151.1, 6829897
R3	SCA1 buffer - residential	8 Dixon Pl, White Peak WA 6532	269159.7, 6830461
R4	SCA1 buffer - residential	291 Carey Rd, White Peak WA 6532	269744.2, 6833896

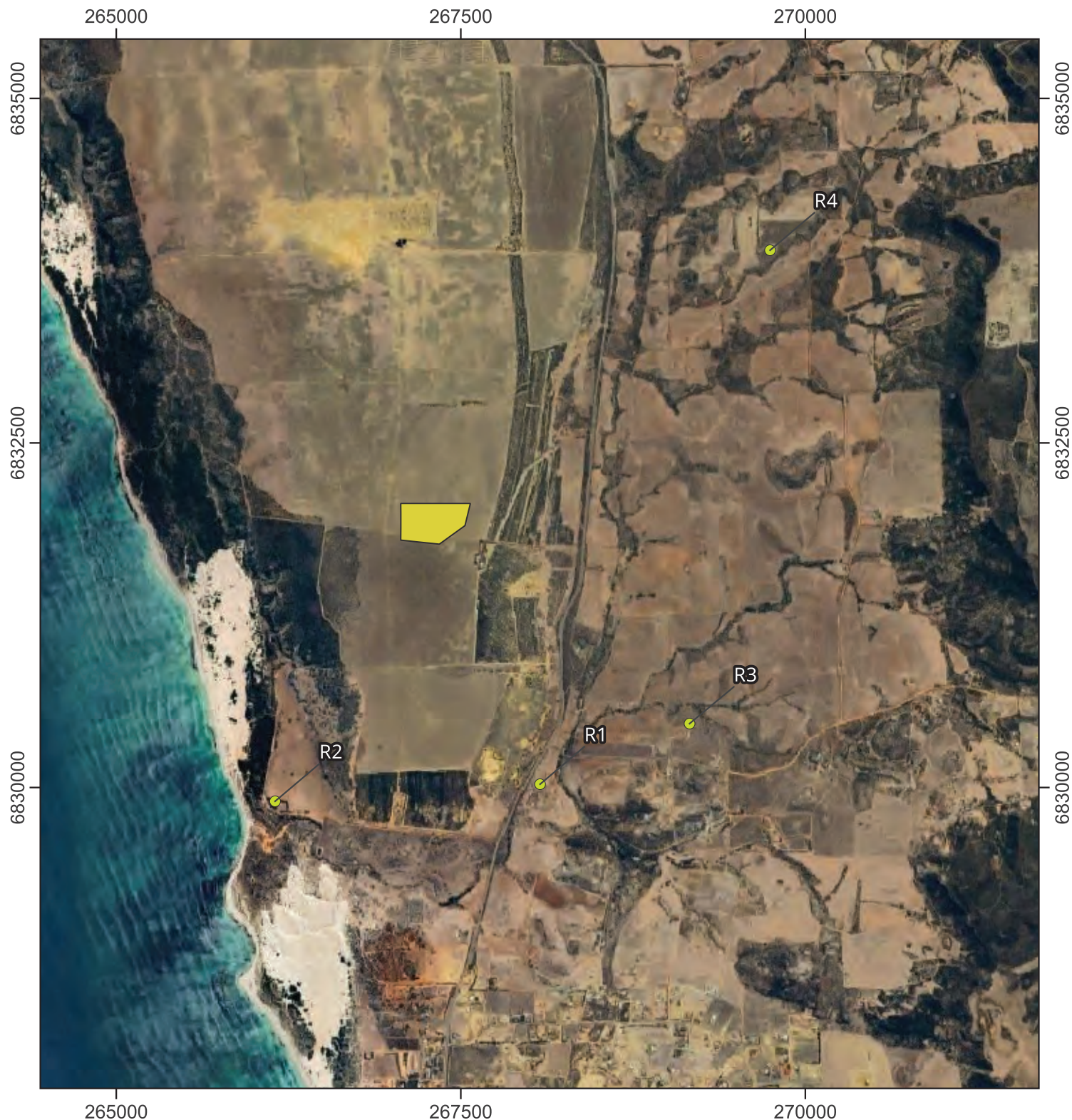
Receiver locations are further illustrated on Figure 4-1.

### 4.2 Ambient noise

The noise monitoring conducted by Herring Storer for the SIA (report 12190-1-08195-02), indicates that 90<sup>th</sup> percentile of ambient noise levels are around 27-32 dB – with low variation between day and night due to coastal wind and ocean noise being the major influence.

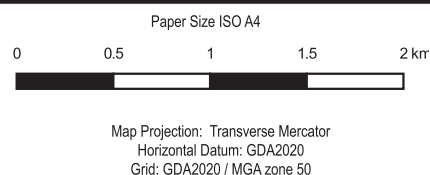
The receivers are considered to have minimal to no exposure to industrial noise external to the ANF, as the Herring Storer report mentions major noise contributions being coastal noise only. Hence, the noise criteria for all receivers will remain at the assigned noise level as presented in Table 3.4 (i.e. there is no need to consider noise levels at 5 dB below the assigned noise levels).

Should the noise emanating from the project be considered tonal, it is unlikely to be masked if ambient noise is below received noise at any of the sensitive receivers. Therefore, a +5 dB adjustment has been conservatively applied to the predicted noise levels presented in this report to account for potential tonality.



## Legend

- Noise receivers
- ANF site boundary



**Blue Diamond Australia**  
**Project Terra Noise Impact Assessment**

**Noise receiver locations**

Project No. **12631761**  
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**FIGURE 4.1**

## **5. Operation noise modelling**

### **5.1 Operational noise modelling method**

#### **5.1.1 Modelling scenarios**

One scenario has been considered for this noise assessment, which is:

- Major noise sources including continuously operating plan and truck movements delivering AN to the facility (10 heavy vehicles per day one way, typical. 20 two way of normal operation).

The  $LA_{10}$  noise criteria is used for the assessment as it represents the most stringent one applicable.

##### **5.1.1.1 Noise source details and locations**

Equipment sound power level data used for the assessment is provided in Table 5.1 below.



**Table 5.1**      *Equipment SWLs (sound power levels) for major noise sources on site*

Item / Description (x qty)	Enclosed? (Y/N)	Height. m	SWL, dB	Unweighted SWL at Octave band centre frequency, Hz							
				63	125	250	500	1k	2k	4k	8k
Techtop Electric Motor 22kW x1	N	1.5	99 (A)	86	89	91	94	94	93	88	80
ANSOL Process Pump Motor x1	N	1.5	87 (A)	74	77	79	82	82	81	76	68
Emulsifier Transfer Pump Motor x3	N	1.5	84 (A)	71	74	76	79	79	78	73	65
Fuel Supply Tank Pump Motor x4	N	1.5	86 (A)	73	76	78	81	81	80	75	67
Boiler VWT50 x2	N	2	97 (A)	100	100	97	94	91	88	85	82
Diesel genset DCA400 x1	N	2	96 (A)	92	93	93	93	91	89	86	81
Air compressor x1	Y	1.5	103 (A)	93	92	92	95	98	97	95	92
Truck deliveries 40 km/h (2-way)	N	1.5	99 (A)	113	109	103	93	86	87	86	82
<b>Notes:</b>											
– Only major plant with SWL over 85 dB(A) has been included in the model.											
– All continuously operating sources are assumed to be occurring simultaneously.											
– For Truck deliveries the worst case scenario has been considered for which two trucks (arriving and departing) cross each other on the private access road.											
– Trucks have been modelled travelling at 40 km/h from entry point at North West Coastal Highway via private access road to the ANF.											
– Enclosed noise source means that source SWL has been attenuated based on transmission loss due to building/structure containing the source.											

## 5.1.2 Noise software modelling parameters

SoundPLAN 9.0 is a computer program for the calculation, assessment, and prognosis of noise propagation. SoundPLAN calculates environmental noise propagation according to CONCAWE and other algorithms. Propagation calculations take into account sound intensity losses due to geometrical spreading, terrain effects, atmospheric absorption and ground absorption.

The CONCAWE algorithm also considers wind conditions, such as 'downwind' conditions, which are favourable to sound propagation. As a result, predicted received noise levels are expected to represent a worst case scenario, due to the distances involved between source and receivers, enhancement of noise due to weather is expected to have an effect on the closest sensitive receiver locations. The algorithms used in this model account for the following physical features:

- Geometrical divergence
- Atmospheric absorption
- Ground effect
- Screening by obstacles
- Reflections

## 5.1.3 Meteorological and geographical conditions

The CONCAWE method has been selected in accordance with the WA DWER Draft Guidelines 2021. Modelling results are based on available information provided and should only be used as a guide for comparative purposes. The noise model inputs and assumptions for the operational assessment of the ANF are considered worst case default (according to the WA DWER Draft Guidelines 2021) and provided in Table 5.2.

**Table 5.2** Noise modelling parameters

Variable	Parameter used	
Prediction algorithm	CONCAWE prediction algorithm	
Ground absorption coefficient G = 0 is for hard, reflective ground G = 1 is for soft, porous ground	G = 0.5	
Receiver heights	1.5 m above ground.	
Terrain	Three-dimensional terrain has been used in the model. Elvis (Elevation Information System) data provided by Geoscience Australia was used (accessed 12 <sup>th</sup> August 2024) as elevation data	
Shielding	Shielding from site structures, such as buildings and walls have been considered in the model.	
Order of reflection	3	
Proposed layout	The noise model developed for this assessment was based on the Emulsion plant infrastructure provided by Platinum Blasting Services (29379 Emulsion Plant docs, received 8 <sup>th</sup> July 2024). Note air compressor is assumed to be enclosed.	
Meteorological conditions <sup>[2]</sup>	Day	Night
Temperature	20°C	15°C
Relative Humidity	50%	50%
Wind Speed <sup>[1]</sup>	4 m/s	3 m/s
Pasquill Stability Class	E	F
<b>Notes:</b>		
1. The wind direction considered in the noise model is from source to receiver as this constitutes worst case form a noise emissions perspective.		

## 5.2 Operational noise modelling results

Noise prediction results at sensitive receivers for modelled scenario, with all major continuous plant operating are presented in Table 5.3 for worst case meteorological conditions. The results assume the air compressor noise source is enclosed. Tonality was assumed to be present at each receiver (a +5 dB adjustment has been applied in accordance with Regulation 9) which is conservative from a noise emissions perspective.

**Table 5.3** Noise modelling results

ID	Predicted LA <sub>10</sub> noise, dB(A)	Adjustment for tonality	Assessed noise level, dB(A)	Noise criteria			Compliant in Day? (Y/N)	Compliant in Evening/ Sunday & PH Day? (Y/N)	Compliant in Night? (Y/N)
				Day	Evening/ Sunday & PH Day	Night			
1	22	+5	27	<b>46</b>	<b>41</b>	<b>36</b>	Y	Y	Y
2	18	+5	23	<b>65</b>	<b>65</b>	<b>65</b>	Y	Y	Y
3	21	+5	26	<b>45</b>	<b>40</b>	<b>35</b>	Y	Y	Y
4	24	+5	29	<b>45</b>	<b>40</b>	<b>35</b>	Y	Y	Y

Noise contour map for the modelled scenario is presented in Appendix B.

The predicted levels with tonality range between 23 and 29 dB(A) LA<sub>10</sub> and are therefore expected to comply with the assigned noise levels at all times.

## 6. Conclusions

The predicted noise impacts of Project Terra operations were predicted in accordance with the *Environmental Noise Protection Regulations 1997*, to assess compliance with statutory requirements for noise emissions in Western Australia.

For the purpose of this noise impact assessment, one typical scenario has been considered, which includes major outdoor plant associated with the proposal as well as heavy traffic movements whilst on private roads and project site. As detailed in Section 5.1.1. the CONCAWE noise prediction algorithm was used in SoundPLAN 9.0, including the worst-case meteorological conditions as per WA DWER Draft Guidelines 2021.

Predicted noise levels from the modelled scenario are expected to comply with the 'Day', 'Evening' and 'Night' noise criteria as shown in Table 3.4 at all sensitive receivers, with tonality considered.

The ANF operational noise impacts are therefore expected to comply with the Regulations.

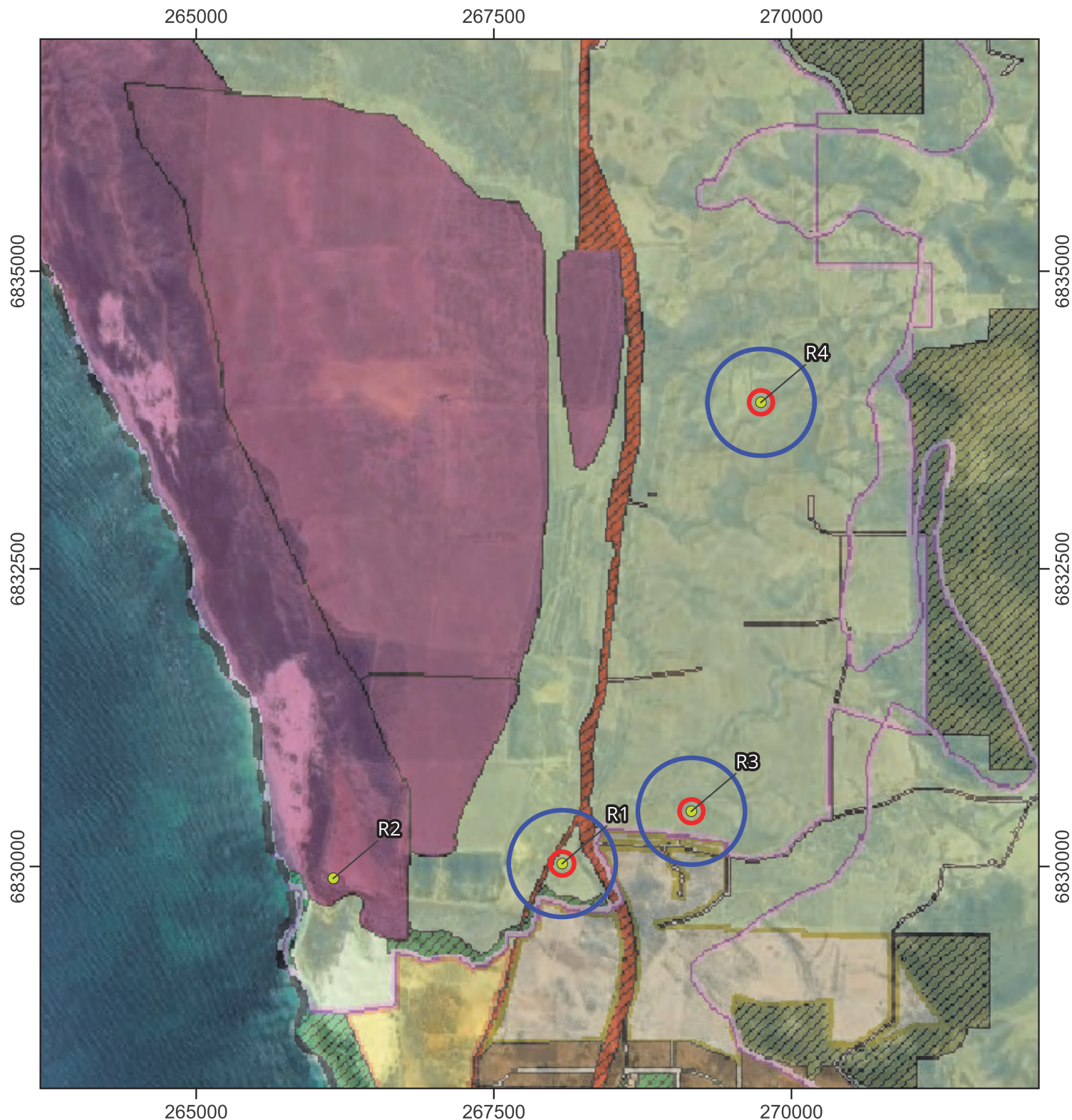


## 7. References

- CONCAWE. (1981). *the propagation of noise from petroleum and petrochemical complexes to neighbouring communities* .
- DWER. (2021). *Draft Guideline Assessment of Environmental Noise Emissions*.
- EPA. (1997). *Environmental Protection (Noise) Regulation*.
- EPA. (2007). *Guidance for the Assessment of Environmental Factors - No. 8 - Environmental Noise - Draft*.
- Herring Storer. (2010). *Landcorp Oakajee Industrial Estate Background Noise Monitoring*.
- ISO 9613-2. (1996). *Attenuation of sound during propagation outdoors*.
- Occupational & Environmental Monitoring and Management. (2022). *Occupational Noise Survey Report Christmas Island Phosphates* .

# **Appendix A**

## **Noise criteria calculations**



## Legend

- |   |  |   |   |
|---|--|---|---|
| <span style="color: yellow;">●</span> Noise receivers   | Land planning zones  | <span style="border: 2px solid red; width: 10px; height: 10px; display: inline-block;"></span> Arterial road                            | <span style="background-color: #90EE90; border: 1px solid black; width: 10px; height: 10px; display: inline-block;"></span> Recreation        |
| <span style="border: 2px solid blue; width: 10px; height: 10px; display: inline-block;"></span> 450m radius circle (IF calculation) | <span style="background-color: #D2B48C; border: 1px solid black; width: 10px; height: 10px; display: inline-block;"></span> Agricultural | <span style="background-color: #FFFF00; border: 1px solid black; width: 10px; height: 10px; display: inline-block;"></span> Development | <span style="background-color: #90EE90; border: 1px solid black; width: 10px; height: 10px; display: inline-block;"></span> Rural residential |
| <span style="border: 2px solid red; width: 10px; height: 10px; display: inline-block;"></span> 100m radius circle (IF calculation)  |  | <span style="background-color: #800080; border: 1px solid black; width: 10px; height: 10px; display: inline-block;"></span> Industrial  |   |



Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



Blue Diamond Australia  
Project Terra Noise Impact Assessment

**Noise receiver locations**  
**Local Planning: 100m and 450m radius**  
**circles for IF calculation**

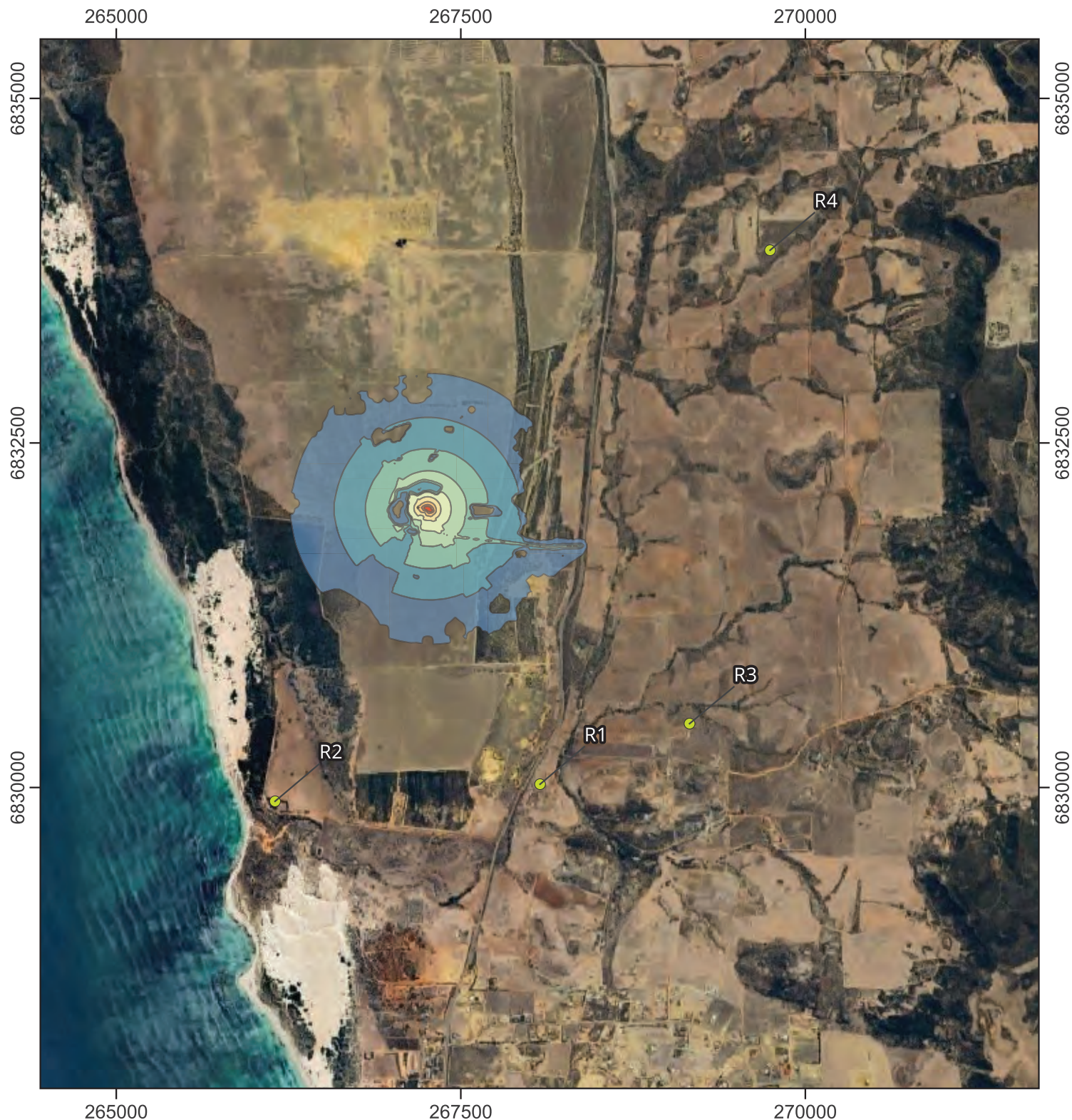
Project No. **12631761**  
Revision No. **0**  
Date. **19/11/2024**

**FIGURE A.1**

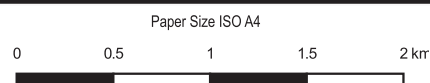
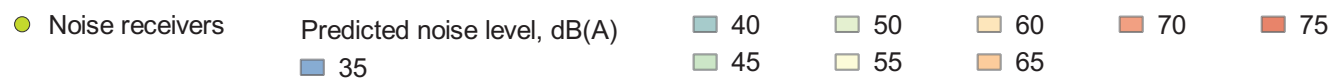
# Appendix B

Noise contour map





## Legend



Map Projection: Transverse Mercator  
Horizontal Datum: GDA2020  
Grid: GDA2020 / MGA zone 50



Blue Diamond Australia  
Project Terra Noise Impact Assessment

**LA<sub>10</sub> noise contours for modelled  
scenario**

Project No. **12631761**  
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Date. **19/11/2024**

**FIGURE B.1**



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→ **The Power of Commitment**

# **Appendix I**

## **Bushfire Management Plan**

## Bushfire management plan /statement addressing the bushfire protection criteria coversheet

Site address: **Part Lot 11 & 12 (on P018559), Oakagee**

Site visit: Yes ☒ No ☐

Date of site visit (if applicable): Day **19** Month **Sept** Year **2025**

Report author or reviewer: **Linden Wears**

WA BPAD accreditation level (please circle):

Not accredited ☐ Level 1 BAL assessor ☐ Level 2 practitioner ☐ Level 3 practitioner ☒

If accredited please provide the following.

BPAD accreditation number: **19809** Accreditation expiry: Month **June** Year **2025**

Bushfire management plan version number: **Rev 0**

Bushfire management plan date: Day **30** Month **Jan** Year **2025**

If one or more of the following are selected, then these should be automatically referred to DFES

	YES	NO
Strategic planning is required to address SPP 3.7 and the Guidelines	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The application is a vulnerable land use	<input type="checkbox"/>	<input checked="" type="checkbox"/>

None of the Above ☒

If one or more of the following are selected, and the decision-maker requires input from DFES, then the application can be referred.

	YES	NO
The BAL rating has been calculated by a method other than Method 1 as prescribed by AS 3959	<input type="checkbox"/>	<input checked="" type="checkbox"/>
An outcomes-based approach has been submitted to demonstrate compliance with the bushfire protection criteria	<input type="checkbox"/>	<input checked="" type="checkbox"/>

None of the Above ☒

**Note:** If a subdivision or development application meets all the acceptable solutions and does not otherwise trigger a referral as listed above, seeking advice from DFES on SPP 3.7 or other matters is at the discretion of the decision-maker.

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author  
or reviewer



Date **30 Jan 2025**





# **Project Terra Ammonium Nitrate Facility**

## **Pt Lot 11 & 12 NW Coastal Hwy, Oakagee**

### **Bushfire Management Plan**

Date: 30 January 2025

Prepared For: Blue Diamond Australia

Linfire Ref: 20240503355GHD-BMP-001\_0

**Linfire Consultancy**

ABN: 577 930 47299

Revision	Issue Date	Revision Description	Approved By
0	30 Jan 2025	Issued for Approval	Linden Wears (Level 3 BPAD 19809)



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## 1.0 Proposal details

### 1.1 Background

Blue Diamond Australia (BDA; the Proponent) is seeking to lodge a development application (DA) in relation to proposed Project Terra development over a portion of two lots (Lot 11 and 12 on P018559), Oakagee (the project area) in the Shire of Chapman Valley. The project area is to be located within the southern portion of the proposed Oakagee Strategic Industrial Area, which is currently in planning works (see Section 1.2).

Project Terra is to be comprised of an Ammonium Nitrate (AN) storage facility and supporting Ammonium Nitrate Emulsion (ANE) manufacturing plant. In addition to Project Terra, BDA are also involved in Project Astra, a proposed green Ammonia and AN plant located immediately to the north and west of the project area, which is expected to eventually remove the requirement for AN storage onsite, however the Project Astra development is to be subject to a separate DA.

The Project Terra facility is expected to comprise the following:

- **Ammonium Nitrate storage**
  - Store up to 15,000 tonnes of AN onsite in the following arrangement:
    - 2 domes shelters bulk bag stacks beneath each shelter
    - 6 lots of container configurations
  - Handle up to 50,000 tonnes of AN per year
- **Ammonium Nitrate Emulsion (ANE) manufacturing plant and storage**
  - Initial production capacity of up to 40,000 tonnes per year.
  - The ANE production plant process is to consist of:
    - AN prill dissolved in steam traced "melt tanks" with stirrer to create AN Solution (ANSOL)
    - Fuel and emulsifier blended to produce Fuel Phase
    - Fuel Phase and ANSOL are mixed via static mixers and a stir-pot, to achieve required ANE product.

The proposed Project Terra facility will require the installation of the following infrastructure (see Figure 1):

- Various new buildings including:
  - Office building
  - Crib building
  - Toilet building
  - Stores building
  - Waste Water Treatment Plant (WWTP) and
  - 2 Trace Manufacture buildings
- Ammonium Nitrate (AN) storage (approx. 15,000 tonnes) in bag stacks and containers
- Ammonium Nitrate Emulsion (ANE) manufacturing plant (approx. 40,000 tonnes yearly)
- ANE storage tanks complete with HESCO barriers.
- Emulsifier tanks

- Onsite diesel tank
- Boiler infrastructure
- Generator
- Water and Firewater tanks
- Internal roads and carparking
- Access road to the project area, from North-West Coast Highway
  - from Oakagee SIA intersection with North-West Coast Highway currently under construction by Main Roads WA (see Section 1.2).

### **1.1.1 Anticipated Occupant and Vehicle loads**

The proposed facility under normal manufacturing mode is expected to initially operate 5 days a week from 6.30am to 5.00pm, however progressing from 5 to 7-day operation and potentially night shift, would be explored should demand justify increased production. The only deviation from manufacturing operation will be AN import mode which would likely occur 6 times a year, where the site will operate continuously for around 2 days (48 hours). In addition to the above, there will be a major maintenance shutdown conducted on an annual basis.

During normal manufacturing mode there will be a maximum of 6 staff onsite, while during import mode, there will be 5 personnel onsite for 12-hour shifts.

Vehicles visits to the site during manufacturing mode is expected to be 5-6 light vehicles (LV) per day and heavy vehicles (HV) of about 5-10 per day, however during import mode, the HV visitation is expected to increase to 60-65 per day.

### **1.1.2 Proposed Dangerous Goods**

The proposed Dangerous Goods within Project Terra are as follows:

- Ammonium Nitrate (AN) storage (approx. 15,000 tonnes)
  - Dangerous Good Class 5.1 (Oxidising Agent)
  - AN is not combustible and is stable to mechanical shock
  - AN can melt and if sufficiently heated by external fire, can decompose to release toxic gas, intensify the fire (oxidiser) and detonate if exposed to intense fire.
  - Such events typically require immediate off-site evacuation
  - AN is to be transported, stored and handled in accordance with relevant Dangerous Goods legislation and the WA Code of Practice for Storage of Solid Ammonium Nitrate, including compliant storage quantities and arrangement, compliant separation distances from onsite and nearby buildings, infrastructure and vehicles, required fire protection equipment, and appropriate emergency management procedures.
- Ammonium Nitrate Emulsion (ANE)
  - Dangerous Good Class 5.1 (Oxidising Agent)
  - ANE is potentially explosive under intense heat, and can also decompose to toxic gases. Similar to fire at the AN shed, offsite evacuation and notification of neighbours is required for fire impacting the ANE facility area
  - ANE is to be transported, stored and handled in accordance with relevant Dangerous Goods legislation.
- Onsite diesel tank
  - Combustible liquid (C1)
  - Diesel requires moderate to high temperatures to ignite, but once ignited it will continue to burn in an oxygenated environment and release toxic fumes.

- Diesel is to be transported, stored and handled in accordance with relevant Dangerous Goods legislation.

## **1.2 Oakagee Strategic Industrial Area and Port Precinct**

The Oakagee Strategic Industrial Area (SIA) is intended to be a major hub for heavy industry, resources and renewable energy projects. A deep-water port is also planned for the SIA to support downstream processing industries in the Mid-West region.

The SIA and Port precincts is located approximately 23 km north of Geraldton, and extends across a number of lots which are wholly owned by Development WA (the Landowner), including the Lot 11 and 12, within which the project area for this project is located.

Upon completion, the proposed Oakagee development is expected to eventually result in the following precincts:

- Port Precinct
  - Deep-water port
  - Adjacent coastal infrastructure to support the port
- Strategic Industry Area (SIA) Precinct
  - Strategic industry core
  - Buffer area for compatible uses
  - Industry support areas / General Industrial Areas (GIAs)

In addition to the Port and SIA Precincts (including GIAs), there will also be an integrated road and rail transport network to like individual uses within the SIA.

As part of the Oakagee development, a new public road network is to be extended from North-West Coastal Highway, throughout the SIA Precinct, and providing access to the Port Precinct. Main Roads WA have already designed the new intersection at North-West Coastal Highway and a 750 m long no-through road, and works on this intersection are expected to be completed in 2025 (see Figure 2).

## **1.3 Site description**

The project area is approximately 12 ha of existing agricultural land within Lots 11 and 12, and is surrounded by the following (see Figure 3):

- Unmanaged grassland within Lots 11 and 12 to the north and the south
- Unmanaged grassland within Lots 11 and 12 to the west for approximately 150-200 m before changing to coastal scrub/shrubland vegetation for 1-2 km until it reached the Indian Ocean
- Unmanaged grassland within Lots 11 and 12 to the east for approximately 300 m before changing to predominantly scrub vegetation for 700 m, up to North-West Coastal Highway. Further east of North-West Coastal Highway is primarily cleared agricultural land containing unmanaged grassland, with relatively thin plots of scrub vegetation.

Vehicular access to Lots 11 and 12 is via an access driveway from North-West Coastal Highway, approximately 900 m east of the project area.

There is no existing reticulated town main water supply in the local area, nor any existing street hydrants.

## **1.4 Proposed Vehicular Access to Project Area**

During construction vehicular access to the project area from North-West Coastal Highway is expected to be via the existing unsealed internal roads east of the site, however Main Roads will not

support the use of this access for regular operations.

Given the above, a new North-South access road (see Figure 2) is to be constructed from the project area, approximately 2.3 km north through a number of existing lots including Lots 11 and 12, to connect to the new Oakagee SIA intersection with North-West Coast Highway currently under construction by Main Roads WA as detailed in Section 1.2.

### 1.5 Purpose

The project area is not designated as bushfire prone on the *Map of Bush Fire Prone Areas* (DFES 2024; see Plate 1), and as such, no buildings are proposed in a designated bushfire prone area. In accordance with Section 4 of the *State Planning Policy 3.7: Bushfire* (SPP 3.7; WAPC 2024) and under Section 7 of the *Guidelines for Planning for Bushfire Guidelines* (the Guidelines; WAPC 2024), namely Bushfire Protection Criteria 7 (Development -Commercial and Industrial), assessment against SPP 3.7 and the WA Guidelines is only required where the proposed habitable buildings (defined as “development site”):

- Are sited in a designated bushfire prone area, and
- Are subject to a pre-development radiant heat impact exceeding 29kW/m<sup>2</sup> (i.e. development in areas of BAL-40 or BAL-Flame Zone), and

Based on the above, while there is no statutory trigger to assess the proposal against SPP 3.7 or the bushfire Guidelines, given the project area is surrounded by unmanaged grassland such that the initial BAL impact on buildings and infrastructure would be BAL-40 or greater, the Proponent has elected to voluntarily respond to the bushfire risk through demonstrating compliance with SPP 3.7 and the bushfire Guidelines as much as practical.

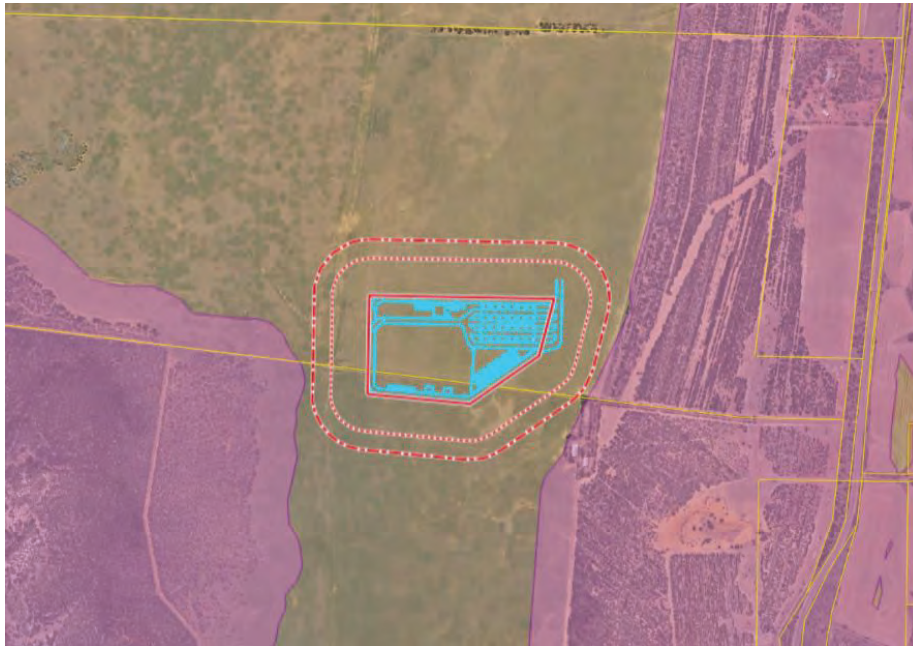
This Bushfire Management Plan (BMP) has been prepared to address requirements under Policy Measure 7(ii) of SPP 3.7 and Sections 2.2 and 7.2 of the *Guidelines for Planning in Bushfire-Prone Areas* (the Guidelines; WAPC 2024) including:

- The identification of any environmental, biodiversity or conservation values on the subject site(s).
  - Where relevant, details on how the clearing of native vegetation specifically for bushfire mitigation to achieve the bushfire protection measures, can be avoided through the use of siting and design measures.
  - Where the clearing of native vegetation cannot be avoided, details on how the proposal will minimise the clearing are to be provided.
- A BAL Contour Map or BAL assessment.
- The identification of any bushfire hazard issues arising from the assessment.
- Assessment against the bushfire protection criteria, within BPC 7: Development – Commercial and Industrial demonstrating compliance via either the acceptable solutions, or through an outcomes-based approach.

### 1.6 Other plans/reports

There are no known bushfire reports or assessments that have been prepared previously for the project area.





**Plate 1: Map of Bush Fire Prone Areas (DFES 2024)**







Figure 1: Locality Plan







## Legend

- Proposed Development
- Buildings/Infrastructure
- Project Area
- 100m
- 150m
- Cadastre

Scale 1:2,500

0 40 80 120 Metres



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Figure 3: Site Overview

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## **2.0 Environmental considerations**

### **2.1 Native vegetation - modification and clearing**

The project area currently contains only grassland that is expected to be fully cleared as part of the proposal.

While not aware of any specific constraints to clearing, Linfire assumes that all relevant environmental and heritage studies will be conducted, and all required environmental approvals will be obtained, prior to commencing any on-site vegetation modification or clearing required to construct the development or implement the onsite Asset Protection Zones. Should any constraints be identified as part of the environmental or heritage studies that would prevent vegetation clearing or modification, the design is to be tailored to ensure the implementation of compliant APZs can be achieved.

### **2.2 Revegetation / Landscape Plans**

The only vegetation proposed within the project area, is the revegetation within the nominated drainage basin, which is expected to be biofiltration species that are <2 m high.

While there is no landscape plan prepared at this stage, the onsite landscaping is to comply with the following:

- As a minimum, all parts of the project area are to comply with Asset Protection Zone standards of the Guidelines (refer to Appendix 2), and non-vegetated elements or low threat vegetation as per AS 3959 Clauses 2.2.3.2 (e) and (f) (refer Appendix 3), supplemented by the additional specifications below.
  - Given the nature of the facility, it is strongly recommended that the landscaping be limited to non-combustible/non-vegetated treatments, managed grassland or very low groundcovers, rather than introduce shrubs, scrub or trees into the project area. Asset Protection Zones (APZs) have been nominated to manage any onsite landscaping around proposed buildings and infrastructure.
- In addition to the above, APZs for the AN storage have been nominated to ensure sufficient separation from surrounding grassland, and the APZ for the AN stacks will extend north of the project area into the future Project Astra development. This APZ is also to comply with Asset Protection Zone standards of the Guidelines (refer to Appendix 2), and non-vegetated elements or low threat vegetation as per AS 3959 Clauses 2.2.3.2 (e) and (f) (refer Appendix 3).

### 3.0 Bushfire assessment results

#### 3.1 Assessment inputs

##### 3.1.1 Vegetation classification

Linfire assessed classified vegetation and exclusions within 150 m of the project area through on-ground verification on 19 September 2024 in accordance with *AS 3959—2018 Construction of Buildings in Bushfire-Prone Areas* (AS 3959; SA 2018) and the *Visual Guide for Bushfire Risk Assessment in Western Australia* (DoP 2016). Georeferenced site photos and a description of the vegetation classifications and exclusions are contained in Appendix 1, summarised on Table 1, and depicted on Figure 4, and based on expected post-development conditions.

It is noted that that the future Project Astra development proposed to the north and west of the project area will eventually be modified to remove much of the bushfire hazard in these directions. Given the Project Astra is still in the planning and design phase, the timing of the project is not finalised, and as such, any associated vegetation clearing or modification is not able to be considered as part of this proposal. However, the modification of vegetation to implement an APZ within Project Astra for this development, is able to be conducted by the Proponent.

Similarly, it is expected the development south and east of the project area will be undertaken as part of the future Oakagee SIA development, and while outside the Proponents control, is also expected to eventually be modified to remove much of the bushfire hazard in these directions.

##### 3.1.2 Effective slope

Linfire assessed effective slope under classified vegetation through on-ground verification on 19 September 2024 in accordance with AS 3959. Results were cross-referenced with Landgate 5 m contour data and are depicted in Table 1 and Figure 4.

Site observations indicate that land is elevated to the north-east, and descends through the project area to the south-west, resulting in classified vegetation having an assessed effective slope of either flat/upslope or downslope 0° – 5°.

##### 3.1.3 Summary of inputs

Table 1 illustrates the anticipated post-development vegetation classifications and exclusions for the project and assessment areas, following completion of development works and implementation of nominated Asset Protection Zones and low threat landscaping. The post-development vegetation classifications/exclusions and effective slope are summarised in Table 1.

**Table 1: Post-development vegetation classifications/exclusions and effective slope**













Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class G Grassland	Flat/upslope (0°)	Unmanaged grassland that is currently, or could regrow, to more than 100 mm high,
2	Class G Grassland	Downslope >0–5°	
3	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Land to be modified to non-vegetated elements (roads, buildings, paths, laydown etc) or managed low threat vegetation (managed landscaping, slashed grass etc) <b><u>within project area (Project Terra), as part of development.</u></b>
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e])	N/A	Land to be modified to non-vegetated elements (roads,

Vegetation plot	Vegetation classification	Effective slope	Comments
	and [f])		buildings, paths, laydown etc) or managed low threat vegetation (managed landscaping, slashed grass etc) <b><u>outside project area within Project Astra land, as part of development.</u></b>
5	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Land to be modified to non-vegetated elements (roads, buildings, paths, laydown etc) or managed low threat vegetation (managed landscaping, slashed grass etc) <b><u>outside project area within Oakajee SIA (Development WA), as part of development.</u></b>





## Legend

-  Photo Location
-  Proposed Development
-  Contours
-  Buildings/Infrastructure
-  Project Area
-  100m
-  150m
-  Cadastre
-  Vegetation Plot
-  Asset Protection Zone
- Classified Vegetation**
-  G. Grassland
-  Modified to non vegetated and low threat

Scale 1:2,500

0 40 80 120 Metres



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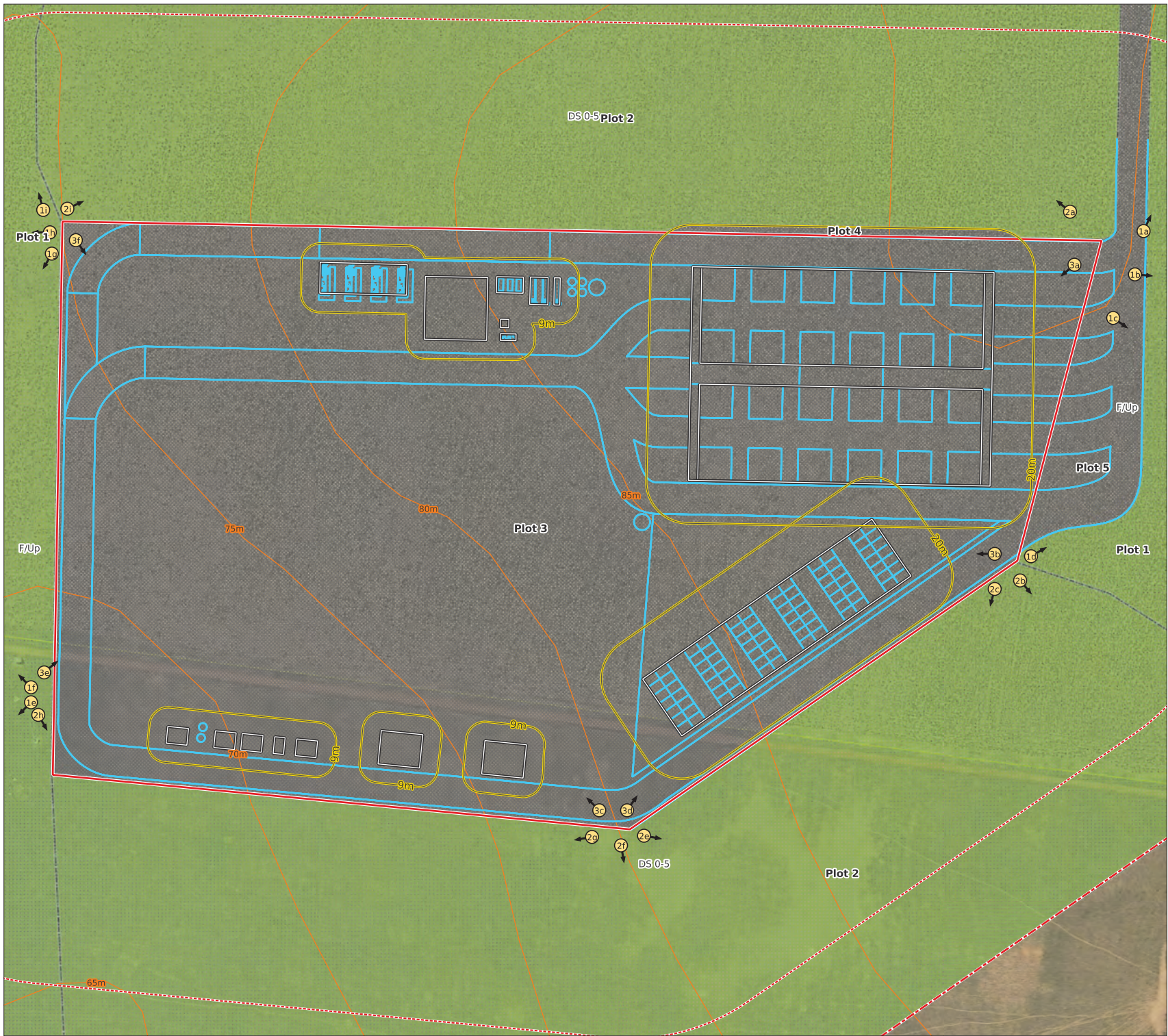
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Figure 4: Post-Development Vegetation and Effective Slope

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# Legend

- Photo Location
- Proposed Development
- Contours
- Buildings/Infrastructure
- Project Area
- 100m
- 150m
- Cadastre
- Vegetation Plot
- Asset Protection Zone
- Classified Vegetation
- G. Grassland
- Modified to non vegetated and low threat

Scale 1:1,700

0 20 40 60 Metres



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Figure 4: Post-Development Vegetation and Effective Slope (zoom)

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### 3.2 Assessment outputs

#### 3.2.1 Bushfire Attack Level (BAL) contour assessment

Linfire has undertaken a BAL contour assessment in accordance with Method 1 of AS 3959 for the project area (see Figure 5 and 8). The Method 1 procedure incorporates the following factors:

- state-adopted FDI 80 rating
- vegetation classification
- effective slope
- distance maintained between proposed development areas and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by proposed future development and subsequently informs the standard of building construction and/or setbacks required for proposed habitable development to potentially withstand such impacts.

The BAL contours are based on:

- the vegetation classifications and effective slope observed at the time of inspection
- the proposed post-development vegetation based on on-site clearing extent, and resultant vegetation exclusions and separation distances, following construction of the development including relevant clearing and implementation of Asset Protection Zones and onsite landscaping, including outside the project area.

The results of the BAL contour assessment are detailed in Table 2 and illustrated in Figure 5, which summarises the BAL impact on all the proposed buildings and infrastructure, with the highest BAL rating being **BAL-29**.

**Table 2: BAL contour assessment results**

Method 1 BAL determination				
Plot	Vegetation classification	Effective slope	Separation distance	Highest BAL
1	Class G Grassland	Flat/upslope (0°)	>50 m	BAL-Low
2	Class G Grassland	Downslope >0–5°	18 m	BAL-19
3	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A
5	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A

Table 3 lists the BAL applicable to each building or infrastructure element within the proposed development.

**Table 3: BAL applicable to each building/infrastructure element**

Building / element	Initial BAL	APZ	Revised BAL
Office building	BAL-FZ	Entire project is to be nominated as an APZ, with all landscaping to be compliant with the APZ standards and the additional specifications contained in this BMP.	BAL-12.5
Crib building	BAL-FZ		BAL-12.5
Toilet building	BAL-FZ		BAL-12.5

Building / element	Initial BAL	APZ	Revised BAL
Stores building	BAL-FZ	<p>In addition to the project area being an APZ, the following APZs are also nominated around buildings, AN storage and ANE manufacturing and storage, to ensure sufficient separation from vegetation and where additional vegetation management is required outside the project area:</p> <ul style="list-style-type: none"> <li>• <b>9 m wide APZ</b> <ul style="list-style-type: none"> <li>○ Office building</li> <li>○ Crib building</li> <li>○ Toilet building</li> <li>○ Stores Building</li> <li>○ WWTP</li> <li>○ Trace Manufacture 1 building</li> <li>○ Trace Manufacture 2 building</li> <li>○ Ammonium Nitrate Emulsion (ANE) manufacturing plant</li> <li>○ Ammonium Nitrate Emulsion (ANE) storage tanks</li> <li>○ Emulsifier Storage</li> <li>○ Diesel tank</li> <li>○ Boiler infrastructure</li> <li>○ Generator</li> </ul> </li> <li>• <b>20 m wide APZ</b> <ul style="list-style-type: none"> <li>○ Ammonium Nitrate (AN) stacks (Stacks 1-24)</li> <li>○ Ammonium Nitrate (AN) containers (Stacks 25-30)</li> </ul> </li> </ul>	BAL-12.5
WWTP	BAL-FZ		BAL-12.5
Trace Manufacture 1 building	BAL-FZ		BAL-12.5
Trace Manufacture 2 building	BAL-FZ		BAL-12.5
Ammonium Nitrate (AN) stacks (Stacks 1-24)	BAL-FZ		BAL-12.5
Ammonium Nitrate (AN) containers (Stacks 25-30)	BAL-FZ		BAL-12.5
Ammonium Nitrate Emulsion (ANE) manufacturing plant	BAL-FZ		BAL-12.5
Ammonium Nitrate Emulsion (ANE) storage tanks	BAL-FZ		BAL-19
Emulsifier tanks	BAL-FZ		BAL-12.5
Diesel tank	BAL-FZ		BAL-12.5
Boiler infrastructure	BAL-FZ		BAL-Low
Generator	BAL-FZ		BAL-12.5

Should there be any changes in development design or classified vegetation extent that results in a modified BAL outcome, then the BAL contours will need to be reassessed.









## Legend

- Proposed Development
- Buildings/Infrastructure
- Project Area
- 100m
- 150m
- Cadastre
- Vegetation Plot
- BAL Contours**
  - BAL FZ
  - BAL 40
  - BAL 29
  - BAL 19
  - BAL 12.5
  - BAL Low

Scale 1:1,700

0 20 40 60 Metres



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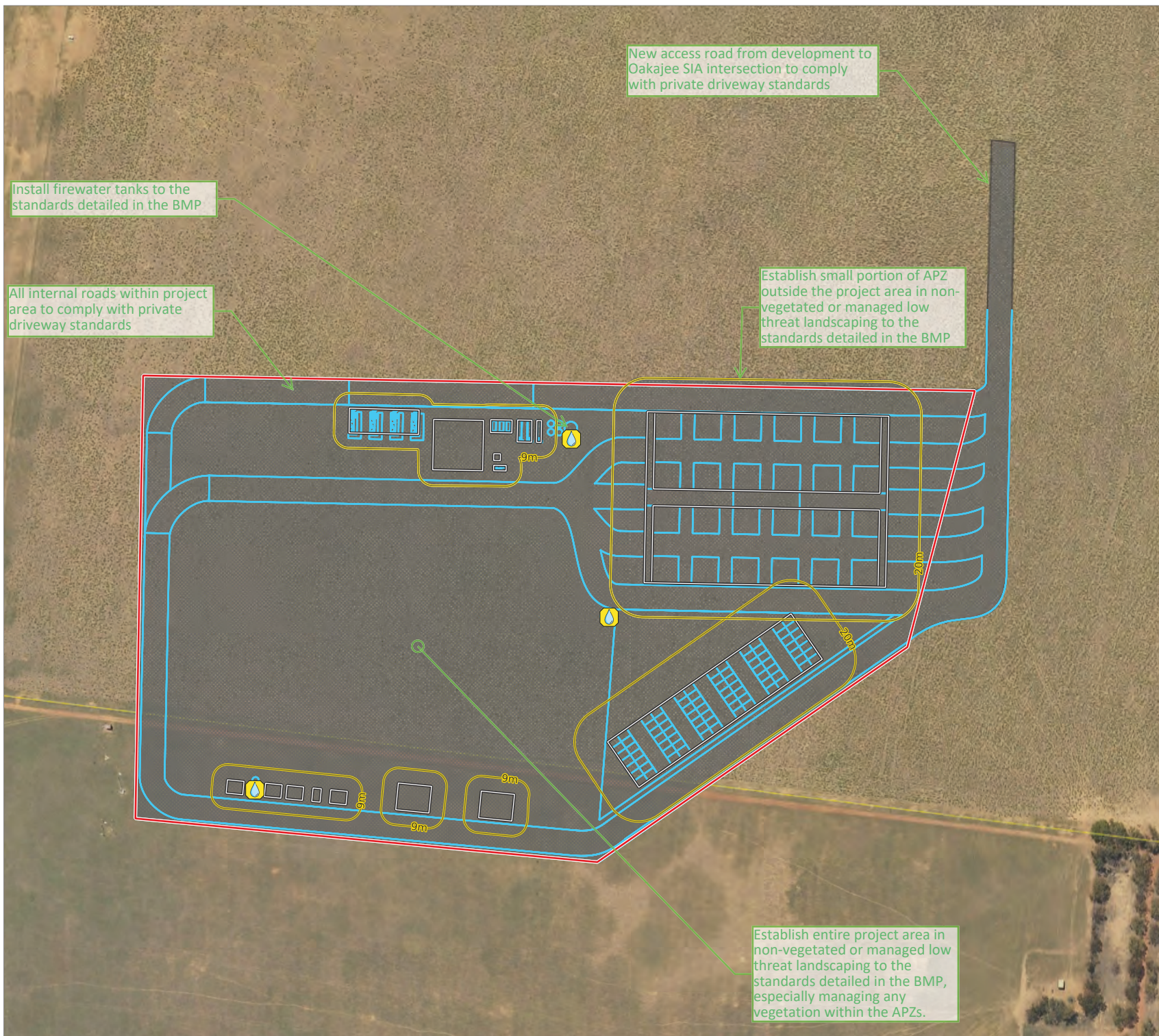
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Figure 5: BAL Contour Plan (zoom)

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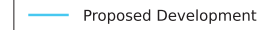


## Legend

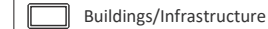
### Mitigation Measures



Firewater Tank



Proposed Development



Buildings/Infrastructure



Project Area

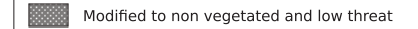


Cadastre



Asset Protection Zone

### Classified Vegetation



Modified to non vegetated and low threat

Scale 1:2,100

0 30 60 90 Metres



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Figure 6: Bushfire Management Measures

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## **4.0 Identification of bushfire hazard issues**

### **4.1 Bushfire context**

The project area is surrounded by unmanaged vegetation in all directions, with extended fire runs possible to the site primarily through unmanaged grassland vegetation. Fire runs from the west are limited to 1-2 km due to the coastline, however could be up to tens of kilometres in all other directions. Any bushfire approaching the site could be through various vegetation types, however given the siting in existing agricultural land, the final approach would be through grassland, with the closest non-grassland vegetation being >150 m from proposed development.

Given the proximity to unmanaged vegetation in addition to the long fire runs, fully developed bushfire behaviour could be established, which could result in elevated radiant heat and direct flame impingement on proposed development, if the risk is not managed. It is noted that given the adjacent vegetation is predominantly grassland it is likely be moderate radiant heat and minor ember attack, with a quick residence time as the peak bushfire behaviour associated with the grassfire front, is expected to be relatively short.

It is acknowledged that the bushfire risk to the proposed development posed by these hazards can be managed through standard application of Acceptable Solutions under the Guidelines, as well as through a direct bushfire suppression response if required. Bushfire mitigation strategies applicable to the proposed development are addressed in Sections 4.3 and 5.0 of this BMP.

### **4.2 Bushfire hazard issues**

Examination of the environmental considerations (Section 2.0) and the bushfire risk assessment (Section 3.0) has identified the following bushfire hazard issues:

1. Based on the existing extent of vegetation outside proposed infrastructure and roads, the proposed development is subject to an initial BAL of BAL-FZ. Vegetation modification and management will be required to ensure sufficient separation between proposed buildings/infrastructure and unmanaged vegetation, to limit the impact of bushfires on the development and prevent ignition and spread of a fire from proposed infrastructure. Given the potential hazards associated with onsite Dangerous Goods (e.g. AN and ANE), particular attention will need to be provided to areas where these are manufactured or stored.
2. Ensuring sufficient internal vehicular access to the proposed development, to enable egress by onsite staff, but as importantly, providing sufficient access to the infrastructure to enable attending bushfire fighting appliances to control or suppress any fires.
3. Ensuring access to bushfire fighting water supply, to limit the travel time to water supplies for appliance refills.

### **4.3 Bushfire safety strategy**

The following bushfire safety strategy is proposed to demonstrate compliance with the Bushfire Protection Criteria of the Guidelines and address the bushfire hazards identified above:

1. Create sufficient separation between buildings and infrastructure from surrounding classified vegetation by establishing suitably sized APZs to achieve a compliant rating of BAL-29 or less, and to reduce the bushfire impact on proposed hazardous materials to minor levels as required, to improve the effectiveness of the other mitigation measures incorporated into the facility.
2. Provide compliant vehicular access to, and from, the proposed development to North-West Coastal Highway, and within the facility, to enable occupant egress and to facilitate firefighter access.
3. Provide a secure bushfire fighting water supply, to enable refill of bushfire fighting



appliances.

Based on the above, Linfire considers the bushfire hazards within and adjacent to project area and the associated bushfire risks are manageable through standard management responses outlined in the Guidelines. These responses will be factored into proposed development as early as possible at all stages of the planning process to ensure a suitable, compliant and effective bushfire management outcome is achieved for protection of future life, property and environmental assets.



## 5.0 Assessment against the bushfire protection criteria

### 5.1 Compliance table

An acceptable solutions assessment against Bushfire Protection Criteria 7 (Development – Commercial and Industrial) is provided below in Table 4.

**Table 4: Compliance with Bushfire Protection Criteria 7 (Development – Commercial and Industrial) of the Guidelines**

Bushfire protection criteria		Development response	
Outcomes	Acceptable Solutions	Method of compliance	Proposed bushfire management measures
<b>Element 1: Location</b>			
Not Applicable	<u>Area 1:</u> Not Applicable <u>Area 2:</u> Not Applicable	<b>Not Applicable</b>	Not Applicable
<b>Element 2: Siting and Design</b>			
<b>Outcome O2</b> Ensure siting and design solutions: <ul style="list-style-type: none"> <li>manage or mitigate the bushfire risk to people, property and infrastructure; and</li> <li>avoid, or where unavoidable, minimises the clearing of native vegetation</li> </ul>	<u>A2.1a Siting and Design</u> Every habitable building achieves radiant heat impact not exceeding 29 kW/m <sup>2</sup> (BAL-29). <u>A2.1b Siting in an area with a radiant heat impact exceeding 29 kW/m<sup>2</sup> (BAL-40 or BAL-FZ)</u> The siting of a commercial or industrial habitable building, with a radiant heat impact exceeding 29 kW/m <sup>2</sup> (BAL-40 or BAL-FZ) should only be considered where: <ul style="list-style-type: none"> <li>the lot was created prior to December 2015; and</li> <li>there are demonstrated site characteristics and/or biodiversity or conservation values that prevent the achievement of a radiant heat impact not exceeding 29 kW/m<sup>2</sup> (BAL-29); and</li> <li>it is demonstrated that the reduction of the building footprint or a redesign to manage or mitigate the risk, is not practical or appropriate.</li> </ul> If the provision of an APZ in accordance with Acceptable Solution A2.2 cannot be achieved, then the vegetation immediately surrounding the building is to be managed as defensible space in accordance with Appendix B.2, Table 9 – APZ technical requirements.	<b>Acceptable Solution</b>	<u>A2.1a Siting and Design</u> The BAL contour map (see Figure 5) demonstrates that following completion of the development, including implementation of the onsite low threat landscaping and non-vegetated land as detailed in Section 6.1, all proposed habitable buildings will be sited in areas of BAL-29 or lower, which is compliant with A1.1.  <u>A2.1b Siting in an area with a radiant heat impact exceeding 29 kW/m<sup>2</sup> (BAL-40 or BAL-FZ)</u> As detailed above, upon completion of development, all proposed habitable buildings will be sited in areas of BAL-29 or lower.
	<u>A2.2 Asset Protection Zone (APZ)</u> Where a habitable building cannot be wholly within an area with a radiant heat impact not exceeding 29 kW/m <sup>2</sup> (BAL-29) in its predevelopment state, an APZ is to be provided and meet the following requirements: <b>Width:</b> the APZ is to be measured from any external wall or supporting post or column of the building, and of sufficient size to ensure the radiant heat impact of a bushfire does not exceed 29 kW/m <sup>2</sup> (BAL-29) to any part of the building, in all circumstances. <b>Location:</b> the APZ is to be contained solely within the boundaries of the lot, except in instances where: <ul style="list-style-type: none"> <li>the vegetation on the adjoining lot(s) is, and will continue to be, low threat as per Clause 2.2.3.2 of AS 3959 or the requirements of Appendix B.2, Table 9 – APZ technical requirements, or an alternative standard in a gazetted local planning scheme, on an ongoing basis in perpetuity; or</li> <li>the adjoining land is and will remain in perpetuity, non-vegetated</li> </ul> <b>Management:</b> the APZ is managed in accordance with the requirements of Appendix B.2, Table 9 – APZ technical requirements, or an alternative standard in a gazetted local planning scheme.	<b>Acceptable Solution</b>	On completion of development, the entire project area is to comply with the following requirements: <ul style="list-style-type: none"> <li>The entire project area is to be either non-vegetated or low threat vegetation, compliant with APZ standards of the Guidelines (refer to Appendix 2) and non-vegetated or low threat vegetation as per AS 3959 Clauses 2.2.3.2 (e) and (f) (refer Appendix 3).</li> <li>It is anticipated that the incoming roads to the north-east of the project area will be cleared on the eastern side of the entrance/exit gate</li> <li>A small area (approximately 4 m wide) north of the project area, with the Project Astra site, will also be cleared or modified to low threat vegetation to comply with APZ standards of the Guidelines (refer to Appendix 2) and low threat vegetation as per AS 3959 Clause 2.2.3.2 (f) (refer Appendix 3).</li> </ul> The proposed vegetation modification within, and outside, the project area is to be sufficient to achieve the following BAL impacts: <ul style="list-style-type: none"> <li>BAL-12.5 or lower               <ul style="list-style-type: none"> <li>Any potentially exposed Ammonium Nitrate (AN) storage such as stacks and containers, which could be more susceptible to elevated radiant heat, ember attack or direct flame impact (although unlikely at BAL-29 or lower), and require additional separation from approaching bushfires.</li> </ul> </li> <li>BAL-29 or lower               <ul style="list-style-type: none"> <li>All other buildings and infrastructure</li> </ul> </li> </ul>

Bushfire protection criteria		Development response	
Outcomes	Acceptable Solutions	Method of compliance	Proposed bushfire management measures
			<p>While the entire project area is to be managed low threat vegetation, to ensure any onsite landscaping is managed near buildings and infrastructure, the following APZs have been nominated:</p> <ul style="list-style-type: none"> <li>• <b>9 m wide APZ</b> <ul style="list-style-type: none"> <li>○ Office, Crib, Toilet and Stores buildings</li> <li>○ WWTP</li> <li>○ Trace Manufacture 1 and 2 buildings</li> <li>○ Ammonium Nitrate Emulsion (ANE) manufacturing plant</li> <li>○ Ammonium Nitrate Emulsion (ANE) storage tanks</li> <li>○ Emulsifier Storage and Diesel tanks</li> <li>○ Boiler and Generator</li> </ul> </li> <li>• <b>20 m wide APZ</b> <ul style="list-style-type: none"> <li>○ Ammonium Nitrate (AN) stacks (Stacks 1-24)</li> <li>○ Ammonium Nitrate (AN) containers (Stacks 25-30)</li> </ul> </li> </ul> <p>The proposed vegetation management are to be implemented and maintained by the Proponent in accordance with APZ standards of the Guidelines (see Appendix 2), AS 3959 Clause 2.2.3.2 (e) and (f) (see Appendix 3) and the Shire's Firebreak and Fuel Hazard Reduction Notice (see Appendix 6).</p>
	<p><u>A2.3 Clearing of native vegetation</u></p> <p>The development avoids, or where unavoidable, minimises the clearing of native vegetation.</p>	<u>Acceptable Solution</u>	<p>The project area has historically been used for agricultural purposes, and is currently grassland vegetation. The proposed development will result in clearing of all the existing grassland vegetation within the project area, to accommodate the buildings and infrastructure.</p> <p>Linfire assumes all relevant environmental approvals will be secured prior to commencing any on-site vegetation modification or clearing required to construct the development or implement this BMP.</p>
	<p><u>A2.4 Storage of hazardous, flammable and/or combustible materials</u></p> <p>Where a proposed land use will include the storage of hazardous, flammable and/or combustible materials as part of its ongoing day to day operations, the materials are to be stored in an area that:</p> <ul style="list-style-type: none"> <li>• is subject to a radiant heat impact not exceeding 29 kW/m<sup>2</sup> (BAL-29);</li> <li>• is non-combustible and shields the materials to reduce their exposure to radiant heat from the bushfire to levels significantly lower than 29 kW/m<sup>2</sup> and prevents the entry of debris and embers; and</li> <li>• limits to the degree necessary and practical, the escape of sources of ignition from the stored materials into bushfire prone vegetation.</li> </ul>	<u>Acceptable Solution</u>	<p>As detailed in Section 1.1.2, there are three main Dangerous Goods proposed onsite; Ammonium Nitrate (AN), Ammonium Nitrate Emulsion (ANE) and diesel fuel.</p> <p><u>Ammonium Nitrate</u></p> <p>The proposed AN storage is to be in bulk bags beneath a storage dome, or in the container (likely metal) stacks. The AN storage is to be compliant with relevant Dangerous Goods legislation and the WA Code of Practice for Storage of Solid Ammonium Nitrate, which addresses storage quantifies and arrangement, separation distances from various onsite and adjacent buildings, infrastructure and vehicles, provision of fire protection systems and relevant emergency management procedures.</p> <p>Regarding separation of the AN stores from vegetation, the WA Code of Practice for Storage of Solid Ammonium Nitrate notes the following:</p> <p><i>Every AN store should have a clear area of at least 5 m surrounding it, with no vegetation, combustible materials, vehicles or non-associated equipment within this area. Trees should be cleared for at least 10 m from the AN store. If the location is in a high bushfire risk area, then larger clearances of vegetation should be considered.</i></p> <p>While the minimum separation requirement from vegetation appears to be 5 m (which is generally in BAL-FZ), given the potential for decomposition to toxic gases or detonation upon interaction with intense heat, and as the AN storage could be exposed to grassfire, the separation in this instance should be increased to limit impressed radiant heat and avoid direct flame impingement.</p> <p>Given the above, implementing an APZ sized to achieve BAL-12.5 is considered more appropriate to avoid direct flame contact, and limit radiant heat to minor amounts, noting that grassfire residence time would be expected to be less than 1 minute. Based on the surrounding grassland (with effective downslope of 0-5 degrees), in accordance with AS 3959 Method 1, a 20 m wide APZ is required to achieve BAL-12.5. The proposed 20 m APZ exceeds ensure that there is no direct flame contact possible on the AN storage from approaching grassfire, and that peak radiant heat would be less than 12.5 kW/m<sup>2</sup> under fully-developed</p>

Bushfire protection criteria		Development response	
Outcomes	Acceptable Solutions	Method of compliance	Proposed bushfire management measures
			<p>bushfire behaviour, and likely for less than a minute.</p> <p>Based on the above, a 20 m APZ is to be implemented around all proposed AN storage.</p> <p><b><u>Ammonium Nitrate Emulsion manufacture and storage</u></b></p> <p>Unlike that AN stacks, the ANE manufacture and storage (including diesel fuel) is largely contained in metal tanks and small buildings, and as such, is much more protected from the impact of approaching bushfire. Similar to above, any approaching fully developed grassfire is expected to only have a very short residence time.</p> <p>Given the ANE is much more protected from bushfire by non-combustible construction, siting in BAL-29 or lower is considered appropriate. Based on the surrounding grassland (with effective downslope of 0-5 degrees), in accordance with AS 3959 Method 1, a 9 m wide APZ is required to achieve BAL-29 or lower. The proposed 9 m APZ exceeds ensure that there is no direct flame contact from approaching grassfire, and that peak radiant heat would be less than 29 kW/m<sup>2</sup>, however it is noted that almost all the ANE infrastructure is currently sited in BAL-12.5 or lower, other than the ANE tanks which are slightly within BAL-19.</p>
<b>Element 3: Vehicular access</b>			
<p><b><u>Outcome O3</u></b></p> <p>Ensure the design and capacity of vehicular access and egress provide:</p> <ul style="list-style-type: none"> <li>for efficient and effective evacuation to a suitable destination(s) and/or</li> <li>as a contingency measure for vulnerable land uses, an on-site shelter, where demonstrated appropriate, as a last resort option.</li> </ul>	<p><b><u>A3.1 Private Driveway</u></b></p> <p>There are no private driveway technical requirements (prescribed by these Guidelines) where the private driveway is within a lot serviced by reticulated water and is no greater than 70 metres in length between the most distant external part of the habitable building and the public road.</p> <p>In circumstances where the above conditions are not met, the private driveway is to meet all of the following requirements:</p> <ul style="list-style-type: none"> <li>requirements in Appendix B.3 Table 10, Column 5; and</li> <li>passing bays every 200 metres with a minimum length of 20 metres and a minimum additional carriageway width of 2 metres (i.e. the combined carriageway width of the passing bay and constructed private driveway to be a minimum 6 metres); and</li> <li>turn-around area (Figure 30) and within 30 metres of the habitable building (Figure 38).</li> </ul>	<p><b><u>Acceptable Solution</u></b></p> <p>No public roads are proposed as part of this development.</p> <p>The existing public road nearest the project area is North-West Coastal Highway, which is a sealed two-way road and appears compliant with Guidelines and sufficient for occupant egress and emergency services access.</p> <p>As detailed in Section 1.4, a new access road is to be constructed from the project area, approximately 2.3 km north through a number of existing lots including Lots 11 and 12, to connect to the new Oakagee SIA intersection with North-West Coast Highway currently under construction by Main Roads WA (see Figure 2). This new access road to the site, will need to connect to the proposed entrance to the development, currently in the north-east of the perimeter fence. As this new access road will exceed 70 m in length, it will need to comply with all specification of A3.1 as well as the private driveway requirements from the Guidelines (see Appendix 4).</p> <p>In addition to the new access road to the project area, all internal roads within the site are also to comply with the requirements of A3.1 and the private driveway specifications from the Guidelines, including provision of compliant vehicular access to within 30 m of all proposed buildings.</p> <p>Given the proposed industrial use and the requirement for regular visitation by Heavy Vehicles (likely B-double trucks), it is likely that the private driveway specifications will be easily achieved, and more likely exceeded, as part of the proposed development.</p> <p>In addition to the above, the following requirements are also noted:</p> <ul style="list-style-type: none"> <li>internal roads need to provide access to the tank suction connection of the firewater tanks in accordance with A4.1, to enable attending fire appliances to refill.</li> <li>all gates are to be double gates with minimum clear opening of the trafficable width</li> <li>If access to the proposed development is to be locked or secured, keys are to be issued to onsite personnel and local firefighting brigade/s.</li> </ul> <p>The new access road to the facility (from the Oakagee SIA public road connection), and all internal roads, are to be constructed and maintained for the life of the project by the Proponent.</p> <p>It is noted that access to Project Terra may evolve as Oakagee SIA vehicular access is progressed, in which case the access road may eventually be replaced by future public road/s. Should this occur, and the access road is replaced by an alternative compliant vehicular access route, and is decommissioned or otherwise becomes redundant, the ongoing maintenance of the access road to the site can be discontinued provided this is agreed to by relevant agencies.</p>	

Bushfire protection criteria		Development response	
Outcomes	Acceptable Solutions	Method of compliance	Proposed bushfire management measures
<b>Element 4: Water</b>			
<u>Outcome O4</u> Ensure that sufficient water is available to enable people, property and infrastructure to be defended from bushfire.	<u>A4.1 Water Supply</u> Where a reticulated water supply is existing or proposed, a hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority.  Where these specifications cannot be met, a water tank(s) should be provided in accordance with the requirements of Appendix A.4, Table 11 – Water supply dedicated for bushfire firefighting.	<u>Acceptable Solution</u>	As there are no nearby town main supply or street hydrants, several onsite static firewater tanks are proposed to provide of total firefighting water supply at the development as follows (see Figure 6), which will also be available for bushfire fighting purposes: <ul style="list-style-type: none"> <li>• 40 kL (in one or two tanks) near the main building cluster</li> <li>• 50 kL firewater tank between the two AN storage areas</li> <li>• 50 kL firewater tank near the ANE manufacturing and storage</li> </ul> The total capacity of firefighting water supply at the site will be at least 140 kL which exceed the 10 kL required per proposed building. The onsite tanks are to comply with the relevant Australian Standards and the technical requirements for firewater tanks from the Guidelines (see Appendix 5), including: <ul style="list-style-type: none"> <li>• Sizing to be at least 10 kL per building</li> <li>• Non-combustible tank construction and above ground pipes and fittings</li> <li>• Suitable tank suction connections for attending rural fire brigade appliances</li> <li>• The hard-suction point must be positioned within three (3) metres to a road or hardstand area, with clear access provided for emergency services personnel.</li> </ul> The firewater tank/s are to be installed, filled and maintained for the life of the project by the Proponent.



## 6.0 Bushfire management measures

While it is noted that compliance with the Guidelines is not mandatory for this project, the following bushfire management measures are to be voluntarily implemented into the development, informed by the bushfire hazard assessment in this BMP, to increase the level of bushfire risk mitigation across the site. Where possible, these measures have been depicted on Figure 6.

### 6.1 Vegetation management

Vegetation modification and ongoing management is required to manage bushfire risk to the development, and informs the BAL contour assessment to determine that a compliant outcome is achieved. The target BAL impacts are as follows:

- BAL-12.5 or lower
  - Any potentially exposed Ammonium Nitrate (AN) storage such as stacks and containers, which could be more susceptible to elevated radiant heat, ember attack or direct flame impact (although unlikely at BAL-29 or lower), and require additional separation from approaching bushfires.
- BAL-29 or lower
  - All other buildings and infrastructure

On completion of development, the entire project area is to comply with the following requirements:

- The entire project area is to be either non-vegetated or low threat vegetation, compliant with APZ standards of the Guidelines (refer to Appendix 2) and non-vegetated or low threat vegetation as per AS 3959 Clauses 2.2.3.2 (e) and (f) (refer Appendix 3).
- It is anticipated that the incoming roads to the north-east of the project area will be cleared on the eastern side of the entrance/exit gate
- In order to establish the 20 m APZ for the AN stacks, a small area north of the project area with the Project Astra site, will also be cleared or modified to low threat vegetation to comply with APZ standards of the Guidelines (refer to Appendix 2) and low threat vegetation as per AS 3959 Clause 2.2.3.2 (f) (refer Appendix 3).

While the entire project area is to be managed low threat vegetation, to ensure any onsite landscaping is managed near buildings and infrastructure, the following APZs have been nominated:

- **9 m wide APZ**
  - Office, Crib, Toilet and Stores buildings
  - WWTP
  - Trace Manufacture 1 and 2 buildings
  - Ammonium Nitrate Emulsion (ANE) manufacturing plant
  - Ammonium Nitrate Emulsion (ANE) storage tanks
  - Emulsifier Storage and Diesel tanks
  - Boiler and Generator
- **20 m wide APZ**
  - Ammonium Nitrate (AN) stacks (Stacks 1-24)
  - Ammonium Nitrate (AN) containers (Stacks 25-30)

The proposed vegetation management are to be implemented and maintained by the Proponent in accordance with APZ standards of the Guidelines (see Appendix 2), AS 3959 Clause 2.2.3.2 (e) and (f) (see Appendix 2) and the Shire's Firebreak and Fuel Hazard Reduction Notice (see Appendix 6).

## **6.2 Firewater supply**

Bushfire fighting water supply is addressed under Element 4 in Table 4 of this BMP, and is to include:

- Static firewater tanks in locations depicted on Figure 6, including:
  - 40 kL (in one or two tanks) near the main building cluster
  - 50 kL firewater tank between the two AN storage areas
  - 50 kL firewater tank near the ANE manufacturing and storage
- The onsite tanks are to comply with the relevant technical requirements for firewater tanks from the Guidelines (see Appendix 6), including:
  - Sizing to be at least 10 kL per building
  - Non-combustible tank construction and above ground pipes and fittings
  - Suitable tank suction connections for attending rural fire brigade appliances
  - The hard-suction point must be positioned within three (3) metres to a road or hardstand area, with clear access provided for emergency services personnel.

The firewater tank/s are to be installed, filled and maintained for the life of the project by the Proponent.

## **6.3 Vehicular access**

Vehicular access within the project area is addressed under Element 3 in Table 4 of this BMP, and will consist of the following:

- Construction of a new access road from the project area, approximately 2.3 km north to connect to the new Oakagee SIA intersection with North-West Coast Highway currently under construction by Main Roads WA (see Figure 2).
  - This new access road to the site, will need to connect to the proposed entrance to the development, currently in the north-east of the perimeter fence. It is understood that the Proponent is currently working with Development WA on the design and layout of this access road.
- New internal access roads within the project area to access proposed buildings and infrastructure.

Given all proposed access roads will exceed 70 m in length, they will need to comply with all specification of A3.1. as well as the private driveway requirements from the Guidelines (see Appendix 4) including:

- Being no less than 4 m in width, with 6 m wide passing bays every 200 m, or alternatively, having trafficable width of no less than 6 m wide.
- Being configured as a loop road connecting to both entrances, or where there are dead-end road internal road, being terminated with a compliant turning head.
- Providing compliant vehicular access to within 30 m of all proposed buildings.
- Provision of access to the tank suction connection of the firewater tanks in accordance with A4.1, to enable attending fire appliances to refill.

The new access road to the facility (from the Oakagee SIA public road connection), and all internal roads, are to be constructed and maintained for the life of the project by the Proponent.

Should vehicular access to Project Terra be altered in the future as part of the Oakagee SIA project (e.g. compliant public road access), and the access road is replaced by an alternative compliant vehicular access route, and is decommissioned or otherwise becomes redundant, the ongoing maintenance of the access road to the site can be discontinued provided this is agreed to by relevant agencies.

### **6.3.1 Vehicular access gates**

All vehicular access gates proposed along the new access road to the site, and in the fence surrounding the project area, shall be double gates with a minimum clear opening of the trafficable width (i.e. no less than 4 m) to enable a fire appliance to pass through.

Should the gates be locked to restrict access, keys are to be available to relevant site personnel to enable rapid unlocking in an emergency but also made available to local fire brigade personnel. Installation and ongoing maintenance of the gates is to be the responsibility of the Proponent.

### **6.3.2 Staging of access**

If development (and therefore construction of vehicular access) is to occur on a staged basis, vehicular access arrangements will need to ensure that all occupants are provided with compliant access at all stages.

## **6.4 Building (and infrastructure) construction standards**

Bushfire construction provisions of the National Construction Code require that buildings comply with the A 3959 construction requirements, in accordance with the assessed BAL under AS 3959, provided the building is a Class 1, 2, 3 or associated Class 10a building.

The proposed buildings will not be Class 1, 2 or 3, therefore in accordance with the National Construction Code, and as such, there is no statutory requirement for proposed buildings to incorporate any bushfire construction measures into the buildings.

Notwithstanding, given the nature of the proposed use, despite siting of buildings in BAL-29 or lower, there is still potential vulnerability bushfire impact, and like all buildings subject to bushfire impact, Linfire recommend that consideration is given to either voluntarily constructing buildings and structures to the assessed BAL rating in accordance with AS 3959, or even to BAL-12.5 standard, to provide some level of resilience. It is noted this is not a statutory requirement nor a requirement of this BMP, and is only a recommendation for consideration by the Proponent for some targeted buildings or infrastructure.

## **6.5 Emergency Management and Evacuation**

An emergency management plan is typically developed for these types of facilities, which comprehensively details the procedures for preparing for, and responding to, hazards. It is recommended that consideration is given to incorporating the following into the emergency management plan for off-site bushfire emergencies:

- Detail preparedness and pre-emptive actions to address the above hazards, including the following for bushfire (see Sections 6.5.1.1 below):
  - Ongoing compliance with BMP and conducting regular bushfire housekeeping inspections.
  - Ensuring ongoing maintenance of all fire and communication systems.
  - Determining forecast Fire Danger Rating and Total Fire Bans, during bushfire season
  - Modifying Site Activities (based on Forecast FDR and TFB)
- Detail emergency response procedures to address the nominated hazards, including the following for bushfire:
  - Monitoring DFES Bushfire Emergency Warnings (and/or bushfire activity within 20 km of the facility, during bushfire season see Section 6.5.1.2 below)
  - The immediate response to any local bushfire, is to notify fire brigade immediately.
  - If it is safe to travel to offsite location without being impacted by bushfire, conduct early offsite evacuation of all non-essential staff and visitors (see Section 6.5.1.3 below)
  - Where it is not safe to conduct offsite evacuation, conduct onsite shelter-in-place (see

Section 6.5.1.4 below).

- If there is sufficient time to do so, emergency shutdown procedures for the ANE manufacturing, and the overall site (see Section 6.5.1.5 below)

#### *6.5.1.1 Bushfire preparedness and pre-emptive activities*

##### Year-round (with focus on the month prior to bushfire season)

- Ensure ongoing compliance with endorsed BMP including:
  - Vegetation management must be conducted as per the BMP including maintenance of APZs, low threat vegetation and non-vegetated zones (e.g. grass slashing or mowing, removal of dead/fallen vegetation).
  - Gutters, roof surfaces and valleys, kerbs, traps, sumps, bunds, drains, rooves or any other accumulation points for leaf litter, dry vegetation, or any other combustible materials must be cleared, and the debris removed from site.
  - Extraneous or unnecessary materials (fuel loads) must be removed from site (e.g. dilapidated/stored vehicles, plant or equipment; excess fuel/chemicals; any combustible waste materials).
- Bushfire preparedness housekeeping inspections:
  - Vegetation management as per BMP
  - Ensure all vehicle site access points, including emergency access points, are clear and accessible.
  - Ensure that all fire protection systems and equipment is unobstructed, in service and performing optimally.
- Fire detection, warning and suppression systems (if any), and any other communication and emergency equipment must be maintained in accordance with relevant codes and standards, and be in effective working order at all times
  - Any defects, faults or matters affecting the performance of systems must be identified through routine testing and servicing, with any maintenance activities and rectifications to be closed-out prior to bushfire season.
- Ensure local fire brigade is engaged with on an ongoing basis, to ensure they understand the system and are aware of its specific hazards.
  - Information on the facility's operations, all site access points, its layout and infrastructure, the specific hazards, and fire detection and suppression systems must be provided during this visit.
  - Contact information for at least two persons who may be able to provide information or support during emergencies (24 hours a day) must be provided for unoccupied facilities.

##### During the bushfire season

- *Forecast Fire Danger Rating (FDR) and Total Fire Ban Days (TFB)*
  - A nominated person/role is to be responsible for identifying, responding to and communicating the Fire Danger Rating, ideally four days ahead:
    - <http://www.bom.gov.au/wa/forecasts/fire-danger-ratings.shtml> [4 day FDR forecast] or
    - <https://www.emergency.wa.gov.au/index.html#firedangerratings> [current/next day FDR]
    - <https://www.emergency.wa.gov.au/#totalfirebans> [Total Fire Ban]
  - This information must be communicated to everyone likely to be present on-site, and relevant off-site personnel.
  - Undertaken any modification of site activities based on forecast FDR or TFB (see below).



- *Modifying Site Activities (based on Forecast FDR and TFB)*
  - Moderate FDR or No Rating
    - No specific daily monitoring or actions unless conditions change.
  - High FDR
    - Alert all site personnel and visitors of bushfire risk
    - No specific daily monitoring but remain vigilant to potential bushfires through visual checks, occasional check of online resources for emergency warnings and bushfires in the local area.
    - Conduct daily checks of vegetation, rubbish and extraneous storage accumulation, vehicular access routes and fire systems to ensure they are fit-for-purpose in a bushfire emergency.
  - Extreme FDR
    - Alert all site personnel and visitors of elevated bushfire risk and communicate modified activities including requirement to be prepared for site shutdown and offsite evacuation, if required.
    - Conduct regularly visual checks throughout the day
    - Regularly check online resources for emergency warnings and bushfires in the local area.
    - Consider minimisation of site personnel and visitation requiring travel to and from the facility, as well as non-essential activities and high-risk maintenance activities.
    - Include bushfire ignition hazards in any Job Hazard Analysis or similar activity-based risk management process for site activities.
    - Conduct daily checks of vegetation, rubbish and extraneous storage accumulation, vehicular access routes and fire systems to ensure they are fit-for-purpose in a bushfire emergency.
  - Catastrophic FDR and TFB declared days
    - Alert all site personnel and visitors of elevated bushfire risk and communicate modified activities including requirement to be prepared for rapid site shutdown and offsite evacuation, if required
    - Conduct regular visual checks throughout the day
    - Conduct regular check online resources for emergency warnings and bushfires in the local area, throughout the day
    - Consider ceasing or reducing production activities on these days, or at least during the hottest part of the day.
    - Postpone non-essential activities or high-risk maintenance activities at the facility.
    - Minimise site personnel and visitation to only essential personnel.
    - Include bushfire ignition hazards in any Job Hazard Analysis or similar activity-based risk management process for site activities.
    - Conduct daily checks of vegetation, rubbish and extraneous storage accumulation, vehicular access routes and fire systems to ensure they are fit-for-purpose in a bushfire emergency.
    - Comply with all Total Fire Ban requirements including:
      - no fire or flames allowed in the open air
      - no open fires for the purpose of cooking or camping are not allowed
      - no 'hot work' such as metal work, grinding, welding, soldering, gas cutting or similar is allowed unless a formal exemption has been obtained

- no use of chainsaws, plant or grass trimmers or lawn mowers in bushland areas
- no other activities that may start a fire
- ensure equipment or machinery is mechanically sound
- ensure all reasonable precautions are taken to prevent a bushfire igniting, including postponing any activity that could result in a bushfire ignition.

#### 6.5.1.2 Bushfire Monitoring and Decision-Making Triggers

##### Bushfire Monitoring

- Bushfire monitoring involves the identification of the DFES Bushfire Emergency Warnings (ADVICE, WATCH & ACT AND EMERGENCY) and/or bushfire activity within 20km of the facility, through the use of the EmergencyWA website app (<https://www.emergency.wa.gov.au/>), or ABC local radio.
  - If **ADVICE** warning or bushfire is within 10 km – 20 km of the site
    - Liaise with the DFES.
    - Consider reducing numbers of onsite personnel to essential staff only, and relocate all other staff and visitors offsite.
    - Depending on bushfire location and direction of spread
      - Prepare to, or considered commencing, offsite evacuation procedures (see Section 6.5.1.3)
      - If unsafe to evacuate offsite, commence onsite shelter-in-place (see Section 6.5.1.4)
      - Where safe to do so, conduct emergency facility shutdown procedures (see Section 6.5.1.5)
    - Continue monitoring and re-evaluating situation depending on bushfire behaviour, and liaising with DFES as required.
  - If **WATCH & ACT** warning or bushfire is within 5 km – 10 km of the site
    - Liaise with the DFES.
    - Depending on bushfire location and direction of spread
      - If safe to do so, commence or continue offsite evacuation procedures (see Section 6.5.1.3)
      - If unsafe to evacuate offsite, commence onsite shelter-in-place (see Section 6.5.1.4)
      - Where safe to do so, conduct emergency facility shutdown procedures (see Section 6.5.1.5)
    - Continue monitoring and re-evaluating situation depending on bushfire behaviour, and liaising with DFES as required.
  - If **EMERGENCY** warning or if bushfire is <5km or impact is imminent:
    - Liaise with the DFES.
    - Depending on bushfire location and direction of spread
      - If safe to do so, urgently commence or continue offsite evacuation procedures (see Section 6.5.1.3)
      - If unsafe to evacuate offsite, urgently commence onsite shelter-in-place (see Section 6.5.1.4)
      - Where safe to do so, conduct emergency facility shutdown procedures (see Section 6.5.1.5)
    - Continue monitoring and re-evaluating situation depending on bushfire behaviour,

and liaising with DFES as required.

#### 6.5.1.3 Offsite Evacuation Procedures (Bushfire)

Ahead of making a decision to evacuate offsite, the following should be conducted:

- Assess the bushfire situation:
  - Review available information to determine bushfire location, direction and speed of travel
  - Determine if there are any DFES Bushfire Warnings issued
  - Contact and liaise with DFES for further information and guidance
  - Make a decision whether it is safe to evacuate to offsite location
  - Advise DFES of the decision, if possible.

Once the decision is made to evacuate offsite

- Assemble all site personnel and visitors onsite
  - Brief them of the bushfire situation and the plan to conduct emergency facility shutdown (if sufficient time) and evacuate to a nominated offsite location.
  - Confirm the offsite safer location
  - The evacuation route to travel to the off-site location
  - The need to travel in convoys in case of vehicle failure
  - Ensure final evacuating personnel are in no less than 2 vehicles.
- A suitable offsite location may be nominated by DFES, however if that information is not provided, consider using one of the following locations, then is in a travel direction away from the approaching bushfire:
  - **Geraldton townsite**
  - **Northampton townsite**
- Ensure sufficient transport is available for all personnel to travel to offsite locations, with sufficient fuel to travel 100 km, water, fire extinguishers (if possible)
- Monitor the leaving of site and arrival at the offsite location, and if anyone is missing, notify DFES immediately.

#### 6.5.1.4 Onsite Shelter-in-Place (Bushfire)

- Pre-emptive and early evacuation should always be the primary action with onsite shelter considered the absolute last resort
- Where evaluation of the safety of occupants has determined that there is insufficient time to conduct a safe offsite evacuation, including the safety of the travel route, remaining on-site should be undertaken at the manufacturing control room, or as far from the approaching bushfire as possible.
- Once decision is made to shelter-in-place, following site shutdown (if safe to undertake), advise the occupants of the following:
  - Direct them to the manufacturing control room
  - Confirm all occupants are accounted for and safe
  - Explain shelter-in-place procedures to occupants and strictly manage any movements
- To improve resilience of manufacturing control room during bushfire impact to the site:
  - Close all doors and windows
  - Soak towels and rugs in water and lay them along the inside of external doorways
  - Soak woollen blankets and keep them available for protection against radiant heat
  - Ensure occupants to get down low to limit exposure to smoke and drink plenty of water to avoid becoming dehydrated

- Monitor health of people using the open space refuge (if any) and relocate to the refuge buildings if unwell.
- Nominate teams of no less than two persons to regularly inspect the building exterior and roof cavity (wearing suitable protective clothing - at a minimum long sleeves, trousers and leather boots) to identify embers and extinguish where possible using fire hose reels or extinguishers.
- Advise DFES the intent is to shelter-in-place
- Ensure onsite internal evacuation routes are unlocked for fire brigade appliances
- Stay in the manufacturing control room while the fire front is passing, if the building catches fire and conditions inside become unbearable:
  - Leave through the door furthest from the approaching fire
  - Go to another unaffected building onsite or an area that has already burnt.
- Maintain situational awareness

#### 6.5.1.5 Emergency Facility Shutdown Procedures (Bushfire)

- The following should be considered and incorporated into the facility shutdown procedures with respect to bushfire impact:
  - Decision to conduct emergency facility shutdown is to consider potential for bushfire impact, especially ember attack which can impact the facility, several kilometres ahead of the head of the bushfire.
  - Buildings
    - Close all doors, including any roller doors, windows etc
    - Check the outside of the buildings and ensure any combustible materials (if any) is removed and relocated away from these buildings
  - ANE manufacturing
    - Shutdown the ANE manufacturing and fuel blending processes as soon as possible and have all fuels, oils, oxidiser solution and manufactured ANE static and stored within sealed steel plant of robust construction to limit exposure to bushfire impact
    - Ensure fuel tank doors are closed and all flexible hoses and any other combustible materials around the tanks is relocated to a shielded location
    - Relocate any AN bags awaiting use back to the AN storage stacks (if time) or to a location shielded from radiant heat.
    - Relocate any other combustible materials (if any) away from buildings or key assets.
    - Close all doors to MCC room, workshop buildings, and boiler room
  - AN storage
    - Relocate any AN bags outside the nominated stack domes and within 20m of bushfire impact, to the AN storage stacks (if time). If not possible, move AN bags to a location shielded from radiant heat.
  - Ensure all fire systems are ready for use.
  - Open all vehicular access routes
- Strongly consider early reduction of numbers of onsite personnel to essential staff only, and relocate all other staff and visitors to offsite location.
- Ensure staff and visitors relocate offsite, ahead of any bushfire impact on road network, other than any staff required to assist DFES onsite (only when DFES are in attendance).

The emergency management plan is to be reviewed regularly as follows:

- At least annually to ensure currency and effectiveness
- Following any changes to the risk on-site pertaining to site infrastructure and operations



- After any activation of the plan or incident involving notification to the emergency services.
- After emergency exercises.

In addition to the review of the emergency management plan, it is critical to regularly train relevant staff and conduct exercises to ensure everyone is fully conversant with the requirements of the plan and able to respond as required during all emergencies. It also presents an opportunity to test the effectiveness of the plan and refine as required. Training should be conducted annually prior to bushfire season, as a minimum, and also at the commencement of employment. Exercises should be conducted annually prior to bushfire season, as a minimum, but ideally on a regular basis.

## **6.6 Dangerous Goods**

The proposed development may contain dangerous goods, with the storage and use of these onsite potentially increasing the risk of fire ignition at the proposed development.

The Proponent will be required to ensure there are strict controls on these potential ignition sources, such as storage and handling controls in accordance with the Dangerous Goods legislation and code, relevant Australian Standards and restrictions on hot works and electrical equipment within any on-site hazardous areas.

### **6.6.1 Manifest**

Dangerous goods sites must maintain a current manifest and a dangerous goods site plan, to allow an appropriate response by DFES in the event of an emergency, such as a fire.

Information retained onsite should include the Emergency Plan, Dangerous Goods Manifest, Register of Dangerous Goods and Hazardous Materials, Safety Data Sheets for bulk products kept on site and dangerous goods site layout plan.

### **6.6.2 Ignition sources**

Operators of dangerous goods sites are required to manage potential ignition sources, such as hot works and electrical equipment, within any on-site hazardous areas.

This is managed by a Permit System, with linkage to declared 'Total Fire Bans'. During a Total Fire Ban, hot works is deferred unless essential for plant operations. Documented additional fire safety provisions are required during Total Fire Ban days.

### **6.6.3 Placard and marking**

A placard, readily visual for DFES personnel and providing visual warnings of the hazards associated with storage of flammable liquids, will be required at the proposed tank site in the northeast in accordance with DMP Storage and handling of dangerous materials Code of Practice (DMP 2010).

Signage and notices will also be required in accordance with AS 1940-2004.

## **6.7 Compliance with annual firebreak notice**

The Proponent is to comply with the current Shire of Chapman Valley annual firebreak notice as amended (refer to Appendix 6), which also provides an enforcement mechanism for the BMP by stating that ongoing compliance is required for approved Bushfire Management Plans.

The Shire firebreak notice requires perimeter mineral earth firebreaks (at least 3 m wide and 4m overhead clearance) immediately inside all external boundaries of the lot, prior to bushfire season. Linfire note that where the proposed internal roads are against the lot boundary, they would be considered to satisfy this requirement, otherwise compliant mineral earth firebreaks will be required.

## 7.0 Responsibilities for implementation and management of the bushfire measures

Implementation of the BMP applies to the Proponent to ensure bushfire management measures are adopted and implemented on an ongoing basis. A bushfire responsibilities table is provided in Table 5 to drive implementation of all bushfire management works associated with this BMP.

**Table 5: Responsibilities for implementation and management of the bushfire measures**

Implementation/management table	
<i>Proponent – prior to commissioning hydrogen and electrical infrastructure</i>	
No	Implementation action
1	Undertake vegetation modification as required to achieve target BAL ratings and manage bushfire risk to the development, primarily within the project area but also outside the site, as detailed in Section 6.1 and on Figure 6.
2	Install proposed firewater tanks in accordance with relevant Australian Standards and technical requirements of the Guidelines, as detailed in Section 6.2 of the BMP.
3	Install the new access road to the project area, from the new Oakagee SIA intersection with North-West Coast Highway currently under construction by Main Roads WA, compliant with the private driveway technical requirements and the specific requirements detailed in Section 6.3, including minimum road width.
4	Install the internal driveway network within the proposed development to private driveway technical requirements and the specific requirements detailed in Section 6.3 including minimum road width, turning heads and proximity to proposed buildings.
5	Construct the any vehicular access gates within fence to the standards stated in the BMP detailed in Section Vehicular access gates. Ensure keys to any locked gates are provided to all relevant staff and onsite personnel, as well as being made available to local fire brigade.
6	Consider incorporating the recommended procedures into the emergency management plan for the development, as detailed in Section 6.5 of this BMP.
7	Comply with all relevant Dangerous Goods legislation.
8	Comply with the Shire of Chapman Valley firebreak notice as amended annually
<i>Proponent– ongoing</i>	
No.	Implementation action
1	Maintain vegetation within all parts of the project area, and the areas nominated outside of the site, as detailed in Section 6.1 and on Figure 6.
2	Maintain the firewater tanks, in accordance with relevant Australian Standards and the requirements stated in Section 6.2 of the BMP.
3	Maintain the access road to the project area (from the Oakagee SIA public road intersection) in accordance with the private driveway specifications from the Guidelines, and any requirements stated in Section 6.3 of the BMP.
4	Maintain the internal driveway network in accordance with the private driveway specifications from the Guidelines, and any requirements stated in Section 6.3 of the BMP.
5	Maintain the access gates to the standards stated in Section 6.3.1 of the BMP.
6	Review any bushfire emergency management response procedures on an annual basis, and amend as required.
7	Comply with all relevant Dangerous Goods legislation.
8	Comply with the Shire of Chapman Valley firebreak notice as amended annually

## 8.0 References

Department of Fire and Emergency Services (DFES) 2024, *Map of Bush Fire Prone Areas*, [Online], Government of Western Australia, available from:

<https://maps.slip.wa.gov.au/landgate/bushfireprone/>,

Department of Planning (DoP) 2016, *Visual guide for bushfire risk assessment in Western Australia*, Department of Planning, Perth.

Standards Australia (SA) 2018, Australian Standard AS 3959–2018 *Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.

Western Australian Planning Commission (WAPC) 2024, *State Planning Policy 3.7: Bushfire*, Western Australian Planning Commission, Perth.

Western Australian Planning Commission (WAPC) 2024, *Planning for Bushfire Guidelines*, November 2024, Western Australian Planning Commission, Perth.

## Appendix 1 Vegetation plot photos and description

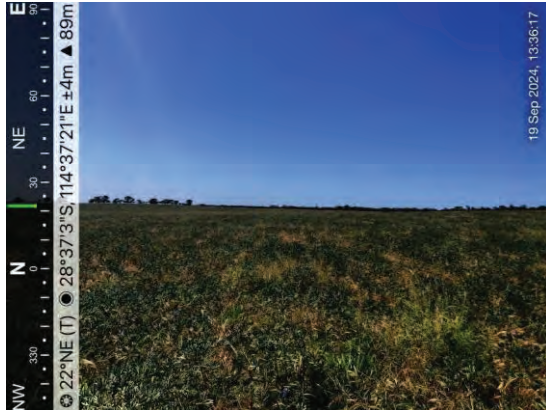


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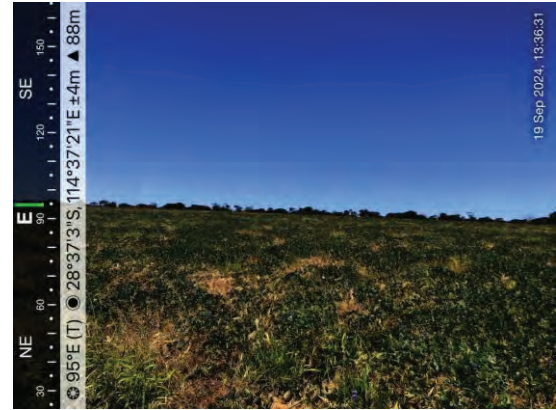
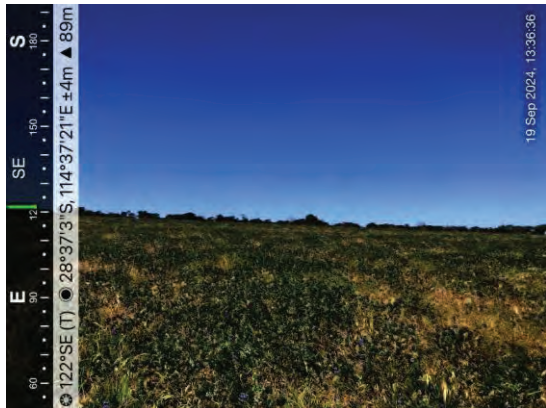


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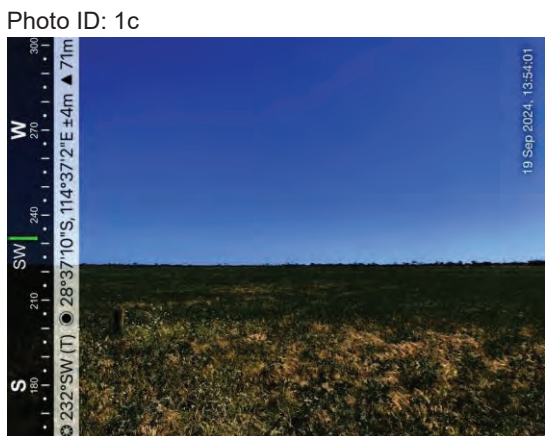


Photo ID: 1c



Photo ID: 1d

Plot number	Plot 1
Vegetation classification	Class G Grassland
Description / justification	Grassland greater than 100 mm in height



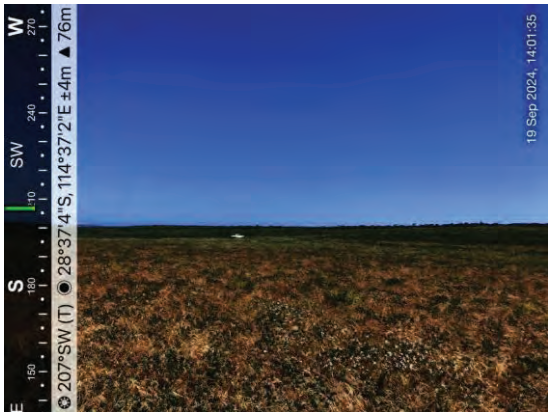


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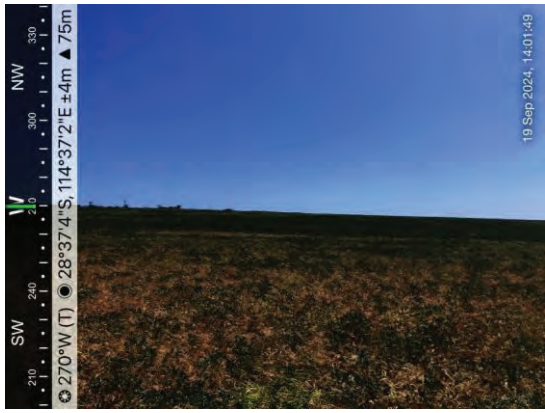


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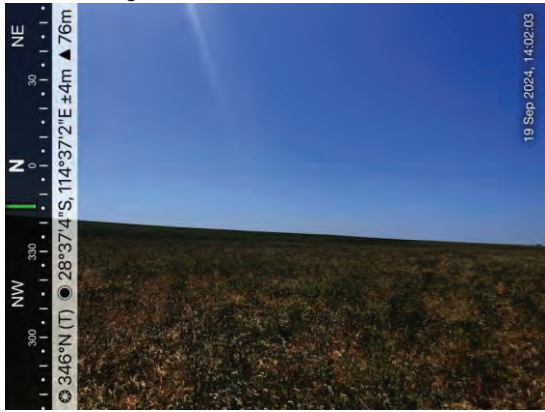


Photo ID: 1i

Plot number	Plot 1
Vegetation classification	Class G Grassland
Description / justification	Grassland greater than 100 mm in height



Photo ID: 2a

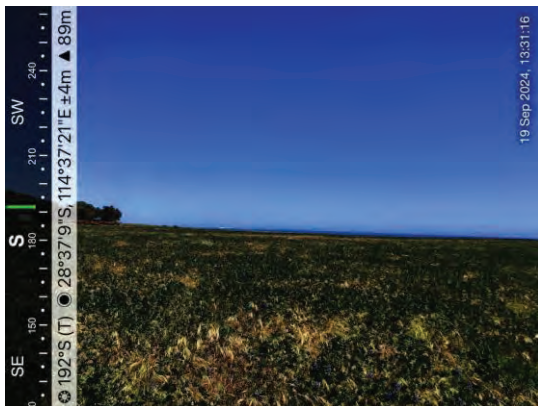


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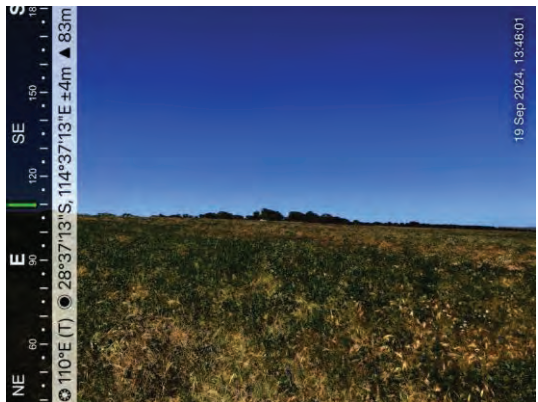


Photo ID: 2e



Photo ID: 2b



Photo ID: 2d



Photo ID: 2f

Plot number	Plot 2
Vegetation classification	Class G Grassland
Description / justification	Grassland greater than 100 mm in height



Photo ID: 2g

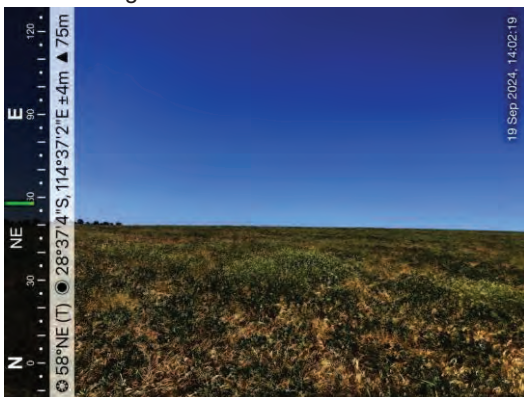


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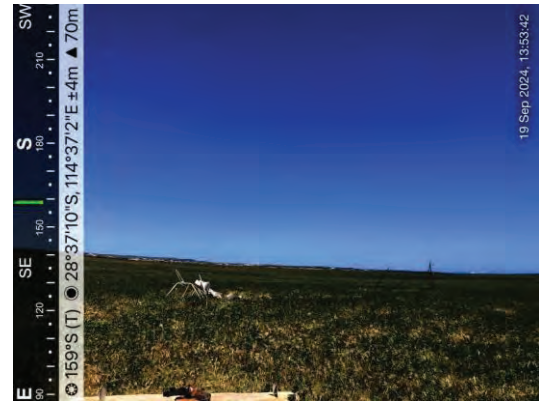


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Plot number	Plot 2
Vegetation classification	Class G Grassland
Description / justification	Grassland greater than 100 mm in height





Photo ID: 3a



Photo ID: 3b



Photo ID: 3c

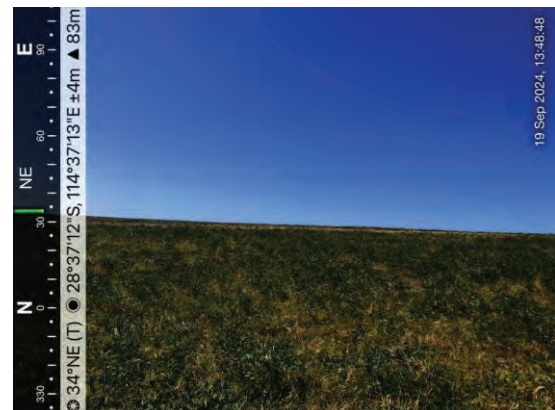


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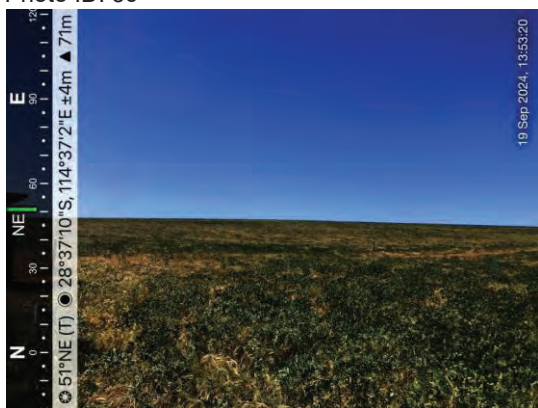


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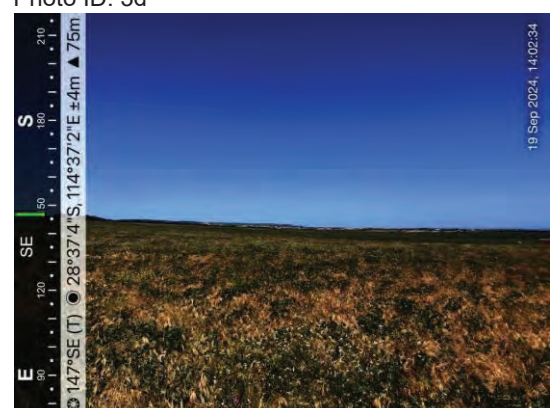


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Plot number	Plot 3
Vegetation classification	Modified to non-vegetated (exclusion 2.2.3.2 [e]) and/or low threat (exclusion 2.2.3.2 [f]) state
Description / justification	Vegetation within project area to be modified to low threat vegetation or non-vegetated elements



## Appendix 2 APZ standards (from Bushfire Guidelines)

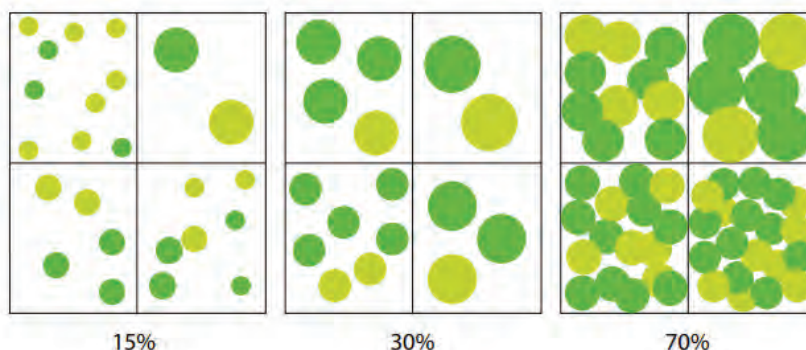
An APZ is a low fuel area maintained around a habitable building to increase the likelihood that it will survive a bushfire, by providing a defendable space and reducing the potential for direct flame contact, radiant heat exposure and ember attack. The APZ allows emergency services access and provides an area for firefighters and home-owners to defend their property.

An APZ should not be seen as an area entirely cleared of vegetation, but as a strategically designed space that considers how existing and future mature vegetation, and combustible and non-combustible features interact with and affect the building's resilience to bushfire.

Vegetation management within an APZ should provide defendable space and be maintained to a low threat state, in perpetuity, in accordance with the requirements outlined below.

**Table 9: Asset Protection Zone Technical Requirements**

- **Trees\* (> 6 metres in height)**
  - Trunks at maturity should be a minimum distance of six metres from all elevations of the building.
  - Branches at maturity should not touch or overhang a building or powerline.
  - Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation.
  - Canopy cover within the APZ should be <15 per cent of the total APZ area.
  - Tree canopies at maturity should be at least 5 metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ.



- **Shrub\* and Scrub\* (0.5 metres to 6 metres in height)**
  - Should not be located under trees or within three metres of buildings.
  - Should not be planted in clumps >5 square metres in area.
  - Clumps should be separated from each other and any exposed window or door by at least 10 metres.
  - Shrub and scrub >6 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height)**
  - Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load'.
  - Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
  - Ground covers >0.5 metres in height are to be treated as shrubs
- **Grass**
  - Grass should be maintained at a height of 100 millimetres or less, at all times.
  - Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.

**Table 9: Asset Protection Zone Technical Requirements**

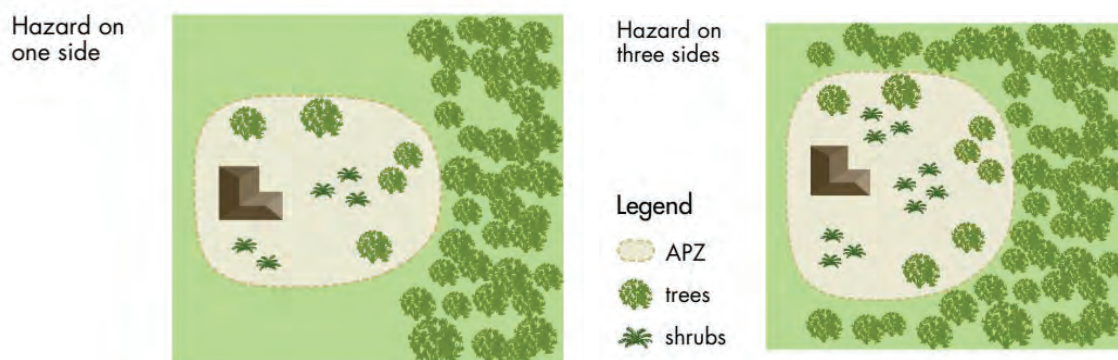
- **Fine Fuel load (combustible dead vegetation mater <6 mm in thickness)\*\***
  - Should be managed and removed on a regular basis to be maintained as low threat vegetation.
  - Should be maintained at <2 tonnes per hectare (on average).
  - Mulches should be non-combustible such as stone, gravel, shells, rock or crushed mineral earth or wood mulch >5 millimetres in thickness.
- **Defendable Space**
  - Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
- **Fences within the APZ**
  - Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959)
- **LPG Cylinders**
  - Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building.
  - The pressure relief valve should point away from the house.
  - No flammable material within six metres from the front of the valve.
  - Must sit on a firm, level and non-combustible base and be secured to a solid structure.

\* Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes

\*\* Fine fuel load:

- *is the combustible, dead or dry vegetation matter on the ground, near ground, or elevated. Fine fuel includes grass, leaves, bark and twigs less than six millimetres in diameter that ignite readily and are burnt rapidly when dry.*
- *Fine fuel should be maintained at less than 2t/ha (100gm/m<sup>2</sup> equates to 1t/ha).*
  - *To estimate a fuel load (in t/ha), collect the dry fine fuel from a representative one square meter and weigh (in grams using kitchen scales) and multiply the weight by 0.01.*

**Figure 25:** Design of an Asset Protection Zone



## B.2.2 Designing an Asset Protection Zone

An APZ should not be seen as an area entirely cleared of vegetation, but as a strategically designed

space that considers how existing and future mature vegetation, and combustible and non-combustible features interact with and affect the building's resilience to bushfire.

An APZ should provide the greatest level of vegetation management within at least three metres of a habitable building, to ensure adequate unobstructed defensible space for emergency services to operate. This area should contain minimal vegetation and be free of combustible materials and obstructions. Within the remainder of the APZ, planting of vegetation can increase as you move farther away from the building.

The placement of plants within an APZ is a key design technique. Separation of garden beds with areas of low fuel or non-combustible material will break up fuel continuity and reduce the likelihood of vegetation within an APZ supporting a bushfire. It is important to consider the plant density and final structure and form of plants in their mature state.

Strategic landscaping measures can be applied, such as replacing weeds with low flammability vegetation to create horizontal and vertical separations between the retained vegetation.

Mulches used within the APZ should be non-combustible. The use of stone, gravel, shells, rock and crushed mineral earth is encouraged. Very fine or light mulch (such as shredded pine bark, pine needles, or poplar woodchips) less than five millimeters in diameter should be avoided. It is recommended that wood mulch is used in garden beds or areas where the moisture level is higher by regular irrigation, and these areas are separated with non-combustible elements, such as pathways and open spaces.

Incorporation of landscaping features, such as masonry feature walls, can provide habitable buildings with barriers to wind, radiant heat and embers. These features can include noise walls or wind breaks. Use of Appendix F of AS 3959 for bushfire resistant timber selection or the use of non-combustible fencing materials such as iron, brick, limestone, metal post and wire is encouraged within an APZ

### **B2.3 Management of an Asset Protection Zone**

Ongoing maintenance of an APZ is usually enforced through a condition of a development approval, which should refer to Table 9 APZ technical requirements within this Appendix.

In addition to regular maintenance of an APZ, further bushfire protection can be provided by:

- ensuring gutters are free from vegetation
- installing gutter guards or plugs
- regular cleaning of underfloor spaces, or enclosing them to prevent gaps
- trimming and removing dead plants or leaf litter
- pruning climbing vegetation (such as vines) on a trellis, to ensure it does not connect to a building, particularly near windows and doors
- removing vegetation in close proximity to a water tank to ensure it is not touching the sides of a tank
- following the requirements of the relevant local government firebreak notice, which may include additional provisions such as locating wood piles more than 10 metres from a building.

Preparation of a property prior to the bushfire season and/or in anticipation of a bushfire is beneficial even if your plan is to evacuate. Embers can travel up to several kilometres from a bushfire and fall into small spaces and crevices or land against the external walls of a building.

Best practice recommends objects within the APZ are moved away from the building prior to any

bushfire event.

Objects may include, but are not limited to:

- door mats
- outdoor furniture
- potted plants
- shade sails or umbrellas
- plastic garbage bins
- firewood stacks
- flammable sculptures
- playground equipment and children's toys.

## B2.4 Plant Flammability

There are certain plant characteristics that are known to influence flammability, such as moisture or oil content and the presence and type of bark. Plants with lower flammability properties may still burn during a bushfire event, but may be more resistant to burning and some may regenerate faster post-bushfire.

There are many terms for plant flammability that should not be confused, including:

- **Fire resistant** – plant species that survive being burnt and will regrow after a bushfire and therefore may be highly flammable and inappropriate for a garden in areas of high bushfire risk.
- **Fire-retardant** – plants that can absorb more of the heat of the approaching bushfire without burning, compared to more flammable plants.
- **Fire wise** – plants that have been identified and selected based on their low flammability properties and linked to maintenance advice and planting location within a garden.

Although not a requirement of these Guidelines, local governments may develop their own list of fire wise or fire-retardant plant species that suit the environmental characteristics of an area.

When developing a recommended plant species list, local governments should consult with ecologists, land care officers or environmental authorities to ensure the plants do not present a risk to endangered ecological communities, threatened, or endangered species or their habitat.

When selecting plants, private landholders and developers should aim for plants within the APZ that have the following characteristics:

- grow in a predicted structure, shape and height;
- are open and loose branching with leaves that are thinly spread;
- have a coarse texture and low surface-area-to-volume ratio;
- will not drop large amounts of leaves or limbs, that require regular maintenance;
- have wide, flat, and thick or succulent leaves;
- trees that have bark attached tightly to their trunk or have smooth bark;
- have low amounts of oils, waxes, and resins (which will often have a strong scent when crushed);
- do not produce or hold large amounts of fine dead material in their crowns; and/or
- will not become a weed in the area.



## Appendix 3 Low Threat Vegetation (AS 3959 Clause 2.2.3.2)

### 2.2.3.2 Exclusions—Low threat vegetation and non-vegetated areas

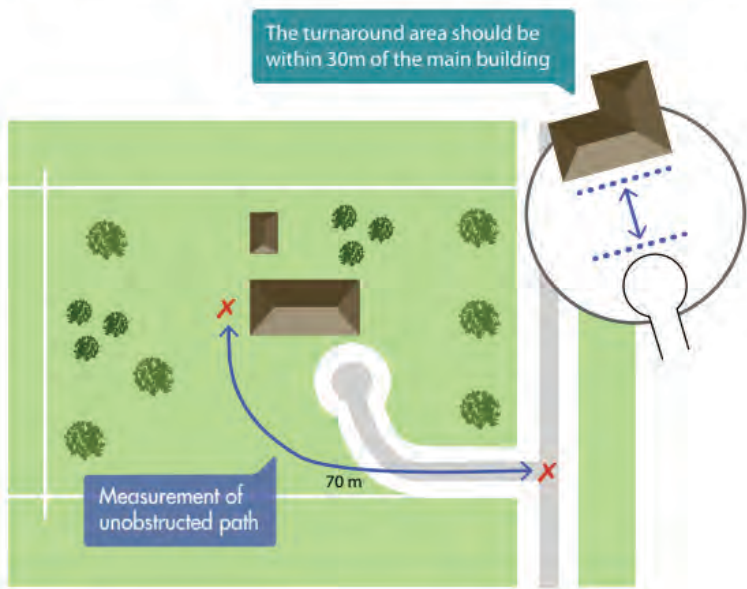
The following vegetation shall be excluded from a BAL assessment:

- (a) Vegetation of any type that is more than 100 m from the site.
- (b) Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified vegetation.
- (c) Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other or of other areas of vegetation being classified vegetation.
- (d) Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified vegetation.
- (e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.
- (f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.

#### NOTES:

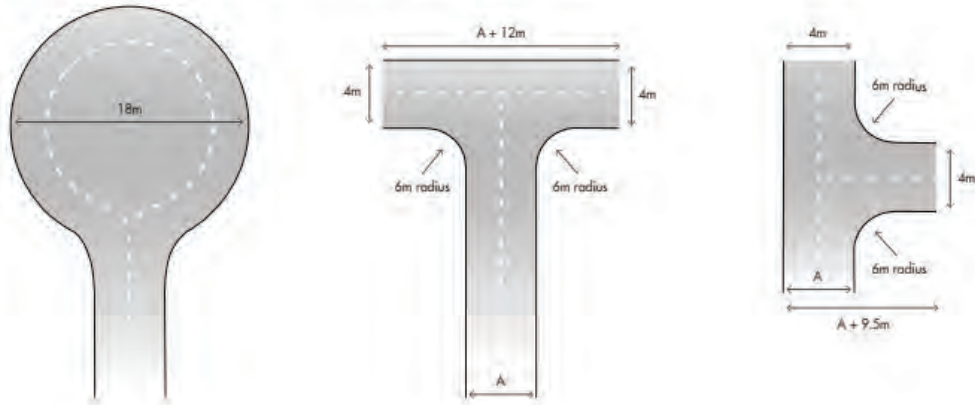
- 1 Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognizable as short-cropped grass for example, to a nominal height of 100 mm).
- 2 A windbreak is considered a single row of trees used as a screen or to reduce the effect of wind on the leeward side of the trees.

## Appendix 4 Vehicular access technical standards of the Guidelines

Private driveways
<p><b>Acceptable Solution A3.1</b></p> <p>There are no private driveway technical requirements (prescribed by these Guidelines) where the private driveway is within a lot serviced by reticulated water and is no greater than 70 metres in length between the most distant external part of the habitable building and the public road.</p> <p>In circumstances where the above conditions are not met, the private driveway is to meet all of the following requirements:</p> <ul style="list-style-type: none"> <li>requirements in Appendix B.3 Table 10, Column 5; and</li> <li>passing bays every 200 metres with a minimum length of 20 metres and a minimum additional carriageway width of 2 metres</li> <li>(i.e. the combined carriageway width of the passing bay and constructed private driveway to be a minimum 6 metres); and</li> <li>turn-around area (Figure 30) and within 30 metres of the habitable building (Figure 38).</li> </ul>
<p><b>Explanatory note B3.8</b></p> <p>Emergency services vehicles typically operate from the street frontage in areas serviced by reticulated water and where the distance from the public road to the farthest part of the habitable building is no greater than 70 metres.</p> <p>In the event the habitable building cannot be reached by hose reel from the public road, emergency services vehicles will need to gain access via the driveway to the property. Emergency services vehicles will also need to gain access to the property where access to water is provided by onsite water tanks. In these situations, the driveway and battle-axe access leg (if applicable) will need to be wide enough for access by an emergency services vehicle and a vehicle to evacuate.</p> <p>It is acceptable for a private driveway to have a carriageway width of four metres with a traversable verge of one metre on either side of the carriageway.</p> <p>Turn-around areas (<b>Figure 38</b>) should be available for conventional two-wheel drive vehicles and type 3.4 fire appliances and should be located within 30 metres of habitable buildings. Circular and loop driveway design may also be considered.</p> <p><b>Figure 38:</b> Design requirements for a private driveway where required</p> 

### Private driveways

**Figure 30:** Design requirements for a turn-around area



**Table 10:** Vehicular access technical requirements

	1		2		3		4		5	
TECHNICAL REQUIREMENTS	PERIMETER ROADS		PUBLIC ROADS		EMERGENCY ACCESS WAY <sup>3</sup>		FIRE SERVICE ACCESS ROUTE <sup>3</sup>		BATTLE-AXE & PRIVATE DRIVEWAYS <sup>1</sup>	
MAP OF BUSH FIRE PRONE AREAS DESIGNATION	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1	Area 2	Area 1
Minimum horizontal clearance (metres)	12	8	See note 5		10	6	10	6	6	
Minimum vertical clearance (metres)	4.5									
Minimum weight capacity (tonnes)	15									
Maximum grade unsealed road <sup>2</sup>	See note 5		See note 5		1:10 (10% or 6°)					
1:7 (14.3% or 8°)										
1:10 (10% or 6°)										
8.5										
Maximum grade sealed road <sup>2,4</sup>										
Maximum average grade sealed road										
Minimum inner radius of road curves (metres)										

**Notes:**

- <sup>1</sup> Driveways and battle-axe legs to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision where not required to comply with the widths in this Appendix or the Guidelines.
- <sup>2</sup> Dips must have no more than a 1 in 8 (12.5% - 7.1 degrees) entry and exit angle.
- <sup>3</sup> To have crossfalls between 3 per cent and 6 per cent.
- <sup>4</sup> For sealed roads only the maximum grade of no more than 1 in 5 (20 per cent) (11.3 degrees) for no more than 50 metres is permissible, except for short constrictions to 3.5 metres for no more than 30 metres in length where an obstruction cannot be reasonably avoided or removed.
- <sup>5</sup> As outlined in the Institute of [Public Works Engineering Australasia \(IPWEA\) subdivision guidelines](#), [Liveable Neighbourhoods](#), [Austroads Standards](#) Main Roads standard, supplement, policy or guideline and/or any applicable or relevant local government standard or policy.



## Appendix 5 Water technical standards of the Guidelines

Appendix B.4 – Water Supply	
B4.1 Construction and Design Technical requirements	
<ul style="list-style-type: none"> <li>An above-ground tank and associated stand should be constructed of non-combustible material.</li> <li>Below-ground tanks should have a 200 millimetres diameter access hole to allow tankers or emergency services vehicles to refill direct from the tank, with the outlet location clearly marked on the surface.</li> <li>Above and below ground tanks may need to comply with AS/NZS 3500.1:2018.</li> <li>An inspection opening may double as the access hole provided that the inspection opening meets the requirements of AS/NZS 3500.1:2018.</li> <li>Where an outlet for an emergency services vehicle is provided, then an unobstructed, hardened ground surface is to be supplied within four metres of any water supply.</li> </ul>	
<p><u>B4.1.1 Pipes and Fittings</u></p> <p>All above-ground, exposed water supply pipes and fittings should be metal.</p> <p>Fittings should be located away from the source of bushfire hazard and be in accordance with the applicable section below, unless otherwise specified by the local government.</p>	
<p><u>B4.1.2 Fittings for above-ground water tanks</u></p> <ul style="list-style-type: none"> <li>Commercial land uses: 125mm Storz fitting; or</li> <li>Strategic water tanks: 50mm or 100mm (where applicable and adapters are available) male camlock coupling with full flow valve; or</li> <li>Standalone water tanks: 50mm male camlock coupling with full flow valve; or</li> <li>Combined water tanks: 50mm male camlock coupling with full flow valve or a domestic fitting, being a standard household tap that enables an occupant to access the water supply with domestic hoses or buckets for extinguishing minor fires.</li> </ul>	
<p><u>B4.1.3 Remote outlets</u></p> <p>In certain circumstances, it may be beneficial to have the outlet located away from the water supply. In instances in which a remote outlet is to be used, the applicant should consult the local government and DFES on their proposal.</p>	
B4.2 Use of Water Supply	
<ul style="list-style-type: none"> <li>The combination of drinking water and water for firefighting purposes is not recommended, as stagnant water may alter the quality of the drinking water and the emergency services, by law, may not be able to take water from the water supply to suppress a bushfire.</li> <li>Combining drinking water and water for firefighting purposes is contrary to provisions within clause 4.2.3 of AS/ NZS 3500.1:2021</li> </ul>	
B4.3 Independent Water and Power Supply	
<ul style="list-style-type: none"> <li>Water tank/s are to be provided in accordance with Table 11, Water supply dedicated for bushfire firefighting purposes.</li> </ul>	
B4.5 Location of Water Tanks and Hydrants	
<ul style="list-style-type: none"> <li>Surrounding vegetation should be considered when locating a water tank.</li> <li>Avoid locations where the tank will be situated underneath existing vegetation or where vegetation will grow against or overhang the tank, (Figure 39). Where a tank is on the bushfire hazard side of a building, sufficient shielding for the protection of firefighters should be provided. In addition to the tank location, the fitting should be positioned and/or shielded from the bushfire hazard to allow access by emergency services.</li> </ul>	

**Figure 39:** A good and bad example of landscaping around a water tank



**Table 11:** Water supply dedicated for bushfire firefighting purposes

SECTIONS FROM THE PLANNING FOR BUSHFIRE GUIDELINES					
SECTION 5 <sup>2</sup> STRUCTURE PLANS AND SUBDIVISION APPLICATIONS		SECTION 6 <sup>2</sup> DEVELOPMENT – RESIDENTIAL	SECTION 7 <sup>2</sup> DEVELOPMENT – COMMERCIAL & INDUSTRIAL	SECTION 8 <sup>2</sup> – DEVELOPMENT – VULNERABLE LAND USES	
One additional lot	10,000 litre water tank per lot	10,000 litre water tank per habitable building	For each habitable building - 10,000 litre per 1,500 m <sup>2</sup> of floor space up to 50,000 litre. Provided in a water tank	Camping ground	At the discretion of the local government
Three to 24 lots	10,000 litre water tank per lot <sup>1</sup> or 50,000 litre strategic water tank				
25 lots or more	50,000 litre per 25 lots or part thereof, provided as a strategic water tank(s) and/or 10,000 litre water tank per lot			Other vulnerable land uses	For each habitable building - 10,000 litre per 500 m <sup>2</sup> of floor space up to 50,000 litre. Provided in a water tank

**Notes:**

<sup>1</sup> Evidence that the identified water supply amounts in either column denoted is to be provided at the relevant planning stage.

<sup>2</sup> where more than one habitable building is proposed, strategic water tanks are to be provided in accordance with Section 5 requirements and at the discretion of the Local Government.



## **Appendix 6      Shire of Chapman Valley Firebreak Notice**

## BUSH FIRE CONTROL OFFICERS

### Chief Bush Fire Control Officer & Fire Weather Officer

Andrew Vlahov Ph: 9920 5144  
UHF: 5 Mob: 0427 205 144

### Yetna Brigade, Deputy Chief Bush Fire Control Officer & Deputy Fire Weather Officer

Local Bush Fire Control Office Ph: 9920 5555  
Jason Stokes Mob: 0407 388 511

(in the absence of the Chief Bush Fire Control Officer/Fire Weather Officer, the Deputy becomes the Acting Chief Bush Fire Control Officer/Fire Weather Officer)

### Naraling Brigade

Local Bush Fire Control Officer:  
Craig Mincherton Ph: 9920 3033  
UHF: 33 Mob: 0417 957 075

### Howatharra Brigade

Local Bush Fire Control Officer:  
Calvin Royce Ph: 9925 1010  
UHF: 29 Mob: 0427 251 016

### Nabawa Brigade

Local Bush Fire Control Officer:  
Neil Kupsch Ph: 9920 5050  
UHF: 4 Mob: 0429 108 289

### Yuna Brigade

Local Bush Fire Control Officer:  
Shaun Earl Ph: 0429 108 425  
UHF: 20

### Durawah/Valentine Brigade

Local Bush Fire Control Officer:  
Darryl Burton Ph: 0428 241 191  
UHF: 26

### Shire and Emergency Two-way Radio Channel

UHF: 11 Senior Ranger: 0428 948 073

**Bush Fire Services  
FESA**

**Ph: 9956 0000**



## CONTRACTORS

Morgan Mowing 0439 242 993  
Central Earthmoving 0459 301 851  
Graham Hancock 9938 1413

Midwest Mulching & Mowing 0408 230 421  
0429 341 306

Ivey Contracting (Grading only) 0428 840 935

### Tree plantations of more than 3.0Ha but less than 10.0Ha

Construct a 10m wide mineral earth firebreak with a 4m high vertical clearance; clear of all inflammable material immediately surrounding the plantation (adjacent areas of the same property subject to provisions as for rural land).

### Plantations larger than 10Ha

Must comply with the Code of Practise for Timber Plantations in the Western Australia Guideline for Plantation Fire Protection Shire of Chapman Valley Local Planning Policy 'Agroforestry'.

## PENALTIES

Failure to maintain a firebreak as per firebreak order	\$250
Offence relating to lighting a fire in the open air	\$250
Setting fire to bush during prohibited burning period	\$250
Failure of Occupier to extinguish a bushfire	\$250
Refusal to state name and abode or stating a false name and abode	\$100
Failure to produce permit to burn	\$100

Fire Control Officers are not obliged to issue permits.

Permits cannot be issued over the phone and should a Fire Control Officer refuse to issue a permit, it's a breach of the Bush Fire Act 1954 to request a permit from another Fire Control Officer.

You MUST have a copy of the permit on you during the burn.



SHIRE OF

**Chapman Valley**

*love the rural life!*

## FIRST AND FINAL Fire Break Notice 2023/24 Period

### SECTION 33 BUSH FIRE ACT

### PROHIBITED BURNING PERIOD YUNA (Zone 2)

15 October to 14 February  
**All OTHER AREAS (Zone 4)**  
15 October to 14 February  
**STRICTLY NO BURNING**

### RESTRICTED BURNING PERIOD YUNA (Zone 2)

1 September to 14 October  
15 February to 7 April  
**All OTHER AREAS (Zone 4)**  
1 September to 14 October  
15 February to 7 April  
**PERMITS ARE REQUIRED**

### COMPULSORY FIREBREAKS (Zone 4)

**Nabawa / Yetna / Howatharra Brigades**  
15 October to 7 April

### FIRST AND FINAL NOTICE IS HEREBY SERVED TO ALL RESIDENTS AND RATEPAYERS

Failure to install and maintain firebreaks in accordance with this notice may result in a \$5,000 fine.



# BUSH FIRES ACT 1954 AS AMENDED

## HARVESTING OPERATIONS

1. No harvesting operations are permitted on **Christmas Day, Boxing Day and New Years Day**. A separate fire fighting fire appliance is required to be present in any paddock being harvested, churning, raking stubble, straw baling and associated allied activities during restricted and prohibited periods. The fire fighting unit must be in a state of readiness and have a minimum capacity of 400L of water, a powered pump and hose. The farm fire fighting unit should be parked on bare ground in or near the harvesting or working area.
2. A Harvesting and Movement Ban and Use of Internal Combustion Engines (except for the watering and movement of stock) will be imposed when the actual weather conditions reach a Fire Danger rating of thirty five (35) on the maximum wind speed at the weather stations of two (2) bush fire brigades. All such bans are at the discretion of the Chief Bush Fire Control Officer or a duly appointed person.

If a ban has been imposed, all persons registered will be sent a text message advising of details. All bans will still be broadcast on radio:

**ABC State wide AM  
98.1 FM & 96.5 FM**

**NOTE:** Attention of landowners is drawn to the fact that this order allows for provision of firebreaks in situations other than immediately with property boundaries subject to approval. The Chief Bush Fire Control Officer and appointed Fire Control Officers have been authorised to act for Council in this matter.

**FAILURE TO INSTALL AND MAINTAIN  
FIREBREAKS IN ACCORDANCE WITH  
THIS NOTICE MAY RESULT IN A  
\$5,000 PENALTY**

Notice is hereby given to all land owners in areas requiring compulsory firebreaks that these must be installed by 15 October and maintained free of flammable material as required under the Bush Fire Act 1954 and in accordance with this Notice, approved fire management plans or approved variations to this Notice.

## PROPERTIES WILL BE INSPECTED TO ENSURE COMPLIANCE WITH COUNCILS REQUIREMENTS

### SMALL LOTS RESIDENTIAL & SPECIAL RURAL / RURAL RESIDENTIAL / RURAL SMALL HOLDINGS UP TO 3.0HA

Mowed, slashed to a maximum height of 7.5cm. Mineral earth (bare earth) firebreaks not permitted.

All structures and buildings must have a minimum 2m clearance of all flammable material. All dead trees, shrubs must be removed from block unless application is made to retain dead trees, shrubs prior to 15 October and approved. Exemptions will only be considered if presented in writing by 15 October.

### RESIDENTIAL & SPECIAL RURAL / RURAL RESIDENTIAL / RURAL SMALL HOLDINGS 3.0HA PLUS

Fire breaks must be mineral earth (bare earth) a minimum 3m wide and have minimum overhead clearance 4m or have flammable material graded, mowed or slashed to a maximum height of 7.5cm over the entire property (excluding managed vegetation such as ornamental trees, distinct islands of vegetation remote from boundaries and assets).

All structures and buildings must have a minimum 3m clearance of all flammable material. All dead trees, shrubs must be removed from block unless application is made to retain dead trees, shrubs prior to 15 October and approved. Exemptions will only be considered if presented in writing by 15 October.

If it is considered for any reason to be impracticable to clear firebreaks as required by this notice, or if you consider natural features render firebreaks unnecessary, you may make your case in writing to the Shire.

### FUEL PUMPS (FUEL DEPOTS)

On or before the 15 October all grass and similar material is to be cleared from such places where drum ramps are located and where drums, empty or full, are stored and such areas to be maintained cleared of grass and similar flammable material until 15 March.

### FIRE MANAGEMENT PLANS

If your property has an approved fire management plan in place then you are to comply with the requirements of that plan in full.

### FARM BUILDINGS AND UNATTENDED ELECTRIC MOTORS AND HAY STACKS

Fire breaks at least 2m in width completely surrounding and not more than 20m from the perimeter of any building, group of buildings or haystacks. All flammable material must be removed from an area 3m in width immediately surrounding the building. All flammable material must be removed from an area 3m in width immediately surrounding an unattended electric motor site.

### UNATTENDED FUEL OPERATED MOTORS

All flammable material must be removed from an area 2m in width immediately surrounding an unattended fuel operated motor whether the motor is intended to be used or not.

### RURAL LAND

Firebreaks must be provided not less than 2m in width inside and along the whole of the external boundaries of the properties owned or occupied; where this is not practicable the firebreaks must be provided as near as possible to, and within, such boundaries.

### BARBEQUES AND INCINERATORS

Gas and electric barbeques are permitted any time. Solid fuel barbeques and incinerators are **PROHIBITED** on days of VERY HIGH FIRE DANGER or above.

### PENALTY

The penalty for failing to comply with this notice is a fine of up to \$250 and a person in default is also liable, whether prosecuted or not, to pay the cost of performing the work in this notice. If it is not carried out by the owner or occupier by the date required by this notice.





Your Ref: Ammonium Nitrate Plant, Oakajee  
Our Ref: F-AA-90425-3 E-AA-25/51342  
Contact: Vic Andrich 9222 2000

Mr Simon Lancaster  
Deputy Chief Executive Officer  
Shire of Chapman Valley  
PO Box 1  
CHAPMAN VALLEY WA 6532

Via email: [dceo@chapmanvalley.wa.gov.au](mailto:dceo@chapmanvalley.wa.gov.au)

Dear Mr Lancaster,

**PROPOSED AMMONIUM NITRATE MANUFACTURING AND STORAGE FACILITY  
– LOT 11 AND 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Thank you for your advice of 10 February 2025, requesting comments from the Department of Health (DoH) on the above proposal.

The DoH provides the following comment-

**1. Water Supply and Wastewater Disposal**

All drinking water provided on site must meet the health-related requirements of the *Australian Drinking Water Guidelines 2011*.

The treatment and disposal of the wastewater generated on site is required to comply with the *Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974* and meet the *Government Sewerage Policy 2019* requirements. To meet these requirements the following items require addressing:

- a) A site-specific Site and Soil Evaluation (SSE) will be required to be undertaken by a qualified consultant during the wettest seasonal time of the year (mid-July/August) as per AS/NZS 1547:2012 to ensure the land application area is located and sized appropriately.
- b) To ensure the onsite wastewater treatment system or plant and disposal area/s are located on the same lot the wastewater is produced on, otherwise the lots will be required to be amalgamated.
- c) Detailed plans showing the proposed building envelopes, proposed and existing onsite wastewater systems, all trafficable areas, parking bays and land application area/s including setback distances, exclusion/riparian zones with all measurements are required at building stage.

- d) An 'Application to Construct or Install an Apparatus for the Treatment of Sewage' is required to be submitted to the local government for each wastewater system. As this proposal is viewed as commercial/industrial, the applications are required to be forwarded to the DoH for assessment and approval.

## 2. Medical Entomology

The subject land is in a region that occasionally experiences problems with nuisance and disease carrying mosquitoes. These mosquitoes are known carriers of Ross River (RRV) and Barmah Forest (BFV) viruses. Human cases of RRV and BFV diseases have been reported in this region. Any future development needs to avoid the creation of additional mosquito breeding habitats.

It is recommended that the proponent ensures proposed site works do not create additional mosquito breeding habitat as follows:

- Changes to topography resulting from earthworks must prevent run-off from creating surface ponding as it may become mosquito breeding habitat.
- Water tanks and other water-holding containers must be sealed or screened to prevent mosquito access and breeding.
- Waste items should be filled with sand/soil, kept undercover or punctured to reduce the chances of these items holding water and becoming mosquito breeding habitat.
- Constructed water bodies must be located, designed and maintained so they do not create or contribute to mosquito breeding.

Stormwater management infrastructure such as culverts, road drainage systems, etc. are to be in accordance with the Department of Water and Environmental Regulation publication *Stormwater Management Manual for Western Australia*: [Stormwater management manual of Western Australia \(www.wa.gov.au\)](http://www.wa.gov.au).

## 3. Dust Management

The DoH recommends that:

- An effective dust management plan should be developed and implemented during proposed site works.
- The plant, once operational, complies with regulatory air emissions to minimise impacts on the regional air shed.
- Best practice is employed with respect to managing air emissions when optimising systems, during equipment failures and other operations that may result in excessive emissions to air during the life of the plant.

Should you have any queries or require further information, please contact Vic Andrich on 9222 2000 or [eh.eSubmissions@health.wa.gov.au](mailto:eh.eSubmissions@health.wa.gov.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Michael Lindsay', with a stylized flourish at the end.

Dr Michael Lindsay  
**EXECUTIVE DIRECTOR**  
**ENVIRONMENTAL HEALTH DIRECTORATE**

14 March 2025



## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY**  
**(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)**  
**LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: ROSEMARIE ASMUSSEN

Postal Address: PO Box 1583 GERALDTON

Phone Number: [REDACTED]

SUBJECT OF SUBMISSION (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

live at 216 Whitepeak rd

ADDRESS OF PROPERTY AFFECTED:

216 Whitepeak rd (Lot 8) Chapman Valley

SUBMISSION: ☐ Support ☒ Object ☐ Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

see attached

Signature: R. Asmusen Date: 16 March 2025

Please return to: Chief Executive Officer or [ceo@chapmanvalley.wa.gov.au](mailto:ceo@chapmanvalley.wa.gov.au)  
Shire of Chapman Valley  
PO Box 1 or (fax) 9920 5155  
NABAWA WA 6532

Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.

**Submissions Close: 4:00pm Wednesday 26 March 2025**



Submission 2b

## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY**  
**(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)**  
**LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: VOLLERT ASMUSSENPostal Address: PO BOX 1583 GERALDTONPhone Number: [REDACTED]

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

live at 216 Whitepeak rd**ADDRESS OF PROPERTY AFFECTED:**216 Whitepeak rd (Lot 8) Chapman Valley**SUBMISSION:**☐

Support

☒

Object

☐

Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

see attachedSignature: [Signature]Date: 16 March 2025

Please return to:

Chief Executive Officer  
 Shire of Chapman Valley  
 PO Box 1  
 NABAWA WA 6532

or

[ceo@chapmanvalley.wa.gov.au](mailto:ceo@chapmanvalley.wa.gov.au)

or

(fax) 9920 5155

*Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.*

Submissions Close: 4:00pm We

Safari

6 March 2025



Submission 2c

## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY**  
**(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)**  
**LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: INDRE ASMUSSEN  
Postal Address: PO BOX 1583 GERALDTON  
Phone Number: [REDACTED]

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

live at 216 White Peak rd

**ADDRESS OF PROPERTY AFFECTED:**

216 Whitepeak rd (Lot 8) Chapman Valley

**SUBMISSION:** ☐ Support ☒ Object ☐ Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

see attached

Signature: [Signature] Date: 16 March 2025

Please return to: Chief Executive Officer or [ceo@chapmanvalley.wa.gov.au](mailto:ceo@chapmanvalley.wa.gov.au)  
Shire of Chapman Valley  
PO Box 1 or (fax) 9920 5155  
NABAWA WA 6532

*Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.*

**Submissions Close: 4:00pm Wednesday 26 March 2025**

22March 2025

**This is the attachment to the development application submission to each of the three objections (Rosemarie, Vollert and Indre Asmussen) to the proposed ANE plant at Oakajee, Lot 11 and 12 at Oakajee.**

**FACTS**

AN- ammonia nitrate  
imported at Geraldton  
Port and trucked to  
Oakajee



AN turned into **ANE – Ammonia Nitrate Emulsion** at Oakajee. It is an ANE facility.  
15,000 t storage at Oakajee  
**40,000 t – 80,000t ANE produced annually and truck on our roads**

- Stack height is 8 m (so visible widely)
- Annual production, 40, 000 t ramping up to 80,000t over a few years (p.10).
- This means 40-80,000 t of ANE will be on our roads annually.
- Storage 15,000 t ANE
- Claim - Six 60t ANE storage tanks = would equal to 360t so where does 15,000t storage come in??? what haven't we been told.
- Apparently, Oakajee is 20 km from the Geraldton townsite, this is not true. Many residents of Drummonds cove, Park falls, Buller and White Peak are within 5km.
- The ANFt operate 6:30 am to 5 pm EXCEPT when importing AN then a 24 hr operation for the duration of import. The estimates are based on the 40,000t not 80,000t. So double it the night operation = lights needed.
- The ANF will be placed at an elevated location – on a hill on the southern end of the Oakajee strategic industrial estate – closest to residential area.
- The visual and light impacts (light will be needed for security and 24 h operation have not been assessed.

It is a very misleading development application to the Shire of Chapman Valley. It does not install trust in the proponent.

**1. ANE is highly explosive – readvertise for community to give informed consent.**

In October 2024 a truck transported 61t and one of its two trailers of ANE exploded after it caught fire. At Oakajee there will be six 60 t ANE storage containers.



Some highlights from the DMIRS incident investigation (see their report):

[https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion\\_Report.pdf](https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf)

- The blast was felt by ERT team 3km away at the Guyer mine
- A crater was formed by the explosion and matter catapulted.
- 50 m radius vegetation was completely flattened
- 120 m radius vegetation was impacted – snapped branches
- 60 kg brake drum found 97 m away
- >100kg shrapnel was found 420m away
- 31 kg shrapnel was found 672 m away
- Many other pieces of shrapnel were located, others never found.

The DMIRS also looked at other ANE incidents – this was NOT an isolated incident.

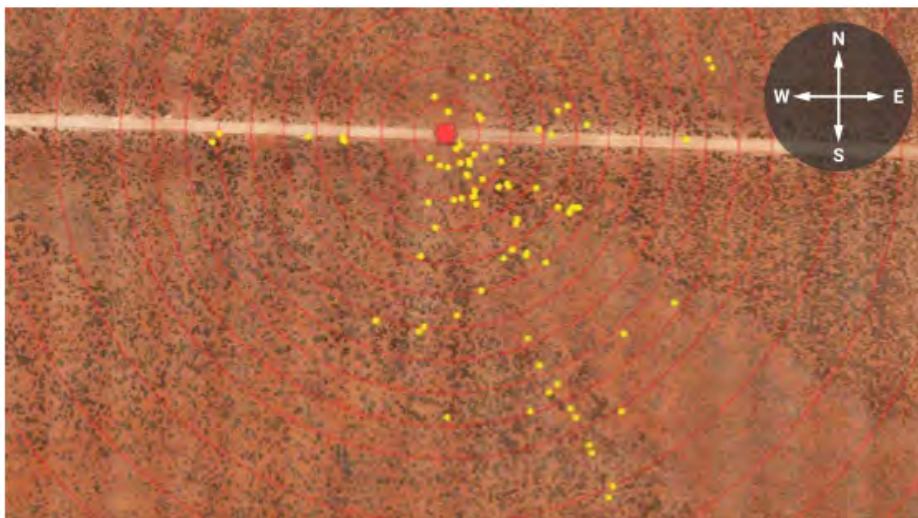


Figure 5.17 Distribution of significant shrapnel and debris (includes aluminium, steel and other debris) located at the incident scene represented in yellow. The red marker indicates epicentre of explosion. The red circles indicate the distance in 50 m intervals to 500m from the epicentre of the explosion, and then at 100 m intervals from then on (Credit: Gold Fields, Gruyere JV; annotated by the Department)

Figure 1 Distance of projectiles recovered - DMRS incident investigation of the ANE trailer explosion (after it caught fire) in October 2024.

The incident during ANE transport was NOT an isolated incident. Other ANE incidents which have occurred during transport are listed in the report

This report will examine the following ANE transport incidents:

1. The Mobile Processing Unit (MPU) explosion at Drevja in Norway on 17 December 2013
2. The Banana tanker trailer fire, Queensland, 5 September 2015
3. The Wowan tanker trailer fire, Queensland, 12 March 2018
4. The Telfer tanker trailer fire, Western Australia, 21 November 2022
5. The New Norcia tanker trailer fire, Western Australia, 3 June 2023

The FAQ – focused on AN – no mention that ANE can be explosive. This is misleading for the community – given the DMIRS report.

Relevant section of FAQ:

**What is AN and ANE?**

- AN is a white odourless solid chemical that is used both as a fertiliser, and as a critical component in explosives for mining. It is NOT an explosive itself, and it does not burn.
- AN is shipped in one tonne bulk bags as either small crystals, granules, or as prills, which are small spheres around two to three millimetres in diameter
- The ANE process involves creating a stable mixture of AN, water, and oil, making it ideal for use in dry and wet conditions

**The community should have an opportunity to give informed consent.**

The Proposed plant is incorrectly advertised as an AN plant online and in the local papers. This misinforms and misleads the community (as stated above).

Similarly, the FAQ from issued from the proponent focuses on the transport of AN from Geraldton port through the Geraldton community to the Oakajee industrial estate, where it will be converted to ANE in the “emulsion plant” and play down the risk of fire.

Limited mention is made about the subsequent storage and transport of ANE near and within a residential area. **15,000 t will be stored, whilst 61t exploded (see DMIRS report)**

**Recommendation**

- Readvertise and inform public correctly. ANE plant – storage and transport of explosive ANE.
- Consider distribution of product: explosive ANE. The Geraldton Mullewa Road is a unsafe and deteriorated through truck traffic.
- This should also be advertised in the City of Greater Geraldton.
- Clarify storage 15,000 t how is it stored in 6 x 60t storage tanks??? (360t) somewhere there is a problem
- Clarify that it has a 40-80,000t annual production potential within 5 years. This means input and outputs increase and increased explosive traffic on our roads.
- Provide easily accessible information to the public to give informed consent.

**We object to the location of the ANE plant at**

- **a very elevated location**, consequently material in case of an explosion can fly far and wide (Figure 1). Visual impacts have not been assessed. Lighting impacts have not been assessed or managed appropriately.
- Its located at the southern end of the industrial estate – closest to the residential area of Park falls, Drummonds cove, Buller and White peak (within a couple of

Km). The statement that is 20km north of the Geraldton townsite is incorrect and therefore the impact assessment is flawed.

- It is at the southern end of the Oakajee SIA. Prevailing summer winds are from the south, so any fire would annihilate the rest of the industrial estate.
- Its located near native costal vegetation and revegetation planted to shield the industrial estate
- It is close to the coastal zone / Buller River area where unregulated 4WD access proposes real fire risk. This area is located to the south, and southerly winds can drive fire towards the ANE plant.
- Fire risk from construction, traffic accidents, off road vehicles and road works, as these continue to work in extreme heat, as shown early this year when a fire occurred.



**Figure 1** Proposed ANE plant at an elevated location – aesthetic impact has not been considered. 8 m stack and storage located at an elevated location – this is viewed from Eliza Shaw drive in Park falls residential estate. It will be visible widely at night – when lit up.

## 2.1 Regional Context

The proposal is located in Oakajee SIA in the Western Australian Mid-West region, within the Shire of Chapman Valley local government area.

Oakajee SIA is intended to be a major hub for heavy industry, resources and renewable energy projects. A deep water port is also planned for the SIA to support downstream processing industries in the Mid-West region. Further contextual discussion on the Oakajee SIA is provided in Section 4.3.4.

The proposal site is approximately 20 kilometres north of the Geraldton townsite, and 390 kilometres northeast of Perth.

Page 5 from Project application

See the last statement – located 20 Km north of Geraldton townsite. Drummonds Cove, Park Falls, White Peak and Buller are not mentioned as being within a couple of kilometres. We live closer than 20km.

### Recommendation

- Assess aesthetic / visual impacts of 8 m stack – day and night when site is illuminated, given it has to be a secure site and has great security risks.
- Assess / review security required and associated lighting.
- Assess impacts of lighting – lights should be and fauna friendly
- Review bushfire plan and fact in the activity of unregulated 4 WD south of Buller river and the coastal dune system (currently also marked as coastal zone of Oakajee).
- It will be located in the southern part of the Oakajee SIA and therefore a risk to all proponents to the north (especially during a fire) and
- its close to residential areas therefore a risk to residents.
- Review location - Based on the above reason, to be located further north if at all.
- Review transport of ANE to end user (see traffic management)
- Review social impacts and risks to the community as it is NOT located 20km from the Geraldton townsite, Geraldton has grown and there are a lot of people living in White Peak, Park Falls, Buller and Drummonds Cove. Their safety has been dismissed by the proponent.

### Visual and light impacts have not been adequately considered

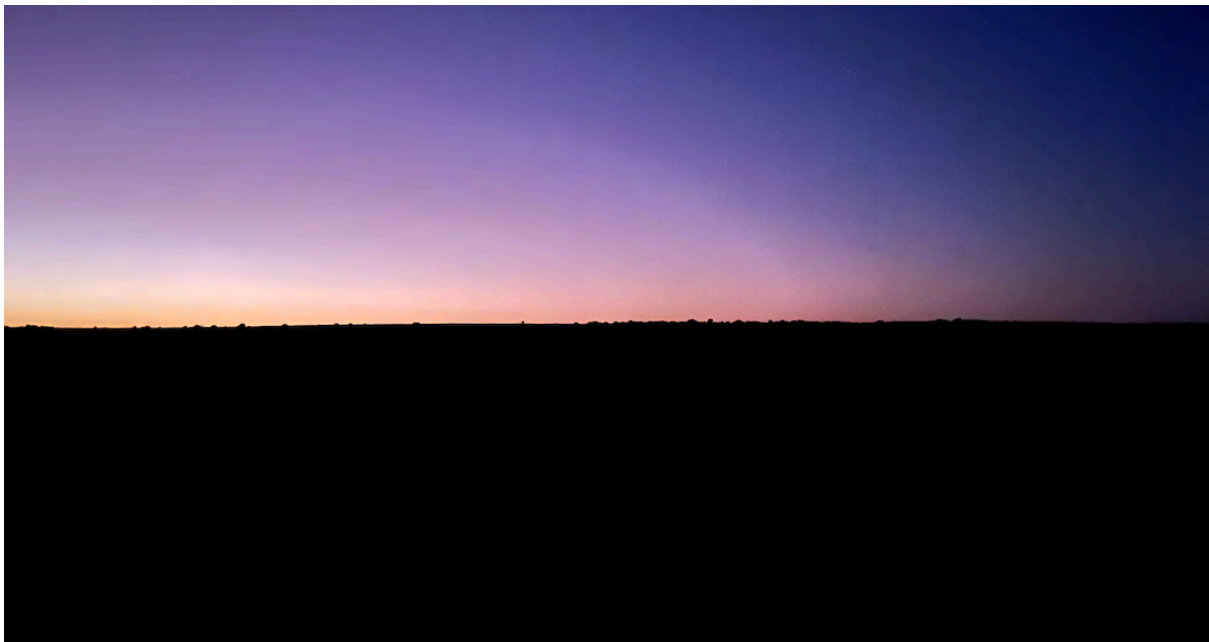
- The stacks will be 8 m high and needs to be illuminated for safety.
- Security lights will be needed.
- Lights for safe operation at night will be needed.
- The ANE plant and its stacks will be located on top of a hill highly visible from the southern residential area
- The lights at night will make it even more visible to all of Geraldton to the south.



- Lights may have impacts on fauna – which should be managed.
- It will be visible from NW coastal hwy, especially from the hill near Park falls (see photo). The low vegetation will do little to shield it.



The approximate location of the ANF plant on the hill as viewed from NW coastal hwy near Parkfalls.



Current sky line at sunset at the proposed ANF location as seen from White peak rd.



Light spill from bright LED lights at the nearby roadworks, Buller river bridge replacement.

Light pollution from irresponsibly managed spot lights should be prevented at future developments at Oakajee (see above photos). Global solutions exist to minimise light pollution and be fauna friendly. Please lead the way at Oakajee where Industrial Ecology is to be implemented (Newman et al ).

### **Recommendation**

- Reconsider location of the ANF as located at an elevated and highly visible day and night.
- Assess visual impact – ie actually visit the site and interact with local residents. Don't make up a great story on paper.
- Assess impacts of lighting and insist on shielded fauna friendly lights (ie no LEDs or white lights, use sodium vapour lights. Lighting will impact wildlife at sea – many also sensitive to bright white lights.
- Consider Dark sky – shielded lights.
- Lights (ie security will be visible in Geraldton)
- Look at global initiatives to light pollution and be more fauna friendly. For example in France they adopted ground breaking national guidelines to minimise light pollution  
<https://darksky.org/news/france-light-pollution-law-2018/>
- Implement at Oakajee Industrial Ecology is to be implemented (Newman et al ). Which means good social and environmental choices.

### **Air pollution – assess rainwater pollution.**

There is monitoring of air quality but no talk about rainwater quality. This highlights the proponents lack of consultation with the local community. Many properties to the SE depend on rainwater for drinking water. Rain bearing clouds generally arrive from the NW and W in the winter months. The plant will impact rainwater quality collected in White Peak and Buller region. This has not been adequately managed. Modelling is modelling and rarely reflects what happens.

### **Recommendation**

- Assess impacts on rainwater quality.
- Residents on White peak road / Dixon place and others should be given the option to connect to scheme water. This cost should be carried by the proponents wishing to settle in the Oakajee industrial estate as our rainwater will be adversely impacted (cumulative impacts).
- **Shire of Chapman Valley to advocate on behalf of its residents for scheme water delivery to resident on and near White peak road.**
- Nearby residents have not been contacted by the proponent for input or social impacts. We have the right for safe water.
- Oakajee industrial ecology – means looking after the community.

### **Traffic impacts and management**

One a month for 36 h there will be 2 truck movements / hour to transport AN from the port to the industrial estate.

Most mention is 40,000 t however within 5 years it can increase to 80,000t. So we need to increase input (ie double the transport to site) and increase truck movements for product to destination.

No mention is made about transport of ANE from Oakajee to end user. 40,000t to 80,000t will be produced annually, which means 40 – 80,000t is being trucked on our roads through CGG and Shire of Chapman Valley. This needs to be clarified. Most transport will be through residential areas. The Geraldton – Mullewa Road is very dangerous, as deteriorated through excessive truck movement (consult media or talk to Shane Love who highlights this on regular occasions).

### **Recommendation**

- Recalculate for 80,000t annual production
- Truck movement - White peak road and other intersection in a corners may need traffic light or other to make the intersections safe. Currently, not safe.

- Alternatively reduce speeds, and extend the 80-90 km /hr from Drummonds cove caravan park to new entry to Oakajee industrial estate. This would save lives. Heavy Trucks cannot stop when we turn in or out of smaller side roads.
- Review transport of ANE to end user. Please note Geraldton-Mullewa road is a very dangerous road, as there are a lot of truck movements and the road has deteriorated. A truck recently had a trailer fall over coming down the escarpment.
- The issues with the Geraldton -Mullewa road have been highlighted in the media. Transport of ANE along this route is a risk to other road users and the community (including residents in Mullewa).
- <https://www.rshq.qld.gov.au/safety-notices/explosives/ammonium-nitrate-emulsion-tanker-explosion>
- Oakajee industrial ecology – means looking after the community.

### **The Fire plan needs to be reviewed – as fire causes explosions**

ANE can explode when it catches fire. The flippanant statement in FAQ is to “Fire prevention is the key” belittles us and community safety. Accidents and fires happen. Once again the focus is on AN transported from the port to Oakajee not the ANE stored and transported. Only half of the equation has been addressed – the input AN. Whilst, ignoring the product ANE storage and transport to end user. The DMIRS report shows several incidents of ANE explosion (Figure1). It is therefore not a rare occurrence. Therefore – a very misleading application.

#### **What makes AN explode?**

- AN is a very stable chemical but it is an oxidizer, meaning if it is exposed to a fire, it assists combustion
  - It melts at about 170°C, breaks down at 200°C, and if then exposed to a consistent temperature above 300°C for at least 45 minutes, a risk of explosion may exist – even then, it's a rare occurrence.
- Fire prevention is key**

The ANE is located close to native vegetation (dunes and revegetation) and close to unregulated 4WD access in the dune system. This proposes a fire risk. Fire risks rise with extreme heat waves, traffic accidents, road works and construction, all activities which often do not stop during extreme heat events. Many fires in the region are deliberately lit by people . This was not factored in. The ANF will be located near a population centre and near a busy unregulated offroad vehicle area – akin to Mad Max wonderland where syringes are regularly found.

The elevated location also makes it a likely site for lightening strike.





### **No mention of climate change**

Extreme weather including extreme heat waves are becoming more frequent. No mention or mitigation for extreme weather events is included, which does not install confidence in the proponents' desire to look after the local community.

### **We object to a misleading development application which is not transparent and puts community safety at risk**

This erodes trust in an operator potentially holding a dangerous goods licence.

If there is a lack of transparency in an application, what hope have we got during operation? There will be incidents and how do we trust this potential operators.

Will we be informed of incidents and near misses? Will they be addressed appropriately?

There can be no trust based on this application that states its located 20km north of the Geraldton townsite... which now expands to Park falls, White Peak, Buller and Drummonds cove.

This project cannot be assessed based on this omission, in terms of risk to the community and is misleading to the community and regulating agency.

It is NOT located 20 Km north of Geraldton townsite. Drummonds Cove, Parkfalls and Buller are not mentioned as being within a couple of kilometres.

The truth comes out later White peak residents within 3.5 km, in the small print.

There is little information provided about Project Astra by Kinara Power after Stage 1 Project Terra.

See surface water management plan p 3

The project activities will occupy approximately 12 hectares over two allotments within the Oakajee SIA. BDA's sister company Kinara Power is developing Project Astra that will be co-located to BDA's Project Terra.

Bit of a trojan horse – lacking transparency.

**No social impact assessment was conducted**

The local community was not consulted nor their “loss understood”. Such as loss of dark sky, and safe place to live as in risk of explosion. The latter expand along the transport route.

Loss of sense of place – rural. Loss of dark sky.

Loss of recreational / tourism potential – such as Coronation beach. Do you think overseas tourist want industrial tourism. They seek nature and wild places and ocean.

Instead the proponents arrogantly states there will be no loss.

This and the misleading application, shows a clear lack of willingness to engage with and understand the local community. There is no effort made to build trust.

That is a sign of things to come during construction and operation – when incident will occur as humans make mistakes.

There can be no trust without engagement.

**Recommendation**

The proponent has failed to engage with the community, did not build the trust necessary to operate a highly explosive facility.

They do not have the social licence to operate within the community.

**Structure plan for Oakajee SIE is being reviewed.**

Current structure plan for Oakajee Industrial estate was gazetted in 2012 and will expire on 19 October 2025 and is currently under review by the DevWA.

Is this a cheap and nasty industry which could be operational by Q4 2025 to fulfill conditions?

Something quick and nasty to tick the box? At the expense of nearby residents of the AN(E)F and along the transport route.

It is not an industry compatible with other industries likely to settle at the Oakajee SIA as it is highly explosive (see Beirut explosion in 2020).

## Shire decision making under planning and Development (Local Planning Schemes) Regulations 2015

### In summary

**Based on the above I object to the project.** The text above should be consulted for details, as the application **does not meet** local planning scheme (Table 1) unlike claimed in the Project application. Table 1 addresses Table 8 in the project application on page 24.

It is not a good project to activate the Oakajee Industrial estate, as it is highly explosive and likely to deter other proponents. The ANF will be located at the southerly end of the Oakajee SIA and a fire and explosion hazard to future proponents given prevailing strong southerly winds which the region is known for.

**Table 1** Project Terra does not meet the local planning scheme unlike claimed in the document. ***Content addresses Table 8 Matters to be considered when determining a development application p 24 submitted by the proponent.***

Subclause	Comment
(a)	
(b) –	<p>Misleading / misrepresented, therefore hard to assess based on misinformation, limited focus on ANE and half the production.</p> <p>Misleading application – AN facility it produces ANE which can explode.</p> <p>Misleading advertisement on Shire webpage and local paper ANF plant.</p> <p>It makes limited mention of ANE</p> <p>Little mention of ANE transport in FAQ.</p> <p>City of Greater Geraldton (CGG) is also impacted.</p> <p>This needs to be advertised within CGG.</p> <p>It mentions the 40,000t but less vocal on its potential to increase annual production to 80,000t over 5 years if demands exist.</p> <p>It can store 15,000t in tanks onsite. Says 6 x 60t storage tanks this does not add up <math>6 \times 60 = 360</math> t. storage ?????? This is misleading.</p> <p>Most focus is on 40,000t – most modelling is based on 40,000t annual production.</p> <p>Please look at DMIRS incident investigation to see what a 61t explosion looks like.</p> <p><a href="https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf">https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf</a></p> <p>No mention of Project Astra – only Project Terra – a trojan horse. Impacts cannot be assessed. Nor can you make a decision on misinformation.</p>
(k) –	<p>Incomplete assessment</p> <p>There is a built place of history nearby:</p>

	<p>Drummonds homestead at 216 White peak road.</p> <p>Impact on this historic building have not been assessed.</p>
(q) –	<p>Does not comply:</p> <p>Elevated location, very visible during day and night – aesthetics have not been considered.. light pollution and impact on fauna from security lights during 24 h operation have not been assessed.</p> <p>Safety risk to community.</p> <p>No assessment of impact on rainwater quality, given that nearby residents are often rainwater dependent. The application does not understand this.... indicative of the lack of consultation / care for the local community.</p> <p>Impact assessment is based on 40,000t but within 5 years it is estimated to be 80,000t. Consequently, this application does not gauge final impacts.</p> <p>Redo air quality assessment, noise, traffic / truck transport through Geraldton and other assessments to suit the 80,000t annual production.</p> <p>A large, misleading part of this application. Assess the whole project. Not half.</p> <p>Double truck movement of AN and ANE (never given) through the surrounding community.</p> <p>Little mention of Project Astra (Kinara power)– only Project Terra – a trojan horse.</p> <p>Impacts and compliance are therefore difficult to assess. Difficult for a shire make a decision based on misinformation and half of the modelled impacts (ie 40,000t rather than the 80,000t which can be produced and transported in 5 years – both input AN and output ANE)</p>
O -	<p>not fully assessed</p> <p><b>Visual impact has not been assessed</b> – and underplayed. It will be located on a hill and highly visible from NW Coastal hwy near Park falls (photo). The 8m stack would be visible from far and lights including security lights (not mentioned) and 24 h operation during import will make it highly visible.</p> <p><b>Lighting impacts</b> have not been assessed – security and 24 h operation during import period will result in light. Lights should be shielded and wildlife friendly (not LED or white blue lights, rather softer sodium vapor lights). It will impact dark sky.</p> <p><b>Risk of explosion</b> was not fully analysed – storage and transport - especially for the larger production of 80,000t / annum which will be transport on our roads.</p> <p><b>Impact on rainwater for rainwater dependent properties nearby was not examined.</b></p> <p><b>Traffic impact not fully considered</b> on NW Coastal hwy of AN Transport to and ANE transport away has not been assessed and managed appropriately. Need to reduce speed limits on NW coastal hwy to prevent accidents as local residents turn of and onto NW coastal hwy from small roads as heavy trucks cannot stop, especially near corner /</p>



	concealed roads such as White peak road. Alternative: traffic lights to save light and prevent accidents / fire / explosions.
m – not fully assessed	<p>Risk to community is real and has been minimised in the proponents application.</p> <p>– transport and storage of ANE See DMIRS report when 61t exploded, at Oakajee 6 60t storage tanks and annual production of 40,000t ramping up to 80,000t in 5 years. Please look at DMIRS incident investigation to see what a 61t explosion looks like.</p> <p><a href="https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf">https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf</a></p> <p>The ANF plant and its 8m stack would be visible from far and lit at night for safety and security.</p> <p>The facility and its light would be visible form White peak and Park falls – as at an elevated location and the lights would be visible from Geraldton. The low vegetation will not hide this. Lights will be required for security, given the nature of the ANF.</p> <p>The visual impact was poorly research or mitigated.</p> <p>No community consultation / engagement.</p> <p>The proponent has not built trust. They do not have the social licence to operate.</p>
R -	<p>Risk to community from explosion is real, for residents near the ANF and transport route of input and product (which will be our community). It is very hard to assess as the application and FAQ are misleading. Transport of 40-80,000 t per annum and storage of 15,000t ANE. Apparently the storage is in 6 x 60 t storage tanks (=360t) - which does not add up t 15,000t – another misleading calculation.</p> <p>Please consider Beirut 2020 and</p> <p>Please look at DMIRS incident investigation to see what a 61t explosion looks like.</p> <p><a href="https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf">https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf</a></p> <p>There are people living within 2 km of the site along White Peak road and properties on NW Coastal hwy and Park falls are not much further away. It is not located 20km from the Geraldton townsite. There are residents living in Buller, White Peak, Park Falls and Drummonds who are at direct risk from the facility. Other people are along the transport route, including users of the roads.</p> <p>If annual production is 40-80,000t that means a lot of trucks carrying this on our local roads. Traffic management needs to be reassessed to meet production capacity expected. The Geraldton Mullewa road is in poor condition and high risk.</p> <p>Fire risk have not been fully understood as coastal zone is a popular unregulated offroad vehicle site. Close to NW coastal hwy, accidents and road works can give rise to fire.</p>

	<p>No mention of climate change, or lightening strikes at an elevated location or human error / human lit fires, which are prevalent in the region.</p> <p>Poor application and level of care for nearby residents and those along the transport route the product ANE, which is poorly considered throughout.</p> <p><b>Potential impacts on rainwater quality – supply scheme water to rainwater dependent properties within 5Km</b></p> <p>The proponent has not engaged with the community, has not built trust. They do not have the social licence to operate.</p>
(s)	<p>It does not comply</p> <p>the transport of the product ANE has not been considered adequately, the ANF will produce initially 40,000t ANE annually then ramping up to 80,000 t in five years. The final amount needs to be considered. As this will double input and output traffic. Another misleading calculation.</p> <p>It will be transported through CGG/ Shire of Chapman valley and beyond. Geraldton Mullewa road is very unsafe and deteriorated due to too many truck movements.</p> <p>Please look at DMIRS incident investigation to see what a 61t explosion looks lie.</p> <p><a href="https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf">https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/ANETankerExplosion_Report.pdf</a></p> <p>NW coastal hwy will become more busy need to reduce speed limit from Park Falls to Oakajee (ie 80km) to make smaller road intersection safe – or build traffic lights.</p> <p>Traffic accidents can result in fires / explosions.</p> <p>As proponent says “the key is to prevent fire” so prevent road accidents.</p> <p>The proponent has not engaged with the community, has not built trust. They do not have the social licence to operate.</p>
(v) –	<p>The community was not consulted, nor recorded what we do, so how does the proponent know that there is no Loss?</p> <p>When will access the Buller River recreational area be granted? When will beach access be reinstated via the track off NW coastal hwy? This was promised by the Shire of Chapman valley. Recreational node. An animal exercise area/ day beach access area</p> <p>Such plans are evidence that local residents are experience a loss.</p> <p>What about the current 4WD access along the beach from Drummonds Cove? Still allowed? A fire risk ?</p> <p>Dark sky will be lost – as bright lights shine on the hill which is the Oakajee SIE .</p>

	<p>Loss of recreational / tourism potential – such as Coronation beach. Do you think overseas tourist want industrial tourism. They seek nature and wild places and ocean.</p> <p>The sense of rural place will be lost. We will become industrial zone. Safety and trust will be lost.</p> <p><b>Potential impacts on rainwater quality – supply scheme water to rainwater dependent properties within 5km.</b></p> <p>The proponent has not engaged with the community, has not built trust. They do not have the social licence to operate.</p>
(x) –	<p>Community is impacted It is a misleading application, with limited understanding of nearby residents. impact on the local community has been ignored. Apparently, the townsite of Geraldton is 20km to the south, little mention of nearby residents and impact on those living in White Peak, Buller, Drummond Cove and Park falls. No social impact assessment conducted, local residents and CGG were not contacted.</p> <p><b>Potential impacts on rainwater quality – supply scheme water to rainwater dependent properties within at least 5Km.</b></p> <p>This should also be posted at CGG as it impacts their rate payers such as Drummonds Cove.</p> <p>Psychosocial hazard to nearby residents have not been considered. The threat of explosion is real as human error occur. The ANF plant is not located 20km from the Geraldton townsites. Loss of sense of place, visual and light pollution Loss of tourism potential</p> <p>Our family living at 216 White peak road within a few kilometres of the plant. We feel we will be adversely impacted, along with other residents living in White Peak, Park falls, Buller and Drummonds cove – who will see it day and night, as it is placed at an elevated location (see photo). We also have to deal with the traffic and increased risk of explosion. This impacts our mental health and potential of the property. It will lose in value for what we enjoy it for.</p> <p>The proponent has not engaged with the community, has not built trust. They do not have the social licence to operate.</p>

**From:** [asgardwiking@bigpond.com](mailto:asgardwiking@bigpond.com) <[asgardwiking@bigpond.com](mailto:asgardwiking@bigpond.com)>

**Sent:** Friday, 14 March 2025 7:10 PM

**Subject:** CR2528552 - ANE plant not an AN plant

Hello

Could you please forward this email to your staff including your CEO, planner, acting shire president and all Councilors and educate the community accordingly.

**The proposed development at Oakajee will produce Ammonia nitrate emulsion - ANE.**

ANE will be manufactured from Ammonia nitrate AN imported by ship into Geraldton port and trucked through Geraldton to Oakajee.

**It is therefore an ANE plant not AN plant.**

**The ANE is highly explosive**

The explosive ANE will be stored at Oakajee

The explosive ANE will be transported by road throughout the Shire and CGG to destinations.

The latter two points are poorly addressed by the proponent - including their FAQ, focused on AN transport to site.

In addition, the ANE plant will be located on **an elevated location where material can be jettisoned** far and wide -if an explosion occurs (ie bush fire - a real risk exists: during construction of Oakajee, road works and through unregulated 4WD along the coastal dune system near the Buller River and associated antisocial behaviour)

On 24 October 2024 a **trailer carrying 61 t of ANE exploded** after the trailer **caught fire** from brakes (in WA).

- 31kg shrapnel was found 672 m from the incident
- 100kg parts 413 m from the explosion site.
- Vegetation located within 50m vegetation was flattened and
- vegetation was damaged within 120 m radius (snapped branches).

Included is a link to the **DMIRS incident investigation report** - it makes interesting reading.

Hopefully it is also attached as PDF

[Ammonium nitrate emulsion tanker trailer explosion: Incident investigation report](#)

Please take the time to understand the project before you for consideration.

Its about informed consent - not only material supplied by the proponent.

Best wishes

Asmussen family



[asgardwiking@bigpond.com](mailto:asgardwiking@bigpond.com)

14 March 2025

## **ANE**

Comment / Correction

PROJECT TERRA

Ammonia Nitrate ( AN ) Manufacturing facility ???

Incorrect

Correct

ANE facility

A Ammonia Nitrate Emulsion ( ANE ) production facility is planned

ANE is immense high explosive

AN is transported to the facility OAKAJEE Project TERRA

The explosive product ANE is produced

Product ANE 40 000 t and 60 000 t stored in 2 facilities ( bushfire prone area )

Transport of the explosives ANE to harbour, mines by TRUCKS  
on public roads, housing areas

Note once again:

On Oakajee is not a AN facility planned

ANE - Ammonia Nitrate Emulsion - are planned

An highly explosive mixture is there produced, stored an immense quantities,  
finally transported on truck on public roads

And an other problem per 24 hours 60 - 65 heavy vehicles - B - doubles - during import  
operations

are on the road NWC Hwy .....

The project should be objected

But profit ? Blue Diamond Australia P/L BDA profits

R.L.Asmussen

Rosemarie Lena Asmussen  
[asgardwiking@bigpond.com](mailto:asgardwiking@bigpond.com)  
0899 383 965

20 March 2025

## **AME PLANT**

Referring to the advertising of the proposed TERRA plant

The advertising of the plant approval is incorrect, not addressing the real nature of the approval

Advertised as a AN MANUFACTURING AND STORE PLANT

Incorrect

Correct is that a highly explosive ANE plant proposed to be built

Ammonia Nitrate Emulsion is a highly dangerous explosive emulsion, used for explosions, war

Storage 40 000 t of ANE , 1 T / 1000kg

A immense quantity

Stored and manufactured less than 2 km away from residential properties

Our border is exactly 2km away

Evidently ANE plants have been accidentally exploded, deadly impacts+++

Sample Beirut / over 300 dead +++

How we are living so close are protected?

Groundwater, Rainwater , Air , Noise, Light, effected .....

Healths hazard

And finally

The explosive ANE is transported on public roads, passing residential areas

Transporting ANE to Geraldton harbour, a such quantity from 40 000 t is not requested from the

Mid West Mining Industry,

Past ANE Trucks have been

expl



Submission 3

## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY**  
**(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)**  
**LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: DARRELL AND ROBERTA FORTH.

Postal Address: P.O. Box 2410 GORDON WA 6531

Phone Number: [REDACTED]

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

OWNER + OCCUPIER OF PROPERTY ADJACENT TO OAKAJEE  
SIA.

**ADDRESS OF PROPERTY AFFECTED:**

LOTS 101 AND 102 - 1730 NORTHWEST COASTAL HIGHWAY BULLER 6532.

**SUBMISSION:** ☒ Support ☐ Object ☐ Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

WE ARE FULLY SUPPORTIVE OF THE PROPOSAL, SUBJECT TO ADEQUATE  
MITIGATION OF LIGHT POLLUTION POTENTIAL.

THE SIA WAS CREATED FOR THIS TYPE OF INDUSTRY AND  
WE BELIEVE IT WILL BRING EMPLOYMENT OPPORTUNITIES TO  
THE SHIRE OF CHAPMAN VALLEY.

Signature: [Signature]

Date: 17<sup>TH</sup> MARCH 2025.

Please return to: Chief Executive Officer or [ceo@chapmanvalley.wa.gov.au](mailto:ceo@chapmanvalley.wa.gov.au)  
 Shire of Chapman Valley  
 P.O. Box 1 or (fax) 9920 5155  
 NABAWA WA 6532

*Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.*

**Submissions Close: 4:00pm Wednesday 26 March 2025**

**From:** ATCO Engineering Enquiries <eservices@atco.com>

**Sent:** Wednesday, 19 March 2025 11:08 AM

**Subject:** ATCO Response - LM01578291 - RE: Proposed Industry (Ammonium Nitrate Manufacturing & Storage Facility) – Lots 11 & 12 North West Coastal Highway, Oakajee

Good Morning,

**Re: Proposed Industry (Ammonium Nitrate Manufacturing & Storage Facility) – Lots 11 & 12 North West Coastal Highway, Oakajee**

**ATCO Reference: LM01578291**

ATCO Gas Australia (ATCO) has **no objection** to the proposed application, based on the information and plan provided.

Advice notes:

- Anyone proposing to carry out construction or excavation works must contact 'Before You Dig Australia' ([www.byda.com.au](http://www.byda.com.au)) to determine the location of buried gas infrastructure. Refer to ATCO document AGA-O&M-PR24- Additional Information for Working Around Gas Infrastructure <https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html>
- Proposed construction and excavation works need to be managed in accordance with the ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&M-PR24 <https://www.atco.com/en-au/for-home/natural-gas/wa-gas-network/working-around-gas.html>

Please accept this email as ATCO's written response.

Should you have any queries regarding the information above, please contact us on 13 13 56 or [eservices@atco.com](mailto:eservices@atco.com).

Kind Regards

**Kim Hatcher**

Land Liaison/Engineering Coordinator

ATCO, Gas Division, Australia

A. 81 Prinsep Road, Jandakot, Western Australia, 6164

[ATCO.com.au](http://ATCO.com.au) [LinkedIn](#) [Facebook](#) [X](#)





Shire Reference: A2111

Submission 5

## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY**  
**(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)**  
**LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: GREG Burrows

Postal Address: 9 Contour Rd Sunset Beach

Phone Number: [REDACTED]

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

Safety & Proper Assessment Business & Environmental

**ADDRESS OF PROPERTY AFFECTED:**

Home address at Lot 1000 Wells Road

**SUBMISSION:**

☐

Support

☒

Object

☐

Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

Insufficient information - Environment on site and a proper business plan.  
Potential for catastrophic explosion, on site, at Geraldton Port or along transport through the narrowway through the city of Geraldton. The explosion at Brierley in 2020 had 2,000 tons of Ammonium nitrate which damaged buildings within 10 kilometers, this proposal is 7 times bigger so has the potential to wipe out Geraldton. Proposals don't appear to have any existing similar projects.

Signature: [Signature] Date: 17/3/2025

Please return to: Chief Executive Officer or cs@chapmanvalley.wa.gov.au  
Shire of Chapman Valley  
PO Box 1 or (fax) 9920 5155  
NABAWA WA 6532

**Note:** This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.

**Submissions Close: 4:00pm Wednesday 26 March 2025**



# DEVELOPMENT APPLICATION SUBMISSION FORM

Submission 6

PROPOSED INDUSTRY  
(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)  
LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE

Name: Tanya Cause

Postal Address: 9 Centaur Rd Sunset Beach

Phone Number: [REDACTED]

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

## ADDRESS OF PROPERTY AFFECTED:

261 Wells Rd. White Peak

## SUBMISSION:

☐

Support

☒

Object

☐

Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

I think that a ammonium nitrate plant is  
to close to White Peak and Drummond's Cove  
If there is a explosion like the one in  
Beirut it may wipe out the whole area.

Also has there been any considerations of  
the environmental impacts of the area ?

Signature: Tanya Cause Date: 20. 3. 2025

Please return to: Chief Executive Officer or [cso@chapmanvalley.wa.gov.au](mailto:cso@chapmanvalley.wa.gov.au)  
Shire of Chapman Valley  
PO Box 1 or (fax) 9920 5155  
NABAWA WA 6532

Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department of Planning, Lands & Heritage. The DAP will consider the application and any objections received and make a recommendation to the Minister for Planning, Lands & Heritage.



Department of Energy, Mines,  
Industry Regulation and Safety  
Resource and Environmental Regulation

Your ref A2111  
Our ref DMS02957/2025  
Enquiries Deepika Venkataramani — 922 23824  
Deepika.VENKATARAMANI@demirs.wa.gov.au

Simon Lancaster  
Deputy Chief Executive Officer  
Shire of Chapman Valley  
Sent by Email — [cso@chapmanvalley.wa.gov.au](mailto:cso@chapmanvalley.wa.gov.au)  
NABAWA WA 6532

Dear Sir

**SHIRE OF CHAPMAN VALLEY - AMMONIUM NITRATE MANUFACTURING AND STORAGE FACILITY AT LOTS 11 AND 12 NORTH WEST COASTAL HWY, OAKAJEE**

Thank you for your letter dated 10/03/2025 inviting comment on the proposed Ammonium Nitrate manufacturing & storage facility in the Oakajee Industrial Estate upon Lots 11 & 12 North West Coastal Highway, Oakajee.

The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) has assessed this proposal with respect to mineral and petroleum resources, geothermal energy, and basic raw materials and makes the following comments.

The proposal area is underlain by a yellow sand that is classified as partially derived and eroded from Tamala limestone which has potential for karst. For maps and further information see [Basic raw materials 1:200 000](#).

Given the explosive nature of Ammonium Nitrate, we have referred this application to the DEMIRS - Resources Safety Division, who may provide a separate response to the Shire of Chapman Valley.

This proposal does not raise any access concerns regarding mineral or petroleum resources, geothermal energy or basic raw materials and the DEMIRS lodges no objections. However, noting the potential karst area (see attached plan) DEMIRS recommends an assessment by an independent geotechnical engineer or engineering geologist prior to any development occurring.

Thank you for the opportunity to comment on this proposal. DEMIRS lodges no objections to the above development application.

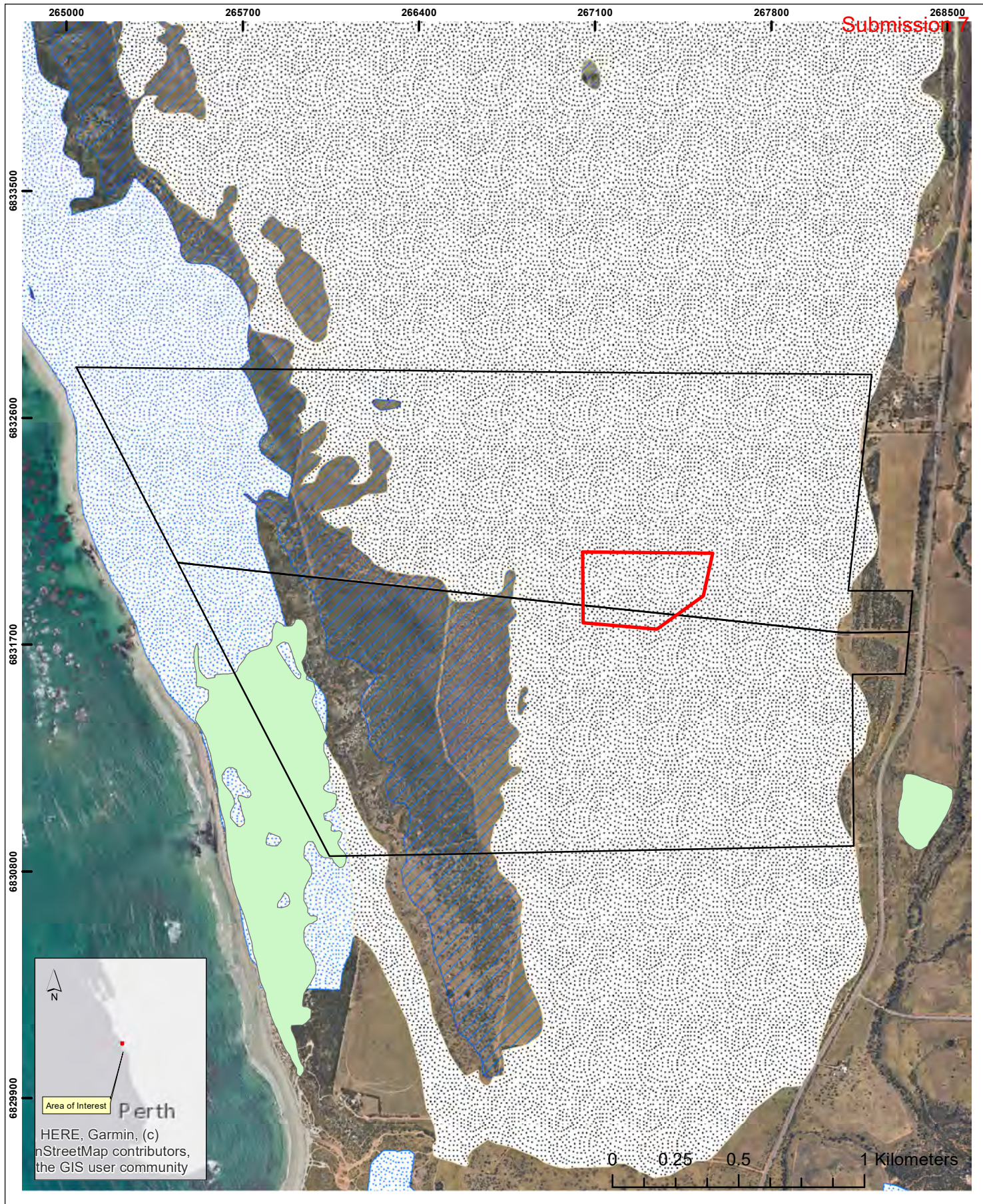
Yours sincerely

*Deepika Venkataramani*

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**Deepika Venkataramani** | Senior Geologist  
Resource Security Directorate  
24 March 2025





## Legend

- Proposal area
- Landgate Cadastre (Lot 11 and Lot 12)

**BRM 1:200 000**

### CODE

- Tamala Limestone
- Limesand
- Yellow sand (potentially derived from Tamala Limestone)
- Significant Geological Supply (protected by S.P.P 2.4)



Department of Energy, Mines,  
Industry Regulation and Safety

## Development approval Ammonium Nitrate plant Karst risk area

Coordinate System: GDA 1994 MGA Zone 50  
Created 24/03/2025, 12:47 PM  
Our Ref - DMS02957/2025  
Your Ref - A2111





Our Ref: D38281

Your Ref:

Simon Lancaster  
Shire of Chapman Valley  
simon.lancaster@chapmanvalley.wa.gov.au

Dear Mr Lancaster

**RE: HIGH RISK LAND USE – LOTS 11 AND 12 NORTH WEST COASTAL HIGHWAY,  
OAKAJEE NUMBER – AMMONIUM NITRATE MANUFACTURING AND STORAGE FACILITY  
- DEVELOPMENT APPLICATION**

I refer to your email dated 10 February 2025 regarding the submission of a Bushfire Management Plan (BMP) (Revision 0), prepared by Linfire Consultancy and dated 30 January 2025, for the above development application. The BMP is accompanied by a report '*Development Application Report Project Terra – Blue Diamond Australia Pty Ltd*' from the proponent, authored by GHD and dated 11 March 2025 for the development application.

This advice relates to the *State Planning Policy 3.7 Bushfire* (SPP 3.7) and supporting *Planning for Bushfire Guidelines* (Guidelines).

It is the responsibility of the proponent to ensure the proposal complies with relevant planning and building requirements. This advice does not exempt the applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws.

**Assessment**

- It is understood the proposal is for an ammonium nitrate emulsion manufacturing plant with an initial production capacity of 40,000 tonnes per year. The facility will also have the capacity to store up to 15,000 tonnes of ammonium nitrate per year. The development will include two dome shelters with the maximum capacity of 6,000 tonnes per shelter plus additional containers with a maximum capacity of 3,000 tonnes.
- The lot is contained within the Oakajee Strategic Industrial Area (SIA) and is owned and managed by DevelopmentWA.
- It is noted that the term 'high risk land use' was removed from the current version of SPP 3.7. This proposal was referred to DFES as a discretionary referral from the decision maker. DFES considers that the current SPP 3.7 does not adequately address high risk land uses, especially of the scale and nature of this proposal.
- It is on this basis that DFES comments are made to ensure that firefighting operational requirements have been adequately considered.

## 1. Policy Measure 7.1 ii. (d). Compliance with the Bushfire Protection Criteria

Element	Assessment	Action
<b>Vehicular Access</b>	<p><b>Policy Objectives 5.1 and 5.2 – not demonstrated</b></p> <p>Although the BMP is compliant with the requirements of the acceptable solutions 3.1 for a private driveway, DFES considers the land use proposed at this location requires additional consideration to achieve compliance with the outcome for vehicular access which is to provide for efficient and effective evacuation to a suitable destination. DFES also requires simultaneous access of emergency services whilst patrons are evacuating is considered. Given the volatile nature of the material being stored onsite at this location, approximately 3 kilometres from the proposed intersection with North West Coastal Highway (NWCH), a secondary access is required.</p> <p>The lots currently exit directly onto NWCH and it is acknowledged that Main Roads WA has been consulted and request the closure of this crossover in favour of the main SIA entrance 3 kilometres to the north of the site. DFES accepts that public access to NWCH should be closed, however it is considered imperative that secondary public road access or an Emergency Access Way (EAW) is provided at this location to allow for prompt evacuation of the site whilst allowing access for emergency services. Although, according to the Guidelines, EAW's are to remain unlocked and accessible to the public at all times, given the nature of the land use in the SIA and timeframes for developing any secondary public road access, DFES Special Operations has advised any proposed EAW should be gated and locked to ensure use is limited to that of emergency services.</p>	<p>Modification to the BMP is required. Please demonstrate achieving the policy objectives.</p>

**DFES Special Operations Comments**Ember Attack

The operations with Ammonium Nitrate (AN) will generate waste in the form of empty woven plastic Flexible Intermediate Bulk Containers (FIBC). These are a potential fuel likely to ignite under ember attack. It is noted that the 500 tonne AN stacks consist of FIBCs, and the FIBCs themselves will also melt and ignite under ember attack. It is not clear if the dome shelter material is self-extinguishing, or if it will continue to burn and melt on to the AN bags once ignited by embers.

Section 2.2 of the BMP mentions potential revegetation of the drainage basin on site. Unless this is necessary for wastewater processing it is recommended no revegetation onsite occurs to minimise potential fuel on site.

Machinery

Issues arise in AN and Ammonium Nitrate Emulsion (ANE) facilities with transfer augers (typically bearing failures) and pumps (e.g. progressive cavity pumps). There are likely to also be forklift/s and other machinery on site. It is not clear whether any product carrying vehicles, or mobile processing units / mobile mixing units are intended to be filled, parked or

maintained/repaired on site. All of these need to have storage/parking locations separate to and away from the AN storage, so that in the event of hydraulic fluid leak, overheating or machinery fire, the AN / Ammonium Nitrate Solution (ANSOL) / ANE is not impinged.

#### Access/Egress

The site layout, as shown in the plans in the BMP, have all access and egress to and from the site through and past the storage of AN and/or ANE. It would be preferable from an emergency management position for access and egress to be maintained at the furthest point from the dangerous goods on site, so for example it is not necessary to pass near the AN/ANE to evacuate from the onsite offices or crib room to an offsite location.

It is also noted also that there is a single point of access/egress to the facility. Such an approach is not supported. If there is a dangerous goods vehicle fire, or an incident on the one access route, people either have to travel past and close to the incident, find alternative (off road at the moment) routes, or they are trapped. **Minimum** evacuation distance for an AN or ANE transport fire (i.e. a single trailer fire involving ~20, 000 kg of AN) is 1.6 kilometres (see guide 140 of the *2024 Australian and New Zealand Emergency Response Guide Book*), the recommended safe distances to be applied to a 500 tonne stack of AN or a 70 tonne ANE vessel would be significantly larger.

It is unclear if the Oakajee Strategic Industrial Area proposes a secondary access/egress at all stages of development. DFES considers single access/egress provides inadequate vehicular access from an emergency management perspective. A secondary access should be made available prior to the commencement of operations. Secondary access is not necessarily required to be a public road and can be in the form of an Emergency Access Way (EAW). DFES has no objection to the EAW being gated and locked if exiting onto North West Coastal Highway if able to be remote released/opened when required. For a major industrial park, where there is proposed to be anhydrous ammonia, nitric acid and other hazardous chemical process manufacture facilities on a large scale, it is necessary to maintain access and egress in multiple wind conditions, such that safe personnel evacuation and emergency services access can be maintained out of the smoke / gas plume from the incident, even if the wind is blowing the plume over the usual main access point.

It is noted that the Kwinana Industrial Area has a series of internal access roads on various sites (the Kwinana Industries Mutual Aid = "KIMA Routes") to provide several alternative access arrangements to various sites through adjacent businesses, which also provide access to numerous external roads. These have been used and found invaluable by DFES in numerous incidents over many years.

#### Storage

It is not clear if the ground is graded away from the AN and ANE storage. It is preferable for such facilities to be on slightly raised ground which grades away from the storage. This both keeps rain runoff away, and prevents pooling, but also much more significantly prevents pooling of molten AN or ANE near the store in a fire scenario. This reduces the likelihood of a detonation.

There is potential (and it generally occurs at some stage) for production of off-specification ANSOL or ANE. It is not clear where this is to be stored on site or how it is to be handled, noting that off-specification ANE product may be of classification 1.5 (explosive) rather than 5.1 (oxidising). The referral documentation also did not clarify what gassing agents (if any) are on site, although it is noted the mention of 'Trace 1' and 'Trace 2' manufacture. The gassing agents react with ANE to produce an explosive, so their location is of particular interest, in addition to the hazards they inherently present (e.g. corrosive, oxidising etc).



**Recommendation – achieving of policy objectives not demonstrated – modifications required**

It is considered critical the bushfire management measures within the BMP are refined to ensure they are accurate and can be implemented to reduce the vulnerability of the development to bushfire. Although the proposal has demonstrated compliance with the acceptable solutions for Bushfire Protection Criteria 7, given the hazardous and high-risk nature and scale of the development it is considered that the proposal does not achieve policy objectives 5.1 and 5.2 to manage/mitigate the risk to people, property and infrastructure to an acceptable level and appropriate to the land use and location; and improve the resilience of communities through the provision of appropriate community infrastructure, for use by emergency services and the community in a bushfire event. Further consideration of achieving a secondary vehicle access route is required.

If you require further information, please contact Senior Land Use Planning Officer, Sasha De Brito on telephone number 9395 9703.

Yours sincerely



**Desmond Abel**  
**DIRECTOR LAND USE PLANNING**

24 March 2025



## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY  
(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)  
LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: Ruth & John Morris

Postal Address: PO box 465 Northampton WA 6535

Phone Number: [REDACTED]

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

owners and occupiers of property at Isseka

**ADDRESS OF PROPERTY AFFECTED:**

**SUBMISSION:** ☐ Support ☒ Object ☐ Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

Please see attached PDF document with our comments on this proposal

Copy sent to Chapman Valley Shire and National Party Reps

cso@chapmanvalley.wa.gov.au

kimilee.warr@nationalswa.com

mooreelectorate@mp.wa.gov.au

Signature: [Signature] Date: 25/3/25

Please return to: Chief Executive Officer or cso@chapmanvalley.wa.gov.au  
Shire of Chapman Valley  
PO Box 1 or (fax) 9920 5155  
NABAWA WA 6532

*Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.*

**Submissions Close: 4:00pm Wednesday 26 March 2025**

May 25, 2025

Thank you for allowing us to lodge our comments regarding the Proposed Industry of Ammonium Nitrate Manufacturing & Storage Facility planned for Oakajee.

Our concerns centre around the planned development and the future direction of the Oakajee Area. We moved to Isseka 30yrs ago with the intention of participating in a rural lifestyle for as long as we can physically manage. At that time traffic on the hwy was negligible and we were able to enjoy peace and quiet with rare traffic sounds. Over the years, traffic has increased dramatically where now we can hear a constant stream of cars and trucks 500m away. Although we realise everything changes, it has become obvious that the Hwy is becoming congested and is no longer fit for purpose. With traffic continuing to grow each year, serious road works from Dongara to Northampton need to be completed before heavy haulage can be allowed to increase.

We were always concerned about the different plans for Oakajee and lived in hope that common sense and intelligence would prevail in resisting any development that would destroy everyone's rural lifestyle. Going through the plans for the AN facility has exposed the future vision for this area. Allowing this to be developed into heavy industry is completely at odds with the land use and desires of residents that have lived here for over 100yrs. This is a primary producing farming community with multiple "Hobby farms" and rural lifestyles occupied by those that robustly appreciate living away from cities and development, especially heavy industrial. To allow any such development in this area that has the potential to destroy everything we love about the Midwest is morally wrong, unethical, and absolutely criminal.

Besides the obvious lifestyle impacts, we have specific objections to development of any Heavy Industry at Oakagee including the proposed AN plant:

1. Increased heavy haulage - today its Ammonium Nitrate - what will it be next? more heavy or hazardous industries wanting to open shop? and start moving materials in and out of the site? Will traffic double? triple? quadruple? will more dangerous goods be transported on a hwy already showing signs of congestion? going through the centre of Geraldton? down the main street of Northampton?

Shouldn't the heavy haulage ring roads around Geraldton and Northampton be completed before more trucks enter our road system? logic denotes improved road infrastructure before expanding usage to accommodate heavy industry

2. Increased Power requirements - heavy industry needs lots of electricity

We don't have enough RELIABLE electricity to support our growing population as is and relying on wind and sun isn't going to meet that increased demand. Is power going to be diverted from the line heading to our house to feed this monster? Does this mean power cuts in mid summer when we have 49c in the shade? Who gets priority?

Power lines north of Geraldton cannot supply enough power for heavy industry which will lead to increased tax payer debt. New high voltage transmission lines will be required to service heavy industry. Not only are these a visual blight on the landscape, this cost will be astronomical and passed onto electricity users yet again - this is unacceptable.

3. 16 wind towers - we see at least \$16mil to be spent on planting wind towers that we will need to pay for through higher electricity prices then pay for AGAIN when they reach their use by date of 10-20yrs. And where will these be buried when no longer functional?

What happens when one of these towers has a fire close to AN storage or another hazardous industry? Fire and AN cause a very big bang. We have already seen wind towers inflames, blades breaking off, and big bangs from AN ignited by external sources. Unacceptable risk with AN and unknown risk of any future industries.

Collected data shows that wind towers cannot function in high winds - Coronation beach is renowned for experiencing the highest winds in the world as evidenced by the wind surfing community. This massive investment will return a tiny percentage of power during low wind periods, so our money down the toilet as our debt increases with minimal return.

Everyone is struggling to keep the power on now - any increases in costs is unacceptable.

This is what "renewable" energy really means - renew every decade - keep pushing the cost up and milk the middle class into poverty - unreliable costly power pushes us into increasing debts and lowered living standards - this is third world economy management. Do we really want to be equally poor or thrive in a robust economy based on cheap reliable electricity for everyone?

I do not want my tax \$\$\$ supporting this green furphy that is not only a waste of my \$\$\$ but will also bring another risk element to the AN stored and possibly any other future industry

**4. Hwy Roadworks we paid for to facilitate Oakajee access**

- so far costed at \$20mill which no doubt will blow out by millions when completed
- how dare the Labour Govt allocate this money to unnecessary roadworks when our hospital, medical services, schools, electricity grid etc are under such strain and require further upgrades to meet current demands
- these tax dollars would have be best spent on adding another floor on the Geraldton Hospital - \$20mil would buy a lot of hospital & equipment!
- and what about the stripping of more than \$25 million from regional pensioners? Steal from pensioners to build a road - criminal
- we wonder how many politicians were enriched when they agreed to this monumental waste of money - evidence of greed and corruption indebting the locals to benefit a few

**5. Train tracks, port, water - whose going to pay for these? your children? grandchildren? great grandchildren? At 70yrs old we can't afford to retire because of the debt this government has already dumped on the middle class - will we all have to work until we're 90 before we can afford to retire? Prioritise boosting the aged pension for our growing aged population before our hard earned cash is flushed on these pipe dreams & vanity projects.....**

**6. The Billions required for future infrastructure in a space employing a handful people would be better utilised in a number of ways that would benefit our community and create thousands of ongoing jobs.**

- Agricultural College or University campus
- Retirement / Aged Care village
- Prison /rehab centre for Juveniles
- Nuclear Power plant

**7. We live in the direct path of the strong southerly wind. Any air pollution, fire, explosion, or other hazards will be carried onto our roof. We, along with many other residents north of White Peaks are required to supply our own drinking and bathing water and this comes from our roof. Any contamination of our roof space is a health hazard that could prove fatal.**

**8. We voted for the National Party because we wanted representation by folks that were from a rural environment and would consider the ongoing needs of our farming community. I believed the NP understood how connected we are to our land and the bush and the importance of preserving farms and our way of life.**



**If this area is developed for heavy industry, how will that impact our farmers and fisherman??  
Any industrial hazard or accident could completely destroy our farm lands and water.  
The risk to our food source is not acceptable, particularly when there are any number of  
more sustainable options for this land than could benefit thousands.**

**9. We know how corrupt the Labour Gov't is (as evidenced by Albanese ability to purchase a home at \$4.2mill) and that neither State nor Federal Labour gives a toss about the regions . Don't give the Labour govt power over this land to develop based on ideology, pork barrelling, kickbacks and further debt to us. This is a tangible opportunity for you, our government representatives, to show that you care about us and our lifestyle and won't be beholden to expensive promises from Labour. Don't treat us like a commodity to be milked for our tax \$\$\$ to be spent on pet ideological or vanity projects. The Oakajee area is a large piece of land close to a rapidly growing city. This land could be used to support our community and create thousands of jobs.**

**We note that the AN facility will only have 6 car spaces therefore 6 people employed. Any of our other suggestion would employ thousands, not only on site but through support industries in Geraldton. It is an insult to the residents of the Midwest to give this land to the State Government and not consider other more tangible options for this land.**

**10. Chapman Valley Shire claims to "love the Rural life". This is your chance to walk your talk**

**Both the Shire and our elected politicians are being paid by us to represent the needs of the community for the long term. This is your opportunity to act appropriately in the role you were elected to and are being paid for. Exercise logic , compassion and real commitment to our life that needs to be sustained and enriched, not destroyed by short sightedness, greed & poor judgment.**

**Think about it.**

**Copy sent to Chapman Valley Shire and Shane Love  
cso@chapmanvalley.wa.gov.au  
mooreelectorate@mp.wa.gov.au  
kirrilee.warr@nationalswa.com**



mainroads  
WESTERN AUSTRALIA

Submission 10

Enquiries: Mark Willson 9956 1234  
Our Ref: 002-481  
Your Ref: A2111

25 March 2025

ATT: Simon Lancaster  
Shire of Chapman Valley  
NABAWA WA 6532  
Email: [cs@chapmanvalley.wa.gov.au](mailto:cs@chapmanvalley.wa.gov.au)

Dear Simon,

**PROPOSED INDUSTRY - AMMONIUM NITRATE MANUFACTURING & STORAGE  
FACILITY LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Main Roads has no objections subject to the following conditions being imposed:

Conditions

1. All vehicular access from the North West Coastal Highway (NWCH) to the development site shall be via the Oakajee Strategic Industrial Area (SIA) access road. Access between the Oakajee SIA access road and the development site shall be developed to the satisfaction of Development WA, the Department of Jobs, Tourism, Science and Innovation (JTSI) and the Shire of Chapman Valley and made suitable for the safe use of all proposed vehicles as nominated in the Transport Impact Assessment (TIA).

Justification for Condition

Public safety and protection of the Primary Regional Road Reservation. Refer to advice note a & b

2. No manoeuvring, queuing or parking in the NWCH shall be permitted as part of site construction or operations.

Justification for Condition

Public safety and protection of the Primary Regional Road Reservation.

3. No works are permitted within the NWCH Road Reservation unless Main Roads has accepted the Application to undertake works within the road reserve. Application forms and supporting information about the procedure can be found on the Main Roads website > Technical & Commercial > Working on Roads.

Justification for Condition

Public safety and protection of the Primary Regional Road Reservation

4. All signage on the NWCH requires an Advertising Application to be completed and submitted to Main Roads for approval. (The signage component will not be approved as part of this application). Refer to advice note e

Advice

- a) The future management of the Oakajee Access Road is yet to be determined, in order to preserve future planning Main Roads are responding to ensure State care and control is not precluded by incompatible development. The crossover to the development area shall be from the Oakajee SIA access road.
- b) Main Roads WA's planning for the Dongara Geraldton Northampton (DGN) route definition is ongoing and may result in changes to the NWCH road network, intersection configurations and locations.
- c) The applicant is required to complete the Main Roads Advertising Signage Application for assessment of any proposed signage in the NWCH road reserve or at any location along the road reserve boundary.

Main Roads support of the proposal is valid for a period of two (2) years from the date of this letter. Any changes or date extensions relating to this development application must be referred to Main Roads for comment and recommendation. Should the Local Government disagree with or resolve not to include as part of its conditional approval any of the above conditions or advice, Main Roads requests an opportunity to meet and discuss the application further, prior to a final determination being made.

Main Roads requests a copy of the final determination on this proposal to be sent to [planninginfo@mainroads.wa.gov.au](mailto:planninginfo@mainroads.wa.gov.au) quoting the file reference above.

Yours sincerely

Louise Adamson  
**A/Regional Director**  
**Mid West-Gascoyne**



Your Ref: A2111  
Our Ref: DAP420565  
Enquiries: Matt Calabro  
Direct Tel: 9420 2099

26 March 2025

Chief Executive Officer  
Shire Of Chapman Valley  
PO BOX 1  
NABAWA WA 6532

Attention of: Simon Lancaster

**Re: PROPOSED INDUSTRY (AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY) — LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Thank you for your letter dated 10<sup>th</sup> March. We offer the following comments regarding this proposal.

There are no Water Corporation water or wastewater services available in the area for this development to connect to. The developer has proposed onsite servicing/facilities to manage this.

A future water supply may be available once the Oakajee Desalination plant project has been completed approx. 2032. Once completed the developer may get in contact with the Water Corporation to inquire about the possibility of a water supply depending on usage requirements.

The developer is expected to provide all water and sewerage reticulation if required. A contribution for Water, Sewerage and Drainage headworks may also be required. In addition, the developer may be required to fund new works or the upgrading of existing works and protection of all works associated with the Water Corporation. Water Corporation may also require land being provided for works.

The information provided above is subject to review and may change. If the proposal has not proceeded within the next 6 months, please contact us to confirm that this information is still valid.

Please provide the above comments to the landowner, developer and/or their representative.

Should you have any queries or require further clarification on any of the above issues, please do not hesitate to contact me at [matt.calabro@watercorporation.com.au](mailto:matt.calabro@watercorporation.com.au)

Regards,

A handwritten signature in black ink, appearing to read "Matt Calabro", with a long horizontal flourish extending to the right.

Matt Calabro  
Senior Advisor – Land Use Planning  
Development Services



## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY  
(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)  
LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: Geraldton Long Board Club, Hamish Morgan

Postal Address: 136 Shenton Street, Beachlands, WA 6530

Phone Number: 0408 023 081

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

The environmental, safety, and community risks associated with such a facility  
far outweigh any potential benefits. Please see attached letter

**ADDRESS OF PROPERTY AFFECTED:**

**SUBMISSION:** ☐ Support ☒ Object ☐ Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

Please see attached letter

Signature: Hamish Morgan Date: 26 March 2025

Please return to: Chief Executive Officer or [cs@chapmanvalley.wa.gov.au](mailto:cs@chapmanvalley.wa.gov.au)  
Shire of Chapman Valley  
PO Box 1 or (fax) 9920 5155  
NABAWA WA 6532

*Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.*

**Submissions Close: 4:00pm Wednesday 26 March 2025**

Shire of Chapman Valley

**Proposed Ammonium Nitrate Facility on North West Coastal Highway, Oakajee - Objection**

We, the members of the Geraldton Long Board Club, are writing to express our deep concern and opposition to the proposed establishment of an ammonium nitrate facility in the vicinity of our beloved surf break. Our club is an integral part of the local longboard community, and we have seen firsthand the positive impact the beach and ocean have on the lives of our members. The safety, integrity, and environmental health of this area must be preserved for future generations.

While we understand that the proposed facility is some distance from the coast, we are concerned with the cumulative impact of inappropriate industrial development adjacent to coastal areas popular for recreation. We believe that these areas have not been considered as sensitive receptors in the development application process. This along with other concerns are outlined below:

- Coastal recreation areas (surfing, fishing, camping & boating) have not been considered in sensitive receptors to the development. Popular coastal areas need to be considered in assessments – they are well loved, unique and a core part of the Mid-West community
- Cumulative impact of Oakajee Industrial Estate Structure Plan has not been considered in relation to this project and impact on sensitive receptors
- Assessment of social impacts and benefits to local community has not been provided. How many jobs, what are the additional demand on housing, building resources, waste disposal? What are the impacts on traffic in our region? What are the impacts of greenhouse emissions? What is the impact of poor visual amenity setting a precedent for similar developments (it's going to look like a mining camp!)
- Vulnerability of the area during extreme weather and particularly fire events and the potential for a catastrophic event
- The risk of catastrophic road accidents (in and already dangerous road traffic area) from increased truck traffic, and from the risks posed by transporting the product on our roads
- The lack of an active community engagement strategy from the Shire of Chapman Valley around this and other related proposals

Our surf club is not only a sporting organisation but a community hub, bringing together families, young people, older women and individuals from all walks of life. South Coronation Beach is a safe, healthy space for exercise, mental well-being, and social interaction. The establishment of a hazardous facility in the vicinity would undermine the values of the environment and people's access to recreation and community. The environmental, safety, and community risks associated with such a facility far outweigh any potential benefits.

We urge the Shire of Chapman Valley to reconsider the location of this facility and explore alternative, safer options for development that do not jeopardize the lifestyle, safety, and environment of our coastal community. Thank you for considering our submission.

Sincerely,  
Hamish Morgan  
Club President

## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY  
(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)  
LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: Shane Edwards

Postal Address: 1 William Street, Level 11, Perth, 6000

Phone Number: 6277 2918

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property).

The Department of Jobs, Tourism, Science and Innovation (JTSI) - responsible for activation of the Oakajee Strategic Industrial Area (SIA)

### ADDRESS OF PROPERTY AFFECTED:

Lots 11 & 12 North West Coastal Highway, Oakajee

**SUBMISSION:** ☒ Support ☐ Object ☐ Indifferent

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -


The Department of Jobs, Tourism, Science and Innovation (JTSI) is responsible for overseeing the activation of the Oakajee Strategic Industrial Area (SIA)

as part of its broader plan to promote industrial growth and diversification throughout Western Australia. In this capacity, JTSI has been engaging with

Blue Diamond Australia Pty Ltd regarding the proposed development of an Ammonium Nitrate Facility (known as Project Terra) on portions of Lots

11 and 12 on Plan 18559. The publicly advertised documentation align with these ongoing engagements and the objective of developing the Oakajee SIA

as a renewable energy precinct.

Signature: Shane Edwards - 

Date: 26/03/2025

Please return to: Chief Executive Officer or [cs@chapmanvalley.wa.gov.au](mailto:cs@chapmanvalley.wa.gov.au)  
Shire of Chapman Valley  
PO Box 1 or (fax) 9920 5155  
NABAWA WA 6532

*Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.*

**Submissions Close: 4:00pm Wednesday 26 March 2025**



Department of **Biodiversity,  
Conservation and Attractions**



Your ref: A2111  
Our ref: PRS 53577  
Enquiries: Jess Gillespie  
Phone: 9964 0901  
Email: [jess.gillespie@dbca.wa.gov.au](mailto:jess.gillespie@dbca.wa.gov.au)

Mr Simon Lancaster  
Deputy Chief Executive Officer  
Shire of Chapman Valley  
PO Box 1  
NABAWA WA 6532

Email: [cso@chapmanvalley.wa.gov.au](mailto:cso@chapmanvalley.wa.gov.au)

Dear Mr Lancaster

**PROPOSED INDUSTRY (AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY) – LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Thank you for your letter of 10 March 2025 regarding the proposed Ammonium Nitrate Manufacturing and Storage Facility within Lots 11 and 12 North West Coastal Highway, Oakajee.

The Department of Biodiversity, Conservation and Attractions (DBCA) appreciates the opportunity to provide comment on the proposal. DBCA has no comments on the proposal at this stage.

It is anticipated that the proposed Ammonium Nitrate Manufacturing and Storage Facility and any associated environmental impacts will be appropriately managed through the existing planning framework and regulatory mechanisms under Part V of the *Environment Protection Act 1986*.

Thank you for bringing this matter to our attention. If you have further queries, please contact Jess Gillespie on 9964 0901.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Allison Donovan'.

Allison Donovan  
REGIONAL MANAGER  
Midwest Region

26 March 2025





Government of Western Australia  
Department of Water and Environmental Regulation

Your ref: A2111  
Our ref: DWERT1057-6~2  
Enquiries: Karen McKeough, Ph 9841 0128

Simon Lancaster  
Deputy Chief Executive Officer  
Shire of Chapman Valley

Email: [cs@chapmanvalley.wa.gov.au](mailto:cs@chapmanvalley.wa.gov.au)

Dear Simon

***PROPOSED AMMONIUM NITRATE MANUFACTURING AND STORAGE FACILITY – LOTS 11 & 12 NW COASTAL HWY, OAKAJEE***

Thank you for referring the proposed ammonia nitrate processing plant and storage facility to the Department of Water and Environmental Regulation (DWER) to consider.

DWER has identified that the proposal has the potential for impact on environment and water resource values. Key issues and recommendations are provided below, and these matters should be addressed.

***Environmental regulation***

DWER regulates emissions and discharges from the construction and operation of prescribed premises through a works approval and licensing process, under Part V, Division 3 of the *Environmental Protection Act 1986* (EP Act).

The categories of prescribed premises are outlined in Schedule 1 of the *Environmental Protection Regulations 1987*. The EP Act requires a works approval to be obtained before constructing a prescribed premises and makes it an offence to cause an emission or discharge from an existing prescribed premises unless they are the holder of a works approval or licence (or registration) and the emission is in accordance with any conditions to which the licence or works approval is subject.

The provided development application referral request was reviewed in relation to works approval and licence requirements under Part V Division 3 of the EP Act.

The development application is for an Ammonium Nitrate Manufacturing and Storage Facility within the Oakajee Strategic Industrial Area 20 km north of Geraldton. The development will comprise an ammonium nitrate emulsion manufacturing plant with an initial production capacity of 40,000 tonnes per year and an ammonium nitrate storage facility.

Based on the information provided, including the process description for the facility, the proposed development will cause the premises to be considered a prescribed premise as per Schedule 1 of the Environmental Protection Regulations 1987 for the following categories:

Category	Category description	Production or design capacity
73	Bulk storage of chemicals etc.: premises on which acids, alkalis or chemicals that – (a) contain at least one carbon to carbon bond; and (b) are liquid at STP (standard temperature and pressure), are stored.	1000 m3 in aggregate
75	Chemical blending or mixing causing a discharge: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that causes or is likely to cause a discharge of waste into the environment	5000 tonnes or more per year
33	Chemical blending or mixing: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that causes or is likely to cause a discharge of waste into the environment.	500 tonnes or more per year

It is anticipated that either category 75 or category 33 will apply but not both, dependant on whether the premises is likely to cause a discharge of waste into the environment. The *Environmental Protection Act 1986* requires a works approval to be obtained before constructing a prescribed premises and make it an offence to cause an emission or discharge, unless a licence or registration (for operation) is held for the premises.

DWER has not received an application for a works approval, licence or registration for this premises to date. As such, DWER recommends that the applicant lodge an application for a works approval with DWER. The applicant is therefore advised to refer to the information and Industry Regulation Guide to Licensing available at [Licences and works approvals for prescribed premises | Western Australian Government](#) and / or if they have queries relating to works approvals and licenses to contact DWER at [info@dwer.wa.gov.au](mailto:info@dwer.wa.gov.au) or 6364 7000.

The application will also need to demonstrate compliance with the general provisions of the EP Act and all relevant regulations including Environmental Protection (Controlled Waste) Regulations 2004, Environmental Protection (Noise) Regulations 1997, and Environmental Protection (Unauthorised Discharges) Regulations 2004, irrespective of whether the premises is prescribed or not.

Please note that this advice is provided based on information provided. Should this information change, the works approval and/or licensing requirements may also change. Applicants are encouraged to contact DWER at the above contact details to clarify requirements, should there be changes to information.

### **Noise**

DWER environmental noise branch has reviewed the noise impact assessment report. Please see review attached.

### ***Surface water management***

The surface water management plan is limited in detail but appears to follow industry standard approaches for the flood and drainage modelling. Some specific comments are provided below:

- The TUFLOW model is relatively coarse (10 m grid based on 2metre contour interval elevation data). This may be appropriate for indicative flood risk mapping but may not be adequate for estimating flows in very small waterways where overland flows may collect. For example, the model may overestimate losses as some of the initial loss in the regional guidance applied includes an allowance for rainfall infilling depressions within the landscape, however, rainfall in the TUFLOW will do this in addition to subtracting the initial loss. The isolated small “cells” shown Figures 7 and 8 of the report may suggest the existence of such depressions.
- It may be more appropriate to compare the post -development DRAINS model results to a pre-development scenario within the DRAINS model rather than the TUFLOW model results
- The retardance coefficient for impervious areas in Table C1 (Appendix C) appears high (may be a typo?).
- The diversion of runoff in excess of the Water Quality Basin (WQB) capacity from the “bunded” possible AN (and HC) contaminated catchments is not detailed. Additional, in-built storage, within this diversion may account for the apparent small, required storage of the Detention Basin given the impervious area is ~ 50% of the catchment post-development and that the required volume is smaller than the size of the water quality basin, which only captures first flush flows (i.e. ~ 30% of rainfall at 1-hour duration, while 70% bypasses the WQB).
- The access road and possibly part of the detention basin in the south-west corner of the proposal appear to be located within the 1% AEP floodplain (Appendix I) of the external natural drainage feature. Suggest these could be moved to avoid potential impacts.
- The design has not included a consideration of climate change on flood risk. Recent guidance suggest design rainfall intensities should be increased by ~ 10-20 % to account for near term (2030) flooding impacts (and could be more than a 30% increase by 2050). A ~30% increase in rainfall intensities would result in the WQB only having capacity of less than the 2EY rainfall event (i.e. more than 2 events each year would fill the basin).
- If not specifically designing for climate change, then DWER suggests some discussion should be provided on how the impact of changing climate can be managed within the design (i.e. capacity to expand water quality and detention basins in the future as rainfall intensity increase).

### ***Recommended Condition for Development Approval***

As the proposed activities creates a risk of discharge to the environment, the proponent should demonstrate that floor levels for all buildings used for chemical storage or manufacture will be suitably raised above expected flood levels, inclusive of a freeboard to account for location variation in flood levels.

DWER supports the design principles of the stormwater management plan to separate clean and contaminated stormwater.

Clean stormwater can be managed by capture and discharge to a basin for infiltration. The treatment of contaminated stormwater will be assessed by DWER during the environmental regulation process.

**Waste**

The waste management plan will be assessed by DWER during the environmental regulation process.

**Groundwater**

Should the proponent seek to obtain groundwater, the proposed activities occur within the proclaimed Gascoyne Groundwater area and subject to licensing requirements under the *Rights in Water and Irrigation (RIWI) Act 1914*. As such, any abstraction of groundwater will require a licence to construct and/or alter a well and to abstract water.

It is recommended that the proponent contact the Mid-West Gascoyne Water Licensing team on 9965 7400 or [midwestgascoyne@dwer.wa.gov.au](mailto:midwestgascoyne@dwer.wa.gov.au) regarding any groundwater licensing requirements

Where the Department has a statutory role, planning applications should be considered prior to the Department issuing any relevant permits, licenses and/or approvals.

If the applicant determines that a works approval or licence application is required under Part V of the *Environmental Protection Act 1986* (EP Act), the advice provided in this communication does not prejudice and must not be considered to infer the outcome of the EP Act licence and works approval process.

In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed.

Please contact me if you require any further information.

Yours sincerely

Karen McKeough

**Program Manager Planning Advice  
Mid West Gascoyne Region**

26 March 2025





Government of **Western Australia**  
Department of **Water and Environmental Regulation**

## Technical (Review) Report

Advice on the noise impact assessment report for the proposed ammonium nitrate facility at Lots 11 and 12 North West Coastal Highway, Oakajee, prepared for the Shire of Chapman Valley

Department of Water and Environmental Regulation  
February 2025

Department of Water and Environmental Regulation

Prime House, 8 Davidson Terrace

Joondalup Western Australia 6027

Telephone +61 8 6364 7000

Facsimile +61 8 6364 7001

National Relay Service 13 36 77

[www.dwer.wa.gov.au](http://www.dwer.wa.gov.au)

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February 2025

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The State of Western Australia and Department of Water and Environmental Regulation reserve the right to amend the content of this document at any time without notice.

The information contained in this document is general. It does not constitute, and should be not relied on as, legal advice. The State of Western Australia recommends that users of this information seek advice from a qualified lawyer on the legal issues affecting them before relying on this information or acting on any legal matter.

### **Acknowledgements**

For more information about this report, contact Environmental Noise, Department of Water and Environmental Regulation.

## Document control


### Document version history

Version	Date	Description	Author	Reviewer
0.0	19/2/2025	Draft – internal review	JG	PPA
1.0	21/2/2025	Final - Issued	JG	PPA

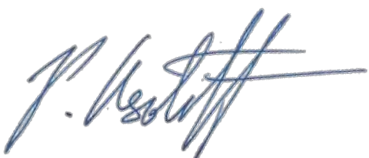
### Corporate reference

File number and/or name	File owner or custodian
DWERDT1074476	Mid West Gascoyne Region Planning Advice

### Author details

Name	Dr Jingnan Guo BSc (Physics), PhD (Mechanical Engineering), MAAS	
Position title	Senior Environmental Noise Officer	
Signature		Date 21/2/2025

### Reviewer details

Name	Mr Peter Popoff-Asotoff BSc (Physics), Grad Dip (Computing), MAAS	
Position title	Principal Environmental Noise Officer	
Signature		Date 21/2/2025

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## 1. Introduction

This advice was prepared for the Shire of Chapman Valley in response to a request for comment dated 10 February 2025 on the noise impact assessment prepared for the ammonium nitrate facility proposed by Blue Diamond Australia Pty Ltd (BDA) at Lots 11 and 12 North West Coastal Highway, Oakajee.

## 2. Documentation

In support of this request, the Shire made the following document available which forms the basis of this technical expert advice. The Shire did not request any specific advice.

Material / document name	Author	Date
Project Terra Noise Impact Assessment (Project No. 12631761) – prepared for Blue Diamond Australia Pty Ltd	GHD	19/11/2024

## 3. Advice

The Environmental Noise Branch (ENB) of the Department of Water and Environmental Regulation (DWER) has reviewed the Noise Impact Assessment report prepared by GHD for the proposed ammonium nitrate facility (ANF). The proposed ANF will be located in Oakajee Strategic Industrial Area, which is approximately 20 km north of the Geraldton township and 4.75 km north-northwest of White Peak township.

The proposed ANF comprises of an emulsion manufacturing plant and a storage facility. The nearest noise sensitive premises is located on 2097 North West Coast Hwy, Oakajee, which is about 220 m southeast of the proposed ANF. However, this closest lot is within the tenement of the ANF development boundaries, and an agreement has been signed by BDA and the tenant for this lot to be vacated prior to Project commencement. All other neighbouring noise sensitive premises are located at least 2 km away from the proposed ANF.

The calculation of the influencing factors, as well as the assigned noise levels for each of the neighbouring noise sensitive premises is correct. The methodology of noise modelling conducted by GHD seems acceptable, which is based on a numerical computer software SoundPlan 9.0 together with the CONCAWE algorithm. The inputs and assumptions of the modelling, such as topographic data, ground absorption and meteorological conditions, seem correct. The sound power levels quoted for each of the major plant items are within the reasonable ranges.

GHD modelled the worst-case operation scenario, which assumes that all major plant items are continuously operating plus truck movements delivering ammonium nitrate to the facility. The modelled results indicate that the noise levels received at the nearby noise sensitive premises from the proposed ANF operation will be up to 24 dB(A) in the worse-case scenario. By adding a 5 dB adjustment for the potential tonality, the assessed noise levels will still be significantly lower than the assigned noise levels at the neighbouring noise sensitive premises at any time of the day. ENB considers that

GHD's modelled and assessed results are reliable and agrees that the proposed ANF operation will be able to comply with the Noise Regulations.

## 4. Limitations

Technical expert advice in any field is subject to various limitations. Important limitations to the advice include:

- No computer modelling was undertaken to verify the results predicted by GHD.
- No effort was made to validate the major plant items to be used in the proposed ANF operation.

## AIR QUALITY BRANCH (DWER) TECHNICAL ADVICE

SUBJECT:	AMMONIUM NITRATE FACILITY, OAKAJEE
DATE:	WEDNESDAY, 2 APRIL 2025

### Key points:

- The proponent's modelling assessment does not meet the requirements of DWER's *Air Quality Modelling Guidance Notes*. DWER has identified limitations in the modelling approach, particularly regarding the exclusion of an upset emissions scenario which could potentially impact the assessment outcomes.
- The proponent has not modelled cumulative impacts for pollutants other than PM<sub>2.5</sub> and PM<sub>10</sub>. Incremental impacts were modelled for NO<sub>2</sub>, SO<sub>2</sub>, CO, and VOCs (as benzene) only, without including an estimate of background concentrations.
- The cumulative maximum predicted PM<sub>2.5</sub> concentrations exceed the annual NEPM criterion. However, the incremental contribution of PM<sub>2.5</sub> is approximately 0.01% of the criterion, indicating that the exceedance primarily arises from the estimated background levels rather than emissions from the facility.
- The maximum predicted ground-level concentrations (GLCs) for all other pollutants modelled (NO<sub>2</sub>, SO<sub>2</sub>, CO, VOC, PM<sub>10</sub>) are below air quality guidelines, based on the modelling assumptions and operating scenarios.
- Given the low predicted incremental concentrations (ranging from 0.05–29% of criteria) and absence of existing industrial sources, DWER considers the cumulative impact for these pollutants is likely to be low.
- DWER notes that the proposed facility is in Oakajee Strategic Industrial Area with no existing industrial sources in the vicinity and that the issue of cumulative impacts will become critically important in future.
- The proponent has not included ammonium nitrate and ammonia emissions in the assessment. Considering the nature of the facility and the large quantities of ammonium nitrate handled and stored, there may be potential for emissions of ammonium nitrate dust and ammonia gas.
- The potential for adverse air quality impacts due to operation under upset emissions conditions were not included in the modelling. Modelling of these scenarios is a requirement of the guidance notes.

### Recommendations:

DWER recommends that the proponent be requested to provide:

- additional information on the potential for ammonia emissions
- further information to justify the exclusion of upset conditions from the modelling, or modelling of such a scenario

DWER has reviewed sections of *Air Quality Impact Assessment - Project Terra Ammonium Nitrate Facility* (GHD, 2024).

### Background:

The Shire of Chapman Valley has received a proposal for an ammonium nitrate manufacturing and storage facility (ANF) at Lots 11 & 12 North West Coastal Highway, which will be assessed by a regional development assessment panel (DAP). The project is proposed to be located within the Oakajee Strategic Industrial Area, a precinct planned for future development of renewable hydrogen production for domestic and commercial use and advanced manufacturing and export industries. GHD was engaged by Blue Diamond Australia (BDA) to assist in securing development approval (DA) and

environmental approvals for the proposed ANF. Air quality dispersion modelling was performed to predict impacts from standard operations, assessing pollutants such as NO<sub>2</sub>, SO<sub>2</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub>, and total VOCs (as benzene). The results indicated compliance with air quality criteria for all pollutants except for annual PM<sub>2.5</sub> GLCs, where background concentrations caused exceedances. However, the project's contribution to annual PM<sub>2.5</sub> levels is minimal, at approximately 0.01% of the total concentration.

### Advice:

Our responses to your questions are provided below.

#### **Q1. Review the report and verify conclusions of modelling report**

In general, the proponent's modelling assessment does not meet the requirements of DWER's *Air Quality Modelling Guidance Notes*. DWER has identified some limitations in the modelling approach, particularly regarding the exclusion of an upset emissions scenario which could potentially impact the assessment outcomes.

DWER notes that uncertainty is associated with all air dispersion modelling, and predicted concentrations should be regarded as reasonable estimates rather than reliable or accurate predictions, assuming that the model input data and configuration are reasonable. The technical review of the modelling methodology is presented in Table 1.

The emissions scenarios considered did not include upset conditions for the ANF, which is a requirement of DWER's *Air Quality Modelling Guidance Notes*. The inherent uncertainties in the dispersion modelling and lack of consideration of intermittent emissions and upset conditions make it unclear whether the predicted ground-level concentrations (GLCs) for all pollutants would remain below the guidelines if these were included in the modelling. DWER recommends seeking further information from the proponents regarding upset conditions.

The proponent used meteorological data from the Geraldton Airport BOM weather station, which is about 22 km southeast of the project site. This introduces potential uncertainties in the modelling outcomes as detailed in section 6 of Table 1.

DWER recommends that the proponent is requested to provide additional information on the potential for ammonia emissions, given the nature of ammonium nitrate handling and processing at the facility (see section 1 of Table 1 for details).

The proponent identified nearby tenanted and residential lots as sensitive receptors. The closest receptor is located about 220 m southeast of the ANF, which is less than the recommended separation distance of 300-500 m for chemical blending or mixing facilities as specified in the EPA GS3 guidelines. DWER notes that DevWA is expected to coordinate the vacating of any tenants as needed.

The proponent included cumulative emissions for PM<sub>2.5</sub> and PM<sub>10</sub> and incremental emission for NO<sub>2</sub>, SO<sub>2</sub>, CO and VOC (as benzene). The background concentrations were established using 75<sup>th</sup> percentile of 24-hour PM<sub>10</sub> and PM<sub>2.5</sub> concentrations from the Geraldton DWER air quality monitoring station, which is a reasonable approach.

The predicted cumulative concentrations meet air quality criteria for except for cumulative annual PM<sub>2.5</sub>. This is because the annual PM<sub>2.5</sub> background concentration selected (8.0 µg/m<sup>3</sup>) is above the NEPM PM<sub>2.5</sub> annual criterion. The predicted annual PM<sub>2.5</sub> concentration in isolation represents <0.01% of the criterion.

The proponent has not carried out cumulative impact assessment by including the background concentrations for criteria pollutants other than PM<sub>10</sub> and PM<sub>2.5</sub> and principal



toxic substances as noted in DWER's *Air Quality Modelling Guidance Notes*. Given the low predicted incremental concentrations (ranging from 0.05–29% of guideline value), DWER considers the cumulative impact for these pollutants is likely to be low, and further cumulative modelling is not required at this stage. Please see details in section 4 of Table 1 below. DWER notes that the proposed facility is in Oakajee Strategic Industrial Area with no existing industrial sources in the vicinity and that the issue of cumulative impacts will become critically important in future.

*Table 1: Checklist comparing modelling against the requirements of "Air Quality Modelling Guidance Notes", (DoE, 2006)*

Model review	
<b>1. What issues have been identified with emissions and secondary pollutants?</b>	
<b>Comments:</b> The proposed facility is an emulsion manufacturing plant and storage facility. Emissions primarily arise from the boiler and diesel generator and include:	
<b>Pollutant</b>	<b>Comment</b>
CO	This is typical for a facility of this type
NO <sub>x</sub>	This is typical for a facility of this type
PM <sub>10</sub>	This is typical for a facility of this type
PM <sub>2.5</sub>	This is typical for a facility of this type
SO <sub>x</sub>	This is typical for a facility of this type
VOC (as benzene)	This is typical for a facility of this type
However, the proponent has not included ammonium nitrate and ammonia emissions in the assessment. Considering the nature of the facility and the large quantities of ammonium nitrate handled and stored, there may be potential for emissions of ammonium nitrate dust and ammonia gas. These pollutants could arise from: <ul style="list-style-type: none"> <li>• Handling and transfer of ammonium nitrate, leading to potential dust emissions.</li> <li>• Chemical reactions or decomposition of ammonium nitrate, particularly during upset conditions or high temperatures.</li> <li>• Ammonia emissions from decomposition or venting associated with the manufacturing and storage processes.</li> </ul> DWER recommends that the proponent is requested to include additional information on the potential for ammonia emissions	
<b>2. Describe any concerns with emissions estimates (including variable and intermittent).</b>	
<b>Comments:</b> The proponent used emission data provided by the suppliers of boiler and diesel generators provided by manufacturers. However, the proponent has not provided scenario of intermittent emissions.	
<b>3. Has the report provided of model results in the form of:</b>	
Contour Plots?	Provided
Tabulated at Sensitive receptors?	Provided
<b>Comments:</b>	
<b>4. How have cumulative impacts been considered?</b>	
<b>Comments:</b> The proponent has only included the cumulative assessment of PM <sub>2.5</sub> and PM <sub>10</sub> , with background concentrations of these pollutants derived from the Geraldton DWER air quality monitoring station. DWER notes that the adopted background concentration for annual PM <sub>2.5</sub> is above the NEPM guideline resulting in predicted exceedances at all receptors. However, the modelled incremental contribution of	

PM<sub>2.5</sub> is <0.01% of criteria limit, indicating that the exceedance primarily results from the elevated background level rather than emissions from the facility.

Since the nearby air quality monitoring station does not monitor CO, NO<sub>x</sub>, SO<sub>x</sub>, or VOCs, the proponent has only assessed proposal emissions in isolation. DWER notes that if suitable local monitoring data are not available, then other regional data may be used as a proxy. However, the low modelled maximum concentrations (0.05-29% of guideline value) for these pollutants indicate that even if cumulative impacts were assessed, the overall impact on air quality would likely be minimal.

**5. Is the selected model appropriate for assessment and have model limitations been discussed?**

**Comments:**

The AERMOD model used by the proponent is appropriate for this assessment. In section 1.2 Scope of works the proponent mentioned that CALPUFF will be used for this project, however, the change of model is not discussed.

**6. Describe any issues with meteorological data.**

**Comments:**

The meteorology file for the modelling was created using AERMET's "on-site" observation mode, which utilised hourly meteorological data from the Geraldton Airport BOM weather station. Using data from a station 22 km away can introduce uncertainties due to potential local variations in terrain, land use, and microclimates which may affect wind speed, direction, temperature, and humidity.





**7. What scenarios have been considered? Discuss any concerns or omissions.**

**Comments:**

The proponent has modelled standard operations assuming continuous year-round operation of both the boiler and the diesel generator; despite stating they will operate approximately 8 hours per day, which is a conservative approach.

The assessment report does not address upset emissions, a requirement of the DWER. While modelling upset conditions is not mandatory, demonstrating that risks have been identified and systematically assessed is necessary. DWER notes that the assumed continuous emission rates may not reflect potential maximum emissions during process upsets, or startup conditions before the process reaches equilibrium. DWER recommends that the proponent provides additional information on upset conditions.

**Status colour key:**

	<b>DWER is satisfied that item is addressed appropriately.</b>
	<b>DWER has identified some issues or there is likely large uncertainty, but these are unlikely to materially affect outcome of our assessment.</b>
	<b>DWER has concerns how the item was addressed.</b>
	<b>not assessed by DWER in this review</b>

## DEVELOPMENT APPLICATION SUBMISSION FORM

**PROPOSED INDUSTRY**  
**(AMMONIUM NITRATE MANUFACTURING & STORAGE FACILITY)**  
**LOTS 11 & 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Name: Alice Bishop

Postal Address : 2 Brisbane Street, Waggrakine, WA 6530

Phone Number: [REDACTED]

**SUBJECT OF SUBMISSION** (State how your interests are affected, whether as a private citizen, on behalf of a company or other organisation, or as an owner or occupier of property)

Private Citizen

### ADDRESS OF PROPERTY AFFECTED:

**SUBMISSION:**      ☒ Suppc      ☒ Objec      ☒ Indiffer

Give in full your comments and any arguments supporting your comments (if insufficient space, please attach additional sheets) -

- Object to industrial zoning at Geraldton Hills and mass ve land devaluation
- Expect Zoning assessment update required for legality and in light of current environment scenarios
- Object to transport, light pollution, noise pollution in view of residential areas affected compared to 1997, 2008, 2012 and 2020.
- Expect seven more industries to follow precedent to 14 more trucks per hour for 36 hours every month! Massive devaluation
- 2012 Oakajee access documents permit only one access from NW coastal highway. New assessments
- Revisit all assessments in light of current climate (not least indicated by current coral bleaching north of Shark Bay, and the value of all the area adjacent to Abrolhos National Park, eg. The mainland coast Dongara to Hutt Lagoon.
- Blue Diamond Terra to Narngulu or near current rail line east of Narngulu. Do epa and Costings there for this

Signature: ABishop      Date: 26/3/2025

Please return to: Chief Executive Officer      or      cso@chapmanvalley.wa.gov.au  
Shire of Chapman Valley  
PO Box 1      or      (fax) 9920 5155  
NABAWA WA 6532

*Note: This application will be determined by a Development Assessment Panel (DAP) that is administered by the State Department for Planning, Lands & Heritage. The local government's role is to formulate a recommendation to the DAP and is not the final determining authority on this application.*

**Submissions Close: 4:00pm Wednesday 26 March 2025**

Where we were

A video (25/8/2020) posted on Facebook Birdlife  
Midwest-Geraldton from bush at NWCoastal Hwy 1 -  
bush levelled for new Oakajee access road.





Your Ref: Proposed Nitrate Facility  
Our Ref: LM: Planning March 2025  
Contact: Neil Parry  
Telephone: 08 9223 4944



ABN 78 081 609 289  
Level 23, 140 St Georges Terrace  
Perth WA 6000  
**Postal Address**  
PO Box Z5267  
Perth St Georges Tce WA 6831  
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31 March 2025

Mr Simon Lancaster  
Deputy Chief Executive Officer Planning & Development  
Shire of Chapman Valley  
PO Box 1  
NABAWA WA 6532

Dear Simon

**DEVELOPMENT APPLICATION: PROPOSED AMMONIUM NITRATE FACILITY LOT 11  
AND 12 NORTH WEST COASTAL HIGHWAY, OAKAJEE**

Thank you for your letter 10 March 2025 seeking comment on the above proposal.

DBP as owners and operators of the Dampier to Bunbury Natural Gas Pipeline (DBNGP) have no objection to the proposed development as indicated on the plans supplied.

Thank you for the opportunity to provide comments on the development and should you have any further queries, please do not hesitate to contact me on the number above.

Yours sincerely

A handwritten signature in dark ink, appearing to read "Neil Parry", written in a cursive style.

Neil Parry  
Head of Land Management  
Dampier Bunbury Pipeline

**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
<b>Community Submissions</b>			
2a (16/3/25)	R Asmussen (216 White Peak Road, White Peak)	<ul style="list-style-type: none"> <li>Concerns that the facility is explosive, with reference being made to past ammonium nitrate related incidents.</li> <li>Concerns that the increased heavy truck traffic transporting AN/ANE poses risks to road safety, especially on deteriorated roads and in residential areas.</li> <li>Concerns that the potential air and rainwater pollution could affect nearby residents who rely on rainwater for drinking.</li> <li>Concerns that the facility's visibility and light emissions will affect the visual amenity of the region.</li> <li>Concerns that the facility is in proximity to unregulated off-road vehicle areas and the potential for human-lit fires increases the fire risk.</li> <li>The BMP is deemed inadequate and does not consider extreme weather events or climate change</li> <li>The threat of an explosion and increased industrial activity negatively impacts residents' mental health and sense of safety.</li> <li>The application does not address the proposed ANE transportation routes for the facility.</li> <li>No social impact assessment was conducted.</li> </ul>	<p>Concerns raised are noted given the nature of the proposed facility, however, are not supported. It is also noted that the submitter is located approximately 3.0km east of the proposal and as such, no direct view or impacts arising from the proposed facility are anticipated.</p> <p><u>Safety</u></p> <ul style="list-style-type: none"> <li>Platinum Blasting Services (Platinum) has conducted safe and efficient operations in Australia for the past decade. Blue Diamond Australia (BDA) has over 25 years of experience in supply and trading of AN in Australia without a single safety incident. BDA has engaged Platinum to operate the facility.</li> <li>The facility will be operated in accordance with the strict safety requirements of WA regulations which reference Australian Standards and codes of practice. Operating processes and procedures are overseen by personnel with extensive training. All site operations are subject to detailed quality management processes. The extent of mandatory compliance requirements will assist in ensuring that the materials in the facility are stored, handled and transported safely.</li> <li>Safety measures that will be implemented include: <ul style="list-style-type: none"> <li>The storage quantities and separation distances to the community are mandated by regulation and calculated to ensure the safety of the community in the event of an incident.</li> <li>The ammonium nitrate (AN) and ammonium nitrate emulsion (ANE) in the facility are not Class 1 explosives.</li> <li>There have been no explosion related incidents in an AN or ANE facility in Australia.</li> <li>The design of the storage facility and equipment are based on International and Australian standards which have been proven effective over a long period of time.</li> <li>The facility and related activities follow design principles and operational processes very similar to other Platinum operations on the East Coast which have been operating for a decade without incident.</li> <li>A 30m fire break in addition to perimeter roads will mitigate fire risk in addition to strict site management protocols.</li> </ul> </li> <li>The risk of explosion and human safety is considered by the Department of Energy, Mines, Industry, Regulation and Safety (DEMIRS) through the Dangerous Goods (DG) licencing process.</li> <li>DEMIRS has recently approved a DG licence for the proposal, demonstrating that the facility is considered by DEMIRS to be appropriate for its location and satisfies regulatory requirements relating to matters including, but not limited to, separation distances, safe handling, storage and</li> </ul>

**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
			<p>supply of AN. The approval recognises that the facility design and layout meets the requirement for an acceptable level of risk to people, property, and the environment.</p> <p><u>Explosion Risk</u></p> <ul style="list-style-type: none"> <li>• The mandatory regulations, standards, and codes imposed on the facility via the DG licensing process, coupled with the implementation of effective processes and procedures, ensures that risk of an explosion is extremely low.</li> <li>• There have been no explosion incidents in any of the many similar AN facilities across Australia.</li> <li>• Importation of AN into the Geraldton Port is subject to regulatory approval and strict requirements for compliance with regulations, standards, and codes.</li> <li>• AN has been imported into Australian ports for many decades without fire or explosion incident.</li> </ul> <p><u>Product Transport</u></p> <ul style="list-style-type: none"> <li>• DEMIRS regulates the transportation of AN on public roads through its security sensitive ammonium nitrate (SSAN) licencing regime.</li> <li>• To obtain an SSAN license, applicants must provide evidence of safe and secure storage and handling practices, comprehensive security plans, and undergo background checks.</li> <li>• DEMIRS has recently granted Platinum an SSAN licence to transport AN product on public roadways.</li> <li>• AN will be transported in purpose-built tankers designed to keep the product shielded from heat and impact.</li> <li>• Trucks are inspected prior to departure which include wheel condition and temperature checks to prevent risk of tyre failure / fires. Trucks are also inspected on arrival at the facility to ensure that vehicles entering with their cargo do not present a risk to the facility.</li> <li>• Safety systems installed on all transportation trucks include a fire extinguishing system as well as GPS tracking that allow vehicle location and travel to be monitored live to ensure only authorised roads are used and to enable rapid response in the unlikely event of a transport incident.</li> <li>• Trucks will undergo regular maintenance.</li> <li>• All drivers will undergo training to ensure safe operation practices are followed at all times.</li> <li>• The trucks are entering the SIA via a purpose-built access road, designed and constructed to MRWA standards.</li> <li>• The number of vehicle movements on the North West Coastal Highway will not increase as the traffic movements in and out of the facility will replace existing truck movements.</li> </ul> <p><u>Visual Amenity</u></p>

**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
			<ul style="list-style-type: none"> <li>• Whilst concerns on visibility and light emissions are noted, it is pertinent to note that the wider locality within which the proposal is located on has been set aside for industrial development for several decades under the local planning framework. Facility lighting will be designed to minimise light spill.</li> <li>• Specifically, the Oakajee Industrial Estate Structure Plan has considered the potential for visual impacts with the following being stated: <ul style="list-style-type: none"> <li>○ Drummond Cove Residential precinct – <i>impact on existing views should be minor, with the development area removed 3.5km to the north and partially screened by terrain and by existing vegetation on and above the coastal escarpment.</i></li> <li>○ Park Falls Residential precinct (suburb of White Peak) – <i>industrial structures will be evident in the background from the elevated viewing area of Park Falls, ameliorated somewhat by perimeter vegetation in the south and east. The visual impact will be modest, allowing for the 2.5km separation between the closest viewing areas and the southern GIA.</i></li> <li>○ North West Coastal Highway – <i>the Oakajee ridgeline and ridgeline planting, undertaken by LandCorp, provides a significant screen which largely hides the estate and future structures within it from passing traffic on the highway east of the estate.</i></li> <li>○ Nanson-Howatharra Road – <i>there is a clear elevated view towards the SIA from this road west of the Moresby Range. While Industrial structures will be visible, the 5.5km distance means their visual impact will be minor.</i></li> </ul> </li> <li>• The proposal is not considered to result in any adverse visual amenity impacts that will be above and beyond that anticipated under the Oakajee Industrial Estate Structure Plan.</li> </ul> <p><u>Fire / Bushfire Risk</u></p> <ul style="list-style-type: none"> <li>• A Bushfire Management Plan (BMP) has been prepared in accordance with State Planning Policy 3.7 - Bushfire and the Guidelines and by a WA BPAD Level 3 practitioner.</li> <li>• A BMP is a document that assesses bushfire risk and sets out strategies to mitigate bushfire risk to a proposed development. It is not required to consider extreme weather events or climate change in its assessment.</li> <li>• The application has been referred to DFES with no objection raised to the proposal. Comments have been raised on specific elements of the proposed development which are further addressed under submission 8 below.</li> <li>• Potential for human-lit fires arising from unregulated off-road vehicle activity is a compliance and illegal trespass issue. It is noted that Development WA have leased existing land / dwellings within the area to minimise any unauthorised site access. The proposed site will be secured by locked gates and perimeter fencing to prevent any unauthorised access. A CCTV system will also monitor the facility at all times thereby increasing passive</li> </ul>



**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
			<p>surveillance of the area and likely reducing any unauthorised activity in the area.</p> <p><u>Air, Emissions and rainwater pollution</u></p> <ul style="list-style-type: none"> <li>Concerns on potential air and rainwater pollution and its impact on rainwater for drinking are unfounded. Technical studies on air emissions have been undertaken in accordance with DWER, Air Quality Modelling Guidance Notes (March 2006) and DWER Guideline: Air emissions (October 2019). The findings indicate that the project does not pose any significant threat to air quality and in-turn, to rainwater / drinking water.</li> <li>No government agencies have objected to the proposal on environmental grounds which have included: <ul style="list-style-type: none"> <li>Department of Water &amp; Environmental Regulation</li> <li>Department of Biodiversity, Conservation &amp; Attracts</li> <li>Department of Health</li> </ul> </li> </ul>
2b (/10/24)	V Asmussen (216 White Peak Road, White Peak)	As per 2a above.	Refer to response provided under submission 2a above.
2c (7/11/24)	I Asmussen (216 White Peak Road, White Peak)	As per 2a above.	Refer to response provided under submission 2a above.
3 (17/3/25)	D & R Forth (1730 North West Coastal Highway, Buller)	<ul style="list-style-type: none"> <li>The Oakajee Strategic Industrial Area was created for this type of industry and the proposal will bring employment opportunities to the region.</li> </ul>	<p>The submission is acknowledged.</p> <p>The proposal aligns with local and State planning policies, frameworks and regulations, and will be the first major industrial facility in the Oakajee SIA, marking an important milestone for the region.</p>
5 (17/3/25)	G Burrows (261 Wells Road, White Peak)	<ul style="list-style-type: none"> <li>Concerns that there is insufficient information on the environmental impacts and business plans.</li> <li>Concerns that there is potential for an explosion at the facility, Geraldton port or along the truck transport route.</li> <li>Concerns that the proponent lacks expertise in similar projects.</li> </ul>	<p>Concerns raised are noted however not supported for the following reasons:</p> <ul style="list-style-type: none"> <li>As outlined under submission 2a above, no (environmental) government agencies have raised any concerns on the project from an environmental perspective.</li> <li>The risk of explosion is extremely low and is discussed under submission 2a above.</li> <li>The operator of the AN facility ie Platinum, has been operating a similar facility in Queensland for more than a decade without incident.</li> </ul>
6 (20/3/25)	T Causer (261 Wells Road, White Peak)	<ul style="list-style-type: none"> <li>Concerns that there is insufficient information or consideration on the environmental impacts of the proposal.</li> <li>Concerns that there is potential for an explosion at the facility.</li> </ul>	<p>Concerns raised are noted however not supported for the following reasons:</p> <ul style="list-style-type: none"> <li>As outlined under submission 2a above, no (environmental) government agencies have raised any concerns on the project from an environmental perspective.</li> </ul>

**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
9 (25/3/25)	R & J Morris (52 Rose Street, Isseka)	<ul style="list-style-type: none"> <li>Concerns that the increased traffic and industrial activity are seen as incompatible with the area's primary farming and hobby farm community.</li> <li>The current highway is already congested and not fit for increased heavy haulage.</li> <li>There is a need for significant roadworks and infrastructure improvements before allowing more industrial traffic including the Geraldton and Northampton bypasses that form part of the Dongara-Geraldton-Northampton Road Freight Corridor needing to be completed.</li> <li>Concerned about the risks associated with the storage and transport AN/ANE, including potential explosions and fires.</li> <li>The proponent has not adequately engaged with the local community or considered their needs and concerns.</li> <li>Opposed to introduction of heavy industry in the area, concerns about the long-term impact on the community's way of life and the environment.</li> <li>Site would be better utilised as a university, retirement village, prison, nuclear power plant.</li> <li>Concern over rainwater runoff contamination.</li> <li>Concerns about the electricity usage of industrial facilities affecting the reliability of power for community and residents. Questioning whether new transmission infrastructure will need to be built, and who is going to pay for it.</li> </ul>	<p>Concerns raised are noted however not supported for the following reasons:</p> <p><u>Traffic Impact</u></p> <ul style="list-style-type: none"> <li>A Traffic Impact Assessment (TIA) was undertaken in accordance with the Western Australian Planning Commissions' <i>Transport Impact Assessment Guidelines</i>, considering the proposals construction and operational traffic, and road network capacity. The TIA concludes that the additional traffic generated by the proposal will be well within the operational capacity of North West Coastal Highway.</li> <li>The proposed facility is located within the Oakajee SIA which has been earmarked as a major industrial precinct for decades under the local planning framework.</li> <li>As part of the State Government's development of the Oakajee SIA, Main Roads WA are currently upgrading North West Coastal Highway in addition to constructing a new access road to the Oakajee SIA.</li> <li>MRWA has no objection to the proposal. Comments have been raised on specific elements of the proposed development which are further addressed under submission 10 below.</li> </ul> <p><u>Safety</u></p> <ul style="list-style-type: none"> <li>The risk of explosion and bushfire is discussed under submission 2a above.</li> </ul> <p><u>Engagement</u></p> <ul style="list-style-type: none"> <li>The proposal has been submitted as a Regional Development Assessment Panel (DAP) application and followed the statutory consultation process as regulated under the PD Act and local planning framework.</li> </ul> <p><u>Electricity Usage</u></p> <ul style="list-style-type: none"> <li>Electricity usage is not a relevant planning consideration. Nevertheless, an engineering services report prepared as part of the Oakajee Industrial Estate Structure Plan has considered current and future power supply and infrastructure requirements for the SIA more broadly. It is expected that upgrades will be undertaken as demand increases.</li> </ul>
12 (26/3/25)	Geraldton Long Board Club (GLBC)	<ul style="list-style-type: none"> <li>Concerns that the facility poses environmental and safety risks during extreme weather and fire events.</li> <li>Concerns regarding the increased risk of road accidents due to higher traffic movements transporting hazardous materials.</li> <li>Concerns that coastal areas for surfing, fishing, camping and boating have not been considered as 'sensitive receptors' in the development assessment.</li> <li>Concerns that the facility could negatively impact surrounding recreational areas, including South Coronation Beach.</li> </ul>	<p>Concerns are noted however not supported for the following reasons:</p> <ul style="list-style-type: none"> <li>Refer to comments under submission 2a above regarding transport, environmental considerations, visual amenity and safety.</li> <li>The proposed facility is located approximately 1.4km inland from the coastline on land that has been used for pastoral and grazing purposes. As such, the development will not result in any adverse impacts to existing surfing, fishing, camping or boating places within the area.</li> <li>The proposed facility is located in excess of 9.0km south of Coronation Beach. There are no adverse impacts that are anticipated to Coronation Beach from the development.</li> <li>Community consultation for the project has been undertaken in accordance with the statutory requirements set out in the <i>Planning and Development (Local Planning Schemes) Regulations 2015</i> and the Regional DAP process.</li> </ul>

**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
		<ul style="list-style-type: none"> <li>• Lack of an active community engagement strategy from the Shire of Chapman Valley around this and other related proposals.</li> <li>• GLBC emphasises the importance of preserving the area's environmental health and community values for future generations.</li> </ul>	
16 (26/3/25)	A Bishop (2 Brisbane Street, Waggrakine)	<ul style="list-style-type: none"> <li>• Concerns that industrial zoning in the Geraldton hills will result in land devaluation</li> <li>• Concerned with increased heavy trucks on road resulting from industrial development</li> <li>• Concerned with light and noise pollution resulting from industrial development.</li> <li>• Concerned with environmental impacts of industrial developments.</li> </ul>	<p>Concerns are noted however not supported for the following reasons:</p> <ul style="list-style-type: none"> <li>• The proposed facility is located within the Oakajee SIA which has been earmarked as a major industrial precinct for decades under the local and state planning frameworks.</li> <li>• Land value is not a relevant planning consideration.</li> <li>• A TIA has been prepared which notes that additional traffic generated by the proposal will be well within the operational capacity of North West Coastal Highway and broader region.</li> <li>• Concerns on light and noise pollution are not supported - refer response under submission 2a above.</li> <li>• Concerns on environmental impacts are not supported - refer response under submission 2a above.</li> </ul>

**Agency Submissions**

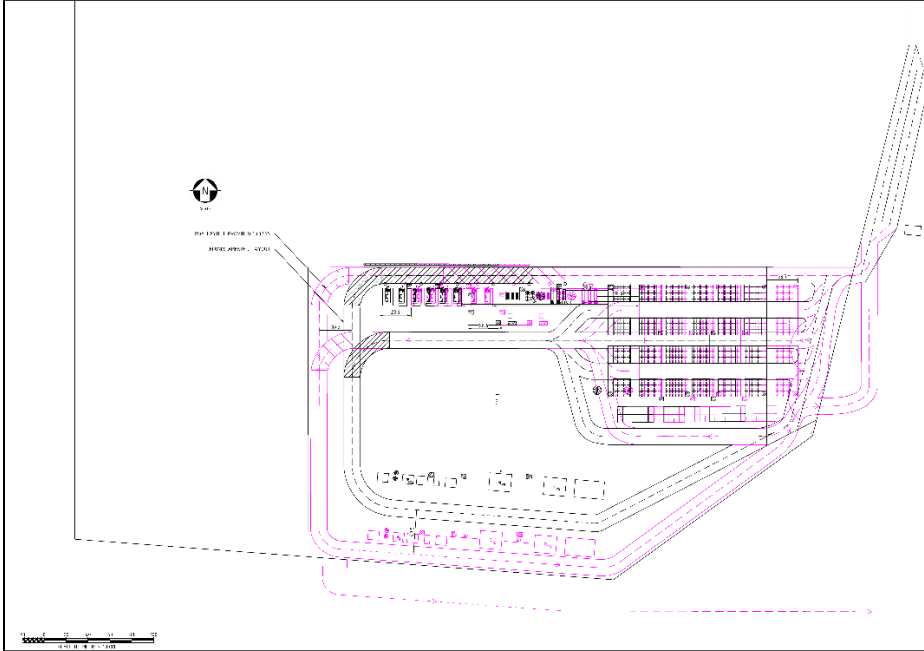
1 (14/3/25)	Department of Health (DoH)	<ul style="list-style-type: none"> <li>• Drinking water provided on site must meet the requirements of the Australian Drinking Water Guidelines 2011. Treatment and management of wastewater must meet the requirements of Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 and Government Sewerage Policy 2019.</li> <li>• A site-specific Site and Soil Evaluation (SSE) is required during the wettest season to ensure the land application area (area where effluence from the wastewater treatment plant is discharged) is located and sized appropriately.</li> <li>• Detailed plans for building envelopes, wastewater systems, and trafficable areas are required at the building stage.</li> <li>• Applications for wastewater systems must be submitted to local government and forwarded to the DoH for assessment.</li> <li>• The region occasionally experiences problems with mosquitoes carrying Ross River and Barmah Forest viruses. Development should avoid creating additional mosquito breeding habitats. Measures include preventing surface ponding, sealing water tanks, and managing waste items to reduce mosquito breeding.</li> </ul>	Noted. Comments are acknowledged.
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**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
		<ul style="list-style-type: none"> <li>A dust management plan should be developed and implemented during site works.</li> </ul>	
4 (19/3/25)	ATCO	<ul style="list-style-type: none"> <li>Prior to undertaking construction or excavation works, the proponent must contact 'Before You Dig Australia' (<a href="http://www.byda.com.au">www.byda.com.au</a>) to determine the location of buried gas infrastructure.</li> <li>Proposed construction and excavation works need to be managed in accordance with the ATCO document Additional Information for Working Around Gas Infrastructure - AGA-O&amp;M-PR24.</li> </ul>	Noted. Comments are acknowledged.
7 (24/3/25)	Department of Energy, Mines, Industry Regulation & Safety (DEMIRS)	<ul style="list-style-type: none"> <li>DEMIRS has referred the application to their internal Resources Safety Division, who may provide a separate response to the Shire.</li> <li>DEMIRS notes the potential karst area (topography formation) and recommends an assessment by an independent geotechnical engineer or engineering geologist prior to any development occurring.</li> </ul>	<p>Noted. Comments are acknowledged.</p> <ul style="list-style-type: none"> <li>As noted above, a DG licence has since been issued by DEMIRS with respect to the facility as has an SSAN licence for storage of AN.</li> <li>Issuance of the emulsion manufacturing licence is expected shortly</li> </ul>
8 (24/3/25)	Department of Fire & Emergency Services (DFES)	<ul style="list-style-type: none"> <li>DFES recommends providing a secondary emergency access route.</li> <li>This could be in the form of an Emergency Access Way (EAW) which should be gated and locked from the public, but accessible to emergency services.</li> <li>Secondary emergency access route should avoid passing near ANE/AN storage goods during evacuation and allows emergency services access in various wind conditions.</li> <li>The facility will generate waste in the form of empty woven plastic Flexible Intermediate Bulk Containers (FIBCs). These containers are highly flammable and can ignite under ember attack. Concerns regarding the potential for ember attacks to ignite waste materials and the dome shelter.</li> <li>Issues arise in AN/ANE facilities with machinery. Unclear whether product carrying vehicles, or mobile processing units/mobile mixing units are intended to be filled, parked or maintained/repaired on site. All of these need to have storage/parking locations separate to and away from the AN storage, so that in the event of hydraulic fluid leak, overheating or machinery fire, the AN/ANSOL/ANE is not impinged.</li> </ul>	<p>Comments are acknowledged. It is, however, noted that the provisions of SPP3.7 and the trigger for a BMP are not applicable in this instance. Specifically, as the land which is the subject of development (i.e. 'development site' as defined in the LPS Regulations 2015) is not designated bushfire prone area, the provisions of Part 10A of the LPS Regulations 2015 are not applicable.</p> <p>Notwithstanding the above, Platinum and BDA are agreeable to including a secondary (emergency) access road in this instance on the following basis:</p> <ul style="list-style-type: none"> <li>A secondary (emergency) access road is proposed from gate 3, located at the southwest corner of the site – refer updated layout plan attached.</li> <li>The secondary (emergency) access road will be 3.5m in width and lead east, connecting to the existing private access road which intersects with North West Coastal Highway.</li> <li>The secondary (emergency) access road will be gated and locked from public access at the North West Coastal Highway end. Access / egress will be limited to in the case of an emergency only and for use by emergency services and staff associated with the proposed facility.</li> <li>The proposed secondary (emergency) access road will lead away from the ANE / AN storage areas and makes best use of the existing private access road and intersection with North West Coastal Highway, meaning no additional Main Roads WA approvals are triggered.</li> </ul>



## Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee

Submission & Date	Respondent	Summary of Submission	Applicant Response
		<ul style="list-style-type: none"> <li>Unclear if the material of the dome shelters is self-extinguishing. If not, the shelters could continue to burn and melt onto the AN bags once ignited by embers, increasing the fire risk.</li> <li>It is preferable for facilities to be sited on slightly raised ground which grades away from AN/ANE storage to prevent pooling of molten AN or ANE near store areas in a fire scenario, reducing likelihood of a detonation.</li> <li>It is essential to ensure that machinery and vehicles are stored away from AN storage to prevent fires from hydraulic fluid leaks, overheating, or machinery malfunctions.</li> <li>There is potential for production of off-specification ANSOL or ANE. It is not clear where this is to be stored on site or how it is to be handled, noting that off-specification ANE product may be of classification 1.5 (explosive) rather than 5.1 (oxidising).</li> <li>Clarification is sought on storage for gassing agents.</li> <li>Recommend modification to BMP.</li> </ul>	 <p><u>Ember attack considerations</u></p> <ul style="list-style-type: none"> <li>The empty FIBC's are baled and collected under the federal Big Bag Recycling Scheme. The bales are stored in a nominated spot on-site while waiting for collection, well separated from all DG storage locations. Platinum adopt this practice in other locations on the East Coast without incident.</li> <li>The dome frame is steel construction, and the dome cover is heavy duty tarpaulin material. This design of dome storage is utilised widely across the industry and does not represent a significant fuel source in the event of a fire.</li> <li>The civil grade of all storage locations is designed to prevent pooling of molten AN or ANE.</li> </ul> <p><u>Equipment storage</u></p> <ul style="list-style-type: none"> <li>All AN handling equipment is garaged/parked at the administration building location well clear of the storage and manufacturing facilities. This is a well-established standard operating procedure for AN and ANE facilities and specifically covered in standards and codes referenced by the relevant regulations.</li> </ul> <p><u>Manufacturing process</u></p> <p>Comments relating to the manufacturing process are not considered to be relevant planning considerations. These are matters which are addressed as part of separate legislation including the DG licencing process which the facility</p>

**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
			<p>has already obtained a licence for. Nevertheless, the following responses are noted:</p> <ul style="list-style-type: none"> <li>• The manufacture process for ANSOL is ammonium nitrate and water, where the concentration is controlled via the control system. As such, the likelihood of off-specification product being manufactured is very unlikely and ANSOL is not stored at site.</li> <li>• The manufacturing circuit for the ANE is controlled and circulated until the two products are tested and confirmed to be within specification before the manufacture of ANE commences. The ANE is also continuously tested during manufacture to ensure the product is within specification.</li> <li>• The option to manufacture gassing agents is a future project but is identified as a potential process. Initially all gassing agents will be purchased from third parties and delivered straight to our client's sites.</li> <li>• It is highly unlikely that any significant quantity of off-spec ANE would be produced and improbable that it would form a Class 1.5 substance. The nature of the process does not involve sensitisation of the ANE during the manufacturing process.</li> </ul>
10 (25/3/25)	Main Roads (MRWA)	<p>MRWA does not object to the proposal, subject to a number of conditions being imposed, listed as follows:</p> <ol style="list-style-type: none"> <li>1. All vehicular access from the North West Coastal Highway (NWCH) to the development site shall be via the Oakajee Strategic Industrial Area (SIA) access road. Access between the Oakajee SIA access road and the development site shall be developed to the satisfaction of Development WA, the Department of Jobs, Tourism, Science and Innovation (JTSI) and the Shire of Chapman Valley and made suitable for the safe use of all proposed vehicles as nominated in the Transport Impact Assessment (TIA).</li> <li>2. No manoeuvring, queuing or parking in the NWCH shall be permitted as part of site construction or operations.</li> <li>3. No works are permitted within the NWCH Road Reservation unless Main Roads has accepted the Application to undertake works within the road reserve. Application forms and supporting information about the procedure can be found on the Main Roads website&gt;Technical &amp; Commercial&gt;Working on Roads.</li> <li>4. All signage on the NWCH requires an Advertising Application to be completed and submitted to Main Roads for approval. (The signage component will not be approved as part of this application). Refer to advice note e.</li> </ol>	<p>BDA acknowledges MRWA's support of the proposal and is agreeable to conditions 2, 3 and 4.</p> <p>However, Condition 1 is not supported for the following reasons:</p> <ul style="list-style-type: none"> <li>• In light of the recommendation for an emergency access route by DFES, a secondary (emergency) access road is now proposed as part of the development – refer to comments under submission 8 above and updated layout plan attached.</li> <li>• The use of the existing private access road as an emergency access road is reasonable as it restricts its use by the public in its entirety; limiting its use for emergencies only (if / should they ever occur).</li> <li>• The ongoing use and need for the secondary access can be reviewed as the Oakajee SIA gets further developed by DevelopmentWA, JTSI and its other proponents. It is also understood that funding will be sought for the provision of further roads servicing the Oakajee SIA; which includes a ring-road that will serve as direct road frontage for future proponents.</li> <li>• The infancy of road infrastructure for the locality has meant that BDA is having to coordinate its own access / egress within a raft of constraints that is the Oakajee SIA at present. To this end, restricting use of an existing private access road based on the lack of future road planning and funding by others is not considered fair and reasonable.</li> <li>• The amount of vehicles that will utilise the existing private access road, now as a secondary (emergency) access route will be significantly less to what the road currently services. Put simply, the impact of retaining this existing intersection is considered to be well within the operational and design capacity of North West Coastal Highway.</li> </ul>

**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
		The MRWA submission also contains supporting advice notes which relate to the above suggested conditions.	
11 (26/3/25)	Water Corporation	<ul style="list-style-type: none"> <li>Water Corporation notes that there no water or wastewater services available in the area for this development to connect to at current. The developer has proposed onsite servicing/facilities to manage this.</li> <li>A future water supply may be available once the Oakajee Desalination plant project has been completed in approximately 2032. Once completed, the proponent can contact Water Corporation to inquire about the possibility of a water supply.</li> <li>The proponent is expected to provide all water and sewerage reticulation as required.</li> </ul>	<p>Noted. Comments are acknowledged. Potable and wastewater for the facility is proposed is expected to be managed as follows:</p> <ul style="list-style-type: none"> <li>Non-processing wastewater and ablution waste will be managed through a septic system.</li> <li>Potable drinking water will be supplied via bottled water.</li> <li>Processing facility (industry) water needed for the manufacturing process (i.e. for production, boilers and safety) will be delivered to site via water cartage.</li> </ul>
13 (26/3/25)	Department of Jobs, Tourism, Science & Innovation (JTSI)	<ul style="list-style-type: none"> <li>JTSI is responsible for overseeing the activation of the Oakajee Strategic Industrial Area (SIA) as part of its broader plan to promote industrial growth and diversification throughout WA.</li> <li>JTSI has been engaging with the proponent regarding the proposed development of an Ammonium Nitrate Facility on portions of Lots 11 and 12 on Plan 18559.</li> <li>The publicly advertised documentation align with these ongoing engagements and the objective of developing the Oakajee SIA as a renewable energy precinct.</li> </ul>	This submission is acknowledged.
14 (26/3/25)	Department Biodiversity, Conservation & Attractions (DBCA)	<ul style="list-style-type: none"> <li>DBCA has no comments on the proposal at this stage.</li> </ul>	This submission is acknowledged.
15 (26/3/25)	Department of Water & Environmental Regulation (DWER)	<ul style="list-style-type: none"> <li>The proposed development is considered a prescribed premises as per Schedule 1 of the Environmental Protection Regs and will require a works approval to be obtained before construction.</li> <li>DWER has not received an application for a works approval, licence or registration for this premises to date. As such, DWER recommends that the applicant lodge an application for a works approval with DWER.</li> <li>DWER environmental noise branch has reviewed the noise impact assessment report. DWER concludes that GHD's modelled and assessed results are reliable and agrees that the proposed ANF operation will be able to comply with the Noise Regulations.</li> </ul>	<p>Noted. Comments are acknowledged.</p> <ul style="list-style-type: none"> <li>An application for a works approval was lodged with DWER on 3 March 2025 and is currently under assessment. At present, an RFI received from DWER is currently being reviewed by GHD.</li> <li>The works approval application submitted to DWER contains all technical reports submitted as part of this development application.</li> <li>As part of the works approval licencing process, DWER is comprehensively assessing the facility's environmental impacts to ensure compliance with environmental regulations; comments raised by DWER with respect to the technical studies are being addressed in detail through the works approval application.</li> </ul> <p><u>Surface Water</u></p> <ul style="list-style-type: none"> <li>The Surface Water Management Plan was commissioned early during the project design phase with the findings and recommendations informing</li> </ul>

**Schedule of Submissions – Proposed Industry – Lots 11 & 12 North West Coastal Highway, Oakajee**

Submission & Date	Respondent	Summary of Submission	Applicant Response
		<ul style="list-style-type: none"> <li>• DWER seeks further technical information relating to the Air Quality Impact Assessment report pertaining to 'upset conditions' and potential AN dust emissions.</li> <li>• The Surface Water Management Plan follows industry standards but has some limitations, such as the relatively coarse TUFLOW model and the need for more detailed flood risk assessments.</li> <li>• Recommendations include raising floor levels of buildings above expected flood levels and considering climate change impacts on flood risk.</li> <li>• The Waste Management Plan will be assessed through the environmental regulation process.</li> <li>• Technical reporting should consider the impact of climate change on flood risk.</li> <li>• Should the proponent seek to abstract groundwater this will require a licence to construct and/or alter a well and to abstract water.</li> </ul>	<p>several design and layout updates. The SWMP can be updated at a later stage to consider the final site layout building floor levels and flood risk in relation to climate change.</p> <p><u>Dust emissions</u></p> <ul style="list-style-type: none"> <li>• AN is delivered to site in FIBC bags and remains in the bags while in storage. No dust is generated during the transport and storage handling.</li> <li>• AN is transferred from the FIBC bags into the melt tanks via an enclosed auger to contain any generation of dust.</li> <li>• If AN is transferred from FIBC bags into tipper trucks for delivery to mine sites, the AN is transferred via an enclosed auger to eliminate the generation of dust.</li> </ul>
17 (31/3/25)	Australian Gas Infrastructure Group (AGIG)	<ul style="list-style-type: none"> <li>• Dampier Bunbury Pipeline (DBP) as owners and operators of the Dampier to Bunbury Natural Gas Pipeline (DBNGP) have no objection to the proposed development as indicated on the plans supplied.</li> </ul>	This submission is acknowledged.





## **PART C – SHIRE OF MANJIMUP**

**1. Declarations of Due Consideration**

**2. Disclosure of Interests**

**3. Form 1 DAP Applications**

- 3.1 Lots 174, - 176 (Nos.13 -17) Rose Street, Manjimup - Proposed Motel –  
DAP/24/02783

**4. Form 2 DAP Applications**









Nil.

**5. Section 31 SAT Reconsiderations**

Nil.

## Part C – Item 3.1 – LOT NO. 174 – 176 (13-17) ROSE STREET, MANJIMUP – PROPOSED MOTEL

### Form 1 – Responsible Authority Report (Regulation 12)

<b>DAP Name:</b>	Regional Development Assessment Panel
<b>Local Government Area:</b>	Shire of Manjimup
<b>Applicant:</b>	Texture Design Pty Ltd
<b>Owner:</b>	P Twin Holdings Pty Ltd
<b>Value of Development:</b>	\$2 million
<b>Responsible Authority:</b>	Shire of Manjimup
<b>Authorising Officer:</b>	Manager Planning Services
<b>LG Reference:</b>	TP2024/92
<b>DAP File No:</b>	DAP/24/02783
<b>Application Received Date:</b>	25 July 2024
<b>Report Due Date:</b>	10 February 2026
<b>Application Statutory Process Timeframe:</b>	90 Days  Application was received and then placed on hold at the request of the applicant.
<b>Attachment(s):</b>	<div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>0365 01. Amended Architectural Drawir</p> <p>1.</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>0365 02. Landscape Setback Line.pdf</p> <p>2.</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>0365 03. Perspectives.pdf</p> <p>3.</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>0365 02. Sustainable Design</p> <p>4.</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>Ordinary Meeting - Tuesday, 22 April 20</p> <p>5.</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Review plan Rev 0.pdf</p> </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Item 8 (second review) - Recommen</p> </div> </div> </div> <p>6.</p> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>0365 01. Letter to Local Authority 2025</p> </div> </div> </div>

### Responsible Authority Recommendation

That the Regional Development Assessment Panel **refuse** the Development Assessment Panel Application reference DAP/24/02783 at contained in Attachment 9.5.2(1) in accordance with Clause 68 of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of Clause 10.3 of the Shire of Manjimup Local Planning Scheme No. 4 for the following reasons:

1. The proposed development does not comply with the minimum three (3) metre landscaping strip to Ipsen Street and Rose Street in accordance with Local Planning Policy 6.1.8 – Landscaping and does not provide as an alternative a nil setback with pedestrian shelter.
2. The proposed development does not respond to the site context and art deco or jazz style architecture within the Manjimup Planning Precinct in accordance with clause 2.1.1 of the Local Planning Scheme No. 4.
3. The proposed development does not provide compliant parking numbers in accordance with Table 2 of Local Planning Scheme No. 4

Should the Regional Development Assessment Panel resolve to approve the application the Council provides the following conditions and advice:

1. This decision constitutes planning approval only and is valid for a period of 4 years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.
2. The development hereby approved is to be carried out in accordance with the plans and specifications submitted with the application and these shall not be altered and/or modified without the prior knowledge and written consent of the Shire of Manjimup.

Reference	Document Title	Date Received
A-2000	Demolition Plan	27 March 25
A-2001	Site Plan	27 March 25
A-2100	Floor Plan	27 March 25
A-2102	Floor Plan	27 March 25
A-3100	Elevations	27 March 25
A-4100	Sectional Elevations	27 March 25

3. Notwithstanding condition 1, prior to application for building permit, the plans submitted and hereby approved shall be modified as follows:
  - 3.1 Revised floor plan of accessible units to ensure compliance with Disability Discrimination Act standards.
4. Prior to the issue of a Building Permit, a Geotechnical Report and an urban water and drainage management plan is to be prepared and approved, to the satisfaction of the Shire of Manjimup.

5. The urban water management plan referred to in Condition 3, shall be implemented to the satisfaction of the Shire of Manjimup.
6. Prior to the application for Building Permit, a noise management plan is to be submitted to the Shire for approval and thereafter applied to the development to the satisfaction to the Shire of Manjimup.
7. Prior to the issue of a Building Permit, a Waste Management Plan must be submitted to and approved by the Shire of Manjimup. The plan must include the following details to the satisfaction and specification of the Shire of Manjimup:
  - 7.1 the location of bin storage areas and bin collection areas.
  - 7.2 the number, volume and type of bins, and the type of waste to be placed in the bins.
  - 7.3 details on the future ongoing management of the bins and the bin storage areas, including cleaning, rotation and moving bins to and from the bin collection areas.
  - 7.4 frequency of bin collections.
8. A schedule of the colour and texture of the building materials, demonstrating that the proposed development complements the surrounding area, must be submitted to and approved by the Shire of Manjimup, prior to lodging an application for a building permit. The development must be finished, and thereafter maintained, in accordance with the schedule provided to and approved by the Shire of Manjimup, prior to occupation of the development.
9. A dilapidation report, prepared at the applicant's expense, documenting the current state of the verge, footpath and road shall be prepared and submitted to the Shire of Manjimup for approval prior to the commencement of any works associated with the development.
10. Prior to the commencement of works, the applicant is to submit, and have approved to the satisfaction of the Shire Manjimup, a detailed parking plan design which complies with Table 2 and 3, Clause 5.17.11, of the Shire of Manjimup Local Planning Scheme No. 4 including 40 car parking bay/s, aisle widths, circulation areas driveway/s and points of ingress and egress. Alternatively, the Shire of Manjimup is prepared to accept payment of cash-in-lieu for the required parking that cannot be provided on-site, with such payment to be used by the Shire to formalise parking on Rose Street and/or Ipsen Street prior to the occupation of the development.
11. Prior to the commencement of construction, a detailed landscaping and reticulation plan for the subject site and/or verge(s) must be submitted to and approved to the satisfaction of the Shire of Manjimup.
12. The approved landscaping and reticulation plan must be fully implemented within the first available planting season prior to the occupation of the development, and maintained thereafter, to the satisfaction of the Shire of Manjimup. Any species which fail to establish within the first two planting seasons following implementation must be replaced in consultation with and to the satisfaction of the Shire of Manjimup.



13. Prior to the commencement of construction, the applicant must submit and have approved by the Shire of Manjimup, and thereafter implement to the satisfaction of the Shire of Manjimup, a construction management plan addressing the following matters:
  - 13.1 How materials and equipment will be delivered and removed from the site.
  - 13.2 How materials and equipment will be stored on the site.
  - 13.3 Parking arrangements for contractors.
  - 13.4 Construction waste disposal strategy and location of waste disposal bins.
  - 13.5 Details of cranes, large trucks or similar equipment which may block public thoroughfares during construction.
  - 13.6 How risks of wind and/or water borne erosion and sedimentation will be minimised during and after the works.
  - 13.7 Other matters likely to impact on the surrounding properties
14. Prior to commencement of construction the applicant is to prepare an Operation Management Plan to address amenity issues including, fumes, noise, vibration, odour, vapour, dust wastewater, waste products or other pollutants to the satisfaction of the Shire of Manjimup.
15. Prior to the occupation of the development, vehicle crossovers between the subject land and Rose Street are to be located, designed, constructed, sealed and drained to the specification and satisfaction of the Shire of Manjimup.
16. The development hereby approved shall be connected to the Water Corporation reticulated sewerage system.
17. All piped, ducted and wired services, air conditioners, hot water systems, water storage tanks, service meters and bin storage areas must be located to minimise any visual and noise impact on the occupants of nearby properties and screened from view from the street. Design plans for the location, materials and construction for screening of any proposed external building plant must be submitted to and approved by the Shire of Manjimup, prior to lodging an application for a Building Permit.
18. External lighting must comply with the requirements of AS4282 – Control of Obtrusive Effects of Outdoor Lighting to the satisfaction of the Shire of Manjimup.

#### **Advice Notes**

1. This Development approval is NOT a building permit. A certified building permit must be formally applied for and obtained from Building Services BEFORE the commencement of any site and/or development works.
2. With regards to Condition 11, privacy screening is to be shown between the motel unit living spaces opposite, the sandpit is not supported, additional fencing is to be provided to the nature play area and landscape buffer between parking and units to be increased.
3. The development and associated uses are required to comply all relevant provisions of the *Health (Miscellaneous Provisions) Act 1911* (as Amended), *Health (Public Buildings) Regulations 1992*, the *Food Act 2008*

and *Food Regulations 2009*. Prior to commencement of the uses hereby approved, various applications are required under this legislation, and it is recommended that you liaise with the Shire of Manjimup's Environmental Health Team over the preparation, lodgement and approvals processes.

4. If public consumption of alcohol is likely to occur on the subject premises, additional requirements may be imposed by the Liquor Licensing Division of the Department of Local Government, Sport and Cultural Industries. It is recommended that the proponent consult with the Liquor Licensing Division, either directly (on 1800 634 541) or via the website: [www.dlgsc.wa.gov.au](http://www.dlgsc.wa.gov.au) for further information.

### Reasons for Responsible Authority Recommendation

N/A

### Details: outline of development application

Region Scheme	N/A
Region Scheme - Zone/Reserve	N/A
Local Planning Scheme	Shire of Manjimup Local Planning Scheme No 4
Local Planning Scheme - Zone/Reserve	Town Centre
Structure Plan/Precinct Plan	N/A
Structure Plan/Precinct Plan - Land Use Designation	Motel
Use Class and permissibility:	Discretionary
Lot Size:	3,014sqm
Existing Land Use:	Nursery, Vacant, Vacant
State Heritage Register	No
Local Heritage	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Heritage List <input type="checkbox"/> Heritage Area
Design Review	<input type="checkbox"/> N/A <input type="checkbox"/> Local Design Review Panel <input type="checkbox"/> State Design Review Panel <input checked="" type="checkbox"/> Other
Bushfire Prone Area	No
Swan River Trust Area	No

### Proposal:

Proposed Land Use	Motel <i>Motel "means premises used to accommodate patrons in a manner similar to a hotel but in which specific provision is made for the accommodation of patrons with motor vehicles and may comprise</i>
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	<i>premises licensed under the Liquor Licensing Act 1988”.</i>
Proposed Net Lettable Area	1,000sqm
Proposed No. Storeys	1
Proposed No. Dwellings	N/A

### **Background:**

The subject land has a combined total area of 3,014m<sup>2</sup> and is located at the corner of Rose and Ipsen Streets within the Manjimup town centre. Lot 174 currently consists of a disused nursery building and trade area with Lots 175 and 176 vacant. In September 2023, the Western Australian Planning Commission granted unconditional approval to amalgamate the three lots into one, which will assist in a coordinated development on the land.

Council at its January 2024 Ordinary Council Meeting, considered an application for a proposed Hotel and resolved as follows:

### **29421**

- 1. *That the proposal is rejected on the basis that in its present form the traffic management, using Robbies Lane is inadequate and will disrupt other businesses using the lane. The proposal could be redesigned to include a minimum number of 1 bay per unit plus 2 bays for staff parking.***
- 2. *A traffic management plan is required to be lodged as part of any re-application for the development.***

Despite the terminology used in the determination, the application was considered refused and the applicant has submitted a new application for consideration.

Council is in receipt of an application for planning approval for a Hotel development comprising of:

- Sixteen (16) sets of family units or thirty two (32) individual rooms, two of which are proposed to be accessible.
- A combined reception and dining area/breakfast area and kitchenette.
- Caretaker's accommodation.
- Parking for 35 cars.

Additional information received in support of the application states that the hotel will be operated from the head office in Fremantle and operate 24 hours a day and 365 days a year. Reception will be open from 8am to 4pm. There will be 1 person employed for reception and administration and three house keepers. Only light breakfast will be available.

### **Legislation and Policy:**

#### Legislation

*Planning and Development Act 2005 s.162*

*Planning and Development (Local Planning Schemes) Regulations 2015 Part 7 cl. 60, cl.67(2)*

Local Planning Scheme No. 4

- CI 4.2 Town centre zone
- CI 5.5 Variations to site and development standards and requirements
- CI 5.13 Landscaping
- CI 5.17 Car Parking Requirements
- CI 5.32 Town Centre zone
- Schedule 8 Planning Precinct Statement

#### State Government Policies

State Planning Policy 5.4 Road and Rail Noise clause 6.5.3

State Planning Policy 7.0 Design of the Built Environment

#### Structure Plans/Activity Centre Plans

N/A

#### Local Policies

Local Planning Policy 6.1.18 Landscaping – Landscaping Requirements other commercial

Local Planning Policy 6.1.21 Parking and Cash in Lieu – Policy Measures

#### **Consultation:**

##### Public Consultation

The proposal was referred to surrounding landowners for a period of 21 days for public comments. One submission was received in full support of the proposal. One submission was received late which commented on additional traffic on using Bath Street.

##### Referrals/consultation with Government/Service Agencies

N/A

##### Design Review Panel Advice

Given the prominent development location and the importance of the design when considering a substantial development within a town centre, Shire staff referred the proposal to the South West Design Review Panel (SWDRP). The SWDRP is a shared initiative between South West Shires and the Cities of Bunbury and Busselton. The panel comprises professionals in the fields of architecture, urban design, landscape architecture, heritage, sustainability and environmental design, town planning, arts and culture, and meets monthly to provide design advice on development applications, structure plans, design guidelines and any local government projects occurring in the local government areas.

The proposal was considered by the panel on 1 November 2024 and revised plans were presented to a meeting on 7 March 2025. Minutes taken by the Chair are provided attached.



The panel considered that the intent and content of the project had alignment with the Scheme and Town Centre requirements and that the approach to sustainability including the choice of materials and construction techniques could be supported. The revised plans show a concerted attempt to address the matters raised in the first review as well as other functional improvements. The design has reached a point where although there are several items that might still be reconsidered, these can be resolved with some nominated changes, but without major change to the general arrangement of the site.

The SWDRP comments are not binding and the recommendations are not mandatory. The advice and recommendations can be used as a decision making tool forming part of the assessment of the proposal.

Shire staff consider that there has been an improvement in the proposed site layout, however there is an evident lack of response to the site and to the art deco or jazz style of buildings that exist in the Manjimup town site which has not been introduced into the main building design.

### **Planning Assessment:**

The provisions of the Local Planning Scheme No. 4 (the Scheme) include the land within the Town Centre Zone and within Planning Precinct 1a Manjimup (MP1A) Town Centre. The application is consistent with the purpose of the Town Centre Zone, which is to *“provide for the establishment and ongoing development of nodes of diverse commercial, professional, tourist, entertainment, residential and community activities to service the populations of surrounding areas.”*

Objectives of the zone applicable to this application include maintaining opportunities for residential, grouped residential, tourist accommodation, offices and where appropriate service commercial and service industry suitable in a country town and compatible with the commercial and community functions of the town.

In considering an application for planning consent, clause 10.2 of the Scheme requires that the local government has regard to various matters, including, but not limited to:-

- (i) *the aims and provisions of the Scheme and any other relevant Local Planning Scheme operating within the Scheme area;*
- (iii) *an approved State Planning Policy of the Commission;*
- (vii) *the content and objective of Planning Precinct Statements set out in Schedule 8 of this Scheme;*
- (xi) *any social issues that have an effect on the amenity of the locality;*
- (xv) *the preservation of the amenity of the locality;*
- (xvi) *the relationship of the proposal to development on adjoining land or on other land in the locality including but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the proposal;*
- (xvii) *whether the proposed means of vehicular access to and egress from the site are adequate and whether adequate provision has been made for the loading, unloading, manoeuvring and parking of vehicles;*

- (xviii) *the amount of traffic likely to be generated by the proposal, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;*
- (xxiii) *whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;*
- (xxvi) *any relevant submissions received on the application; and*
- (xxvii) *the comments or submissions received from any authority consulted under Clause 10.1.*

#### Land Use Classification

The completed application form describes the proposed development as “Proposed Motel”. From examination of the Scheme, the proposed development could be deemed to be consistent with either of the following definitions:

*Hotel “means premises providing accommodation the subject of a hotel license under the Liquor Licensing Act 1988, and may include a betting agency on those premises, but does not include a tavern or a motel”.*

*Motel “means premises used to accommodate patrons in a manner similar to a hotel but in which specific provision is made for the accommodation of patrons with motor vehicles and may comprise premises licensed under the Liquor Licensing Act 1988”.*

As reflected on the submitted plans, the applicants are making special provision for vehicles, with allocated parking bays. Given this, it is considered that the use is appropriately classified as a Motel with associated facilities.

#### Setbacks

Provisions of the Scheme do not identify specific setback requirements for development within the Town Centre Zone, but instead identify that:

- a) Site coverage of up to 100% where the local government is satisfied that adequate arrangements have been made in regard to access, car parking, traffic circulation of traffic, servicing and loading and unloading; and
- b) A zero setback from the front boundary may be permitted where landscaped and paved pedestrian areas are to be provided adjacent to the front boundary and the local government is satisfied on the above matters.

In this case the applicants are proposing a 1.2m setback to Robbies Lane, 1.9m setback to Ipsen Street, a 1.5m setback to Rose Street (majority at 5.5m and a nil setback to the adjoining property.

#### Incongruous Development

Clause 5.12.4 of the Scheme provides weight to the assessment of proposed buildings to ensure that the development is in harmony with the existing buildings or landscape of the locality by virtue of design, the colour or type of materials to be used on exposed surfaces, the height, bulk and massing. This provision is included to ensure that a development will not have any adverse impact of the character of the area or amenity and landscape of the locality.

The applicant is proposing the use of gabled roofs and timber to reflect the local character of the area. The applicant has selected brick pillars and metal panel perimeter fencing and will select landscaping plants local to the area.

### Planning Precinct

The Scheme includes the subject land within Planning Precinct MP1A which relates to the traditional town commercial and business centre. As outlined in clause 2.1.1 of the Scheme, the continuation of the individuality that is representative of most eras is encouraged.

Development within the precinct will be encouraged to:

- *Combine a wide range of uses and to include opportunities for combined residential and commercial or office uses;*
- *Accommodate tourist and entertainment orientated activities;*
- *Maintain a mix of larger and small scale development but where larger new developments are designed to appear as smaller more interesting units that relate to the street and are interesting for pedestrians;*
- *Create small scale one and two storey shops and other buildings with varying styles;*
- *Require new developments and renovations to be designed to be pedestrian oriented where sheltered outdoor spaces are created where footpath and open space awnings are developed for pedestrian comfort; and*
- *The preservation and enhancement of buildings representative of the “art deco” or jazz” and those building on the Heritage Inventory.”*

Apart from the above statement, there are no other design guidelines for the town centre to prescribe materials, colours and built form.

Based on the statements above, the proposed design has not provided for pedestrian shelter through awnings to footpath or provided designs responsive to the “art deco” or “jazz style” architecture.

In addition, the applicant is proposing a geometric roof line to a curved property boundary. This design is considered by staff to not respond to the site context. A site responsive (curved) design would have offered a level of design similar to the “art deco” style required by the Scheme.

### State Planning Policy 7.0 Design of the Built Environment

The intent of SPP 7.0 is to deliver the broad economic, environmental, social and cultural benefits that derive from good design outcomes and supports consistent and robust design review and assessment processes across the State.

### Car Parking

In accordance with clause 5.17 of the Scheme the following off street-car parking requirements apply to the proposed development:

Use	Minimum Number of Parking Spaces to be Provided	Proposal	Parking Required	Parking provided
Motel	1 per unit	33 units (inc caretakers)	33 bays	35 bays & 10 on-street
	plus 1 per 25m <sup>2</sup> of service area.	177m <sup>2</sup> amenities	7 bays	

The applicant has proposed 35 car parking bays off street. There is a proposed parking short fall of 5 (five) car parking spaces for the number of rooms and service area to be provided. Given Council's previous resolution the provision of 1 bay per unit plus two bays for staff results in a one bay surplus, should Council uphold that advice.

#### Cash in Lieu

In accordance with Clause 5.17.11 of the Scheme where an applicant can satisfy the local government that the minimum car parking requirements cannot be provided on the site, a cash payment can be accepted in lieu of the provision of parking. As outlined within the clause, the payment shall be equivalent to the cost of providing and constructing the car parking together with the value of the land that would otherwise be occupied by the car parking.

Clause 5.7.11 (b) stipulates that before accepting the payment of cash-in-lieu, the local government must have:

- i. purchased land for a car park; or
- ii. provided a public car park in the vicinity of the proposed development or have a firm commitment to do so; or
- iii. have an endorsed car parking strategy with agreed works to be implemented.

In this case, the Shire has an adopted Parking Strategy, which identifies the formalising of parking bays located on the railway reserve to the rear of the shops fronting Giblett Street. As the Shire is already in control of the land, which was obtained without the need to purchase the land, it is recommended the requirements of clause 5.17.11 be varied such that any cash in-lieu component is equivalent to the construction cost only. Any cash-in-lieu received could also be utilised to formalise parking abutting the property on the Ipsen and Rose Streets.

#### Relaxation of Standards

In accordance with clause 5.5.1 of the Scheme, where a development does not comply with a standard or requirement prescribed by the Scheme, the local government may approve the application, despite this non-compliance. As stated in clause 5.5.3 of the Scheme, *"the power conferred by this clause may only be granted if the local government is satisfied that:*

- (i) *Approval of the proposed development would be appropriate having regard to the criteria set out in clause 10.2; and*
- (ii) *The non-compliance will not have an adverse effect upon the occupiers or users of the development, the inhabitants of the locality of the likely future development of the locality."*



Traditionally when calculating car parking requirements relating to a proposed development or change of use within the Town Centre, both Shire Staff and Council have supported permanent on-street car bays to be taken into account when considering a relaxation of parking standards.

In this case, taking into account ten on-street parking bays, the required car parking bays could be reduced from 40 to 30, without having a detrimental impact on the occupiers or users of the development, the inhabitants of the locality of likely future development.

Given Council's previous resolution for 1 space per unit plus two bays for staff, the applicant has met this requirement. With the extra bays on street, the potential impact is even further reduced.

### Landscaping

Provisions of the Scheme specify that a minimum of 5% of the site is required to be set aside for landscaping. In accordance with clause 5.13 of the Scheme, landscaping may consist of garden plantings and areas for pedestrian use. At the discretion of the local government landscaping may include natural bushland, swimming pools and areas under covered walkways.

Notwithstanding the above, clause 5.13.3 of the Scheme states that the requirements for landscaping will be determined by Council on the merits of each case. In order to provide further guidance on this to applicants and Shire Staff alike, Council has adopted Local Planning Policy 6.1.8 – Landscaping.

As outlined within the Policy, a minimum three metre landscaping strip is required for commercial developments, except where development is approved with a nil setback. In this case the applicant has not achieved a landscaping strip to Ipsen Street and Rose Street

The policy states that applicants are encouraged to use waterwise plants and water sensitive urban design with a minimum of 75mm of mulch (25mm for native plant species). Unless otherwise justified, landscaped areas are required to be reticulated and the use of programmable irrigation controls and water efficient irrigation controllers is encouraged.

With respect to the subject proposal, the following comments are offered:

- The SWDRP commented that the retention of the existing trees should have been a higher priority, even at the expense of a parking bay;
- applicants are proposing extensive paved areas within the site for pedestrian movement within the site along with landscaping adjacent to the neighbouring property; and
- the level of landscaping complies with the scheme requirements.

The submitted concept landscape plan indicates a planting palette incorporating coastal plant species. This is considered by the DRP and Shire staff as inappropriate and the applicant has been encouraged to engage a landscape

architect/designer to assist in plant species selection. A condition for a landscape plan is provided within the recommendation.

#### Motel Unit Design

It was noted by the SWDRP that the proposed accessible rooms would not achieve Disability Discrimination Act (DDA) compliance as the floor plan does not provide a 1m circulation space around bed. Should the proposal be supported, the building permit plans would need to be compliant with the DDA.

Given the smaller unit size of the Motel rooms, it was suggested by the SWDRP that all kitchenette facilities within the rooms include a microwave, sink, kettle for reheating and preparing small meals.

#### Conclusion

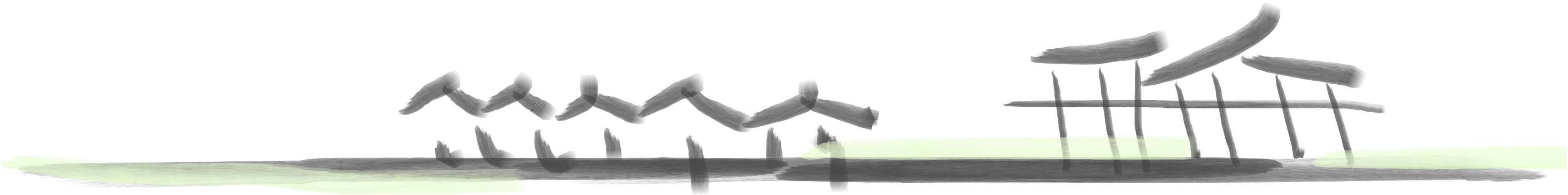
Despite addressing the traffic access and management concerns raised relating to the previous application, and the revised plans being supported by the SWDRP, the applicant has not addressed the preferred building design style for the Manjimup Planning Precinct. In addition, the reduced provision of landscaping to the street setback will result in a development which does not provide pedestrian shelter and at the same time an unmanageable landscaping strip. Ultimately the proposed design does not response to the location, context and site constraints and is overdeveloped. It is therefore recommended that the RJDAP consider refusing the application.

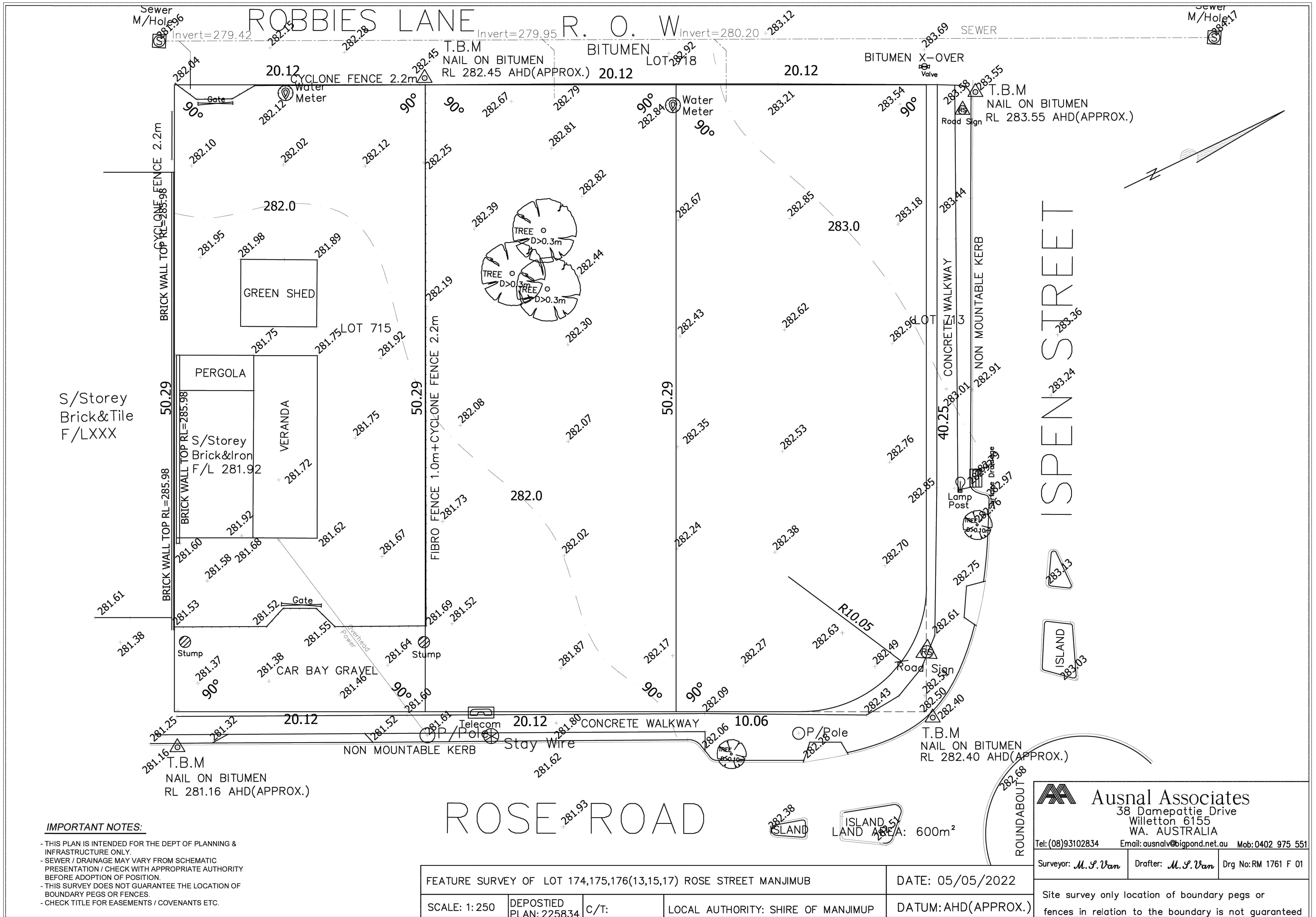
# MANJI MOTEL

LOT 174, 175, 176 ROSE STREET MANJIMUP

DRAWING LIST

LOCATION PLAN	A-1100
EXISTING SURVEY PLAN	A-1101
DEMOLITION PLAN	A-2000
SITE PLAN	A-2001
FLOOR PLAN	A-2100
ROOF PLAN	A-2101
FLOOR PLAN	A-2102
ELEVATIONS	A-3100
SECTIONAL ELEVATIONS	A-4100
LANDSCAPE CONCEPT PLAN	A-7100






**IMPORTANT NOTES:**

- THIS PLAN IS INTENDED FOR THE DEPT OF PLANNING & INFRASTRUCTURE ONLY.
- SEWER / DRAINAGE MAY VARY FROM SCHEMATIC PRESENTATION / CHECK WITH APPROPRIATE AUTHORITY BEFORE ADOPTION OF POSITION.
- THIS SURVEY DOES NOT GUARANTEE THE LOCATION OF BOUNDARY PEGS OR FENCES.
- CHECK TITLE FOR EASEMENTS / COVENANTS ETC.

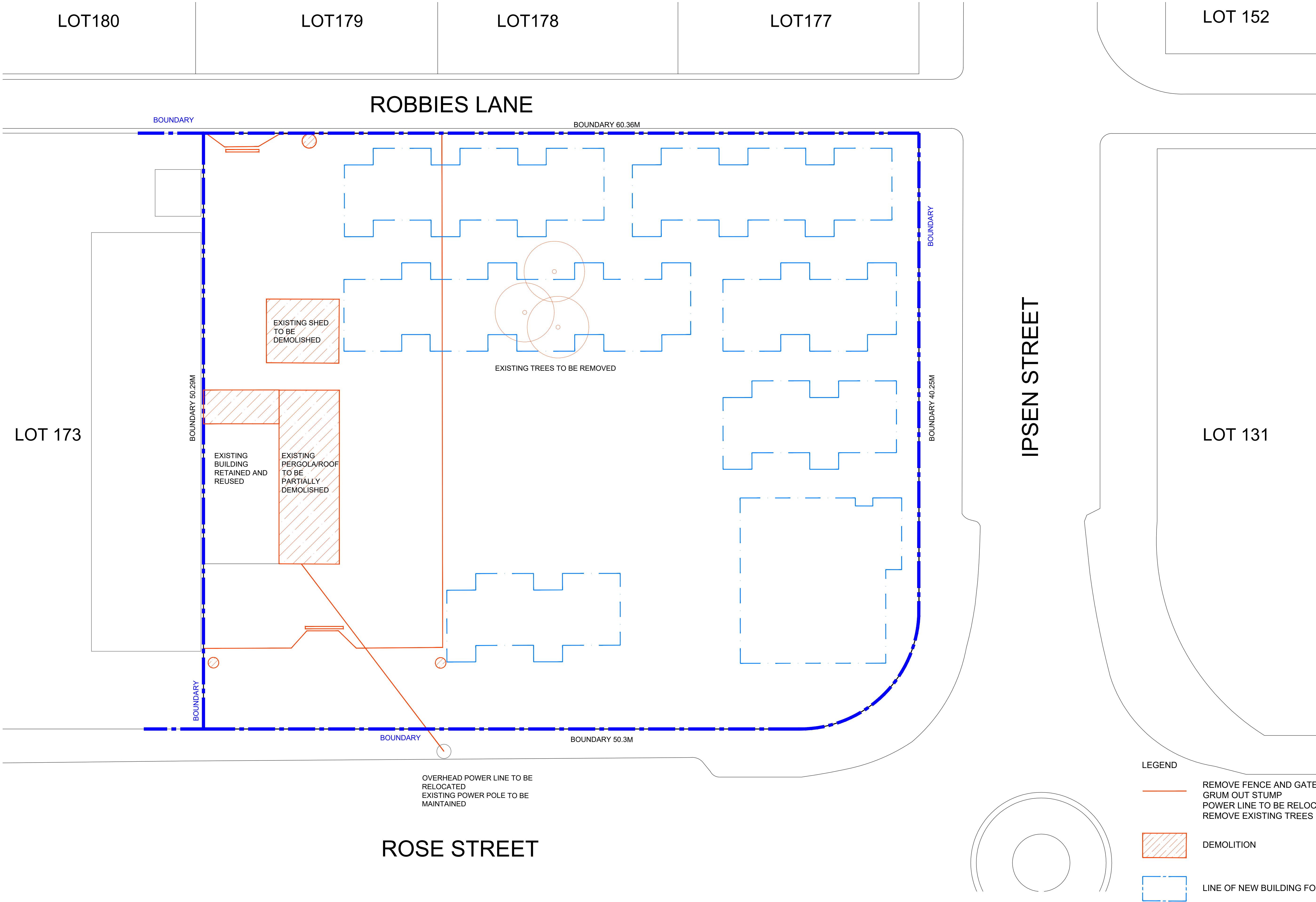
FEATURE SURVEY OF LOT 174,175,176(13,15,17) ROSE STREET MANJIMUB			
SCALE: 1: 250	DEPOSITED PLAN: 225834	C/T:	LOCAL AUTHORITY: SHIRE OF MANJIMUB

DATE: 05/05/2022
DATUM: AHD (APPROX.)

**Ausnal Associates**  
38 Damepattie Drive  
Willetton 6155  
WA. AUSTRALIA  
Tel: (08) 93102834 Email: ausnal@bigpond.net.au Mob: 0402 975 551

Surveyor: <i>M. J. Van</i>	Drafter: <i>M. J. Van</i>	Org No: RM 1761 F 01
Site survey only location of boundary pegs or fences in relation to the boundary is not guaranteed		

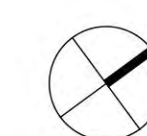
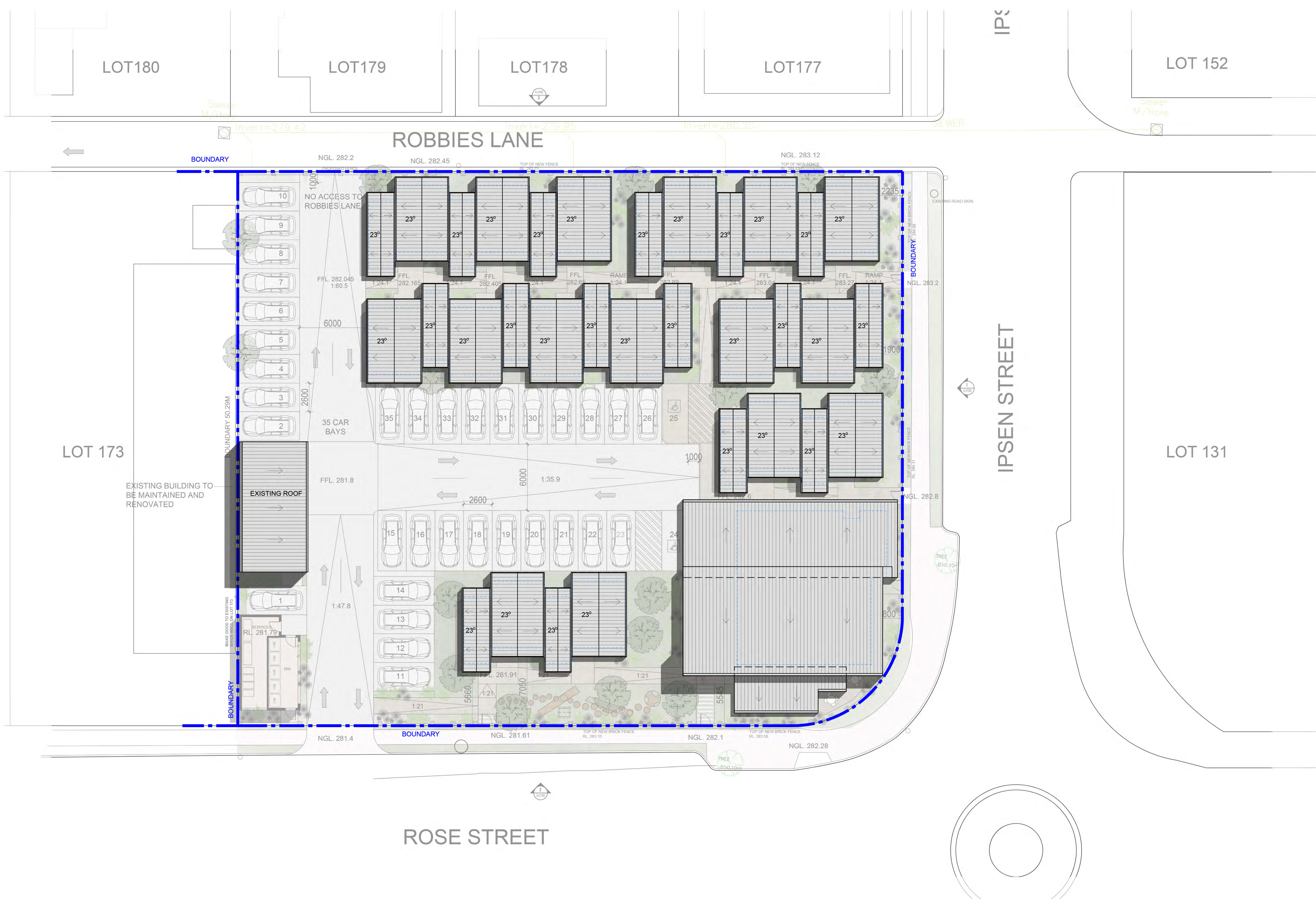








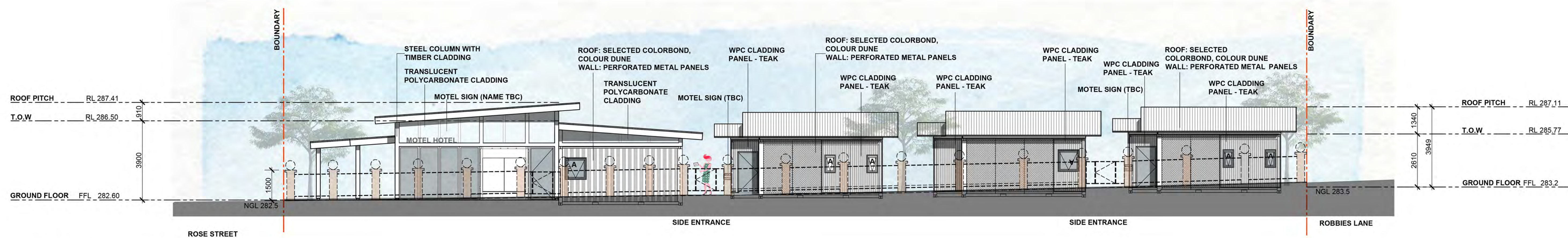








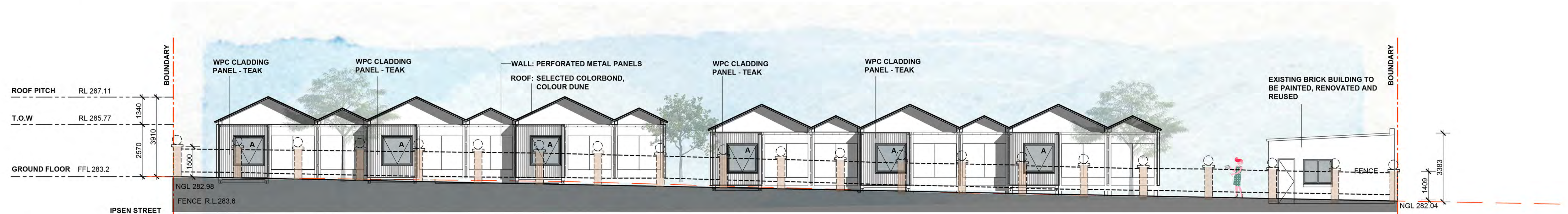




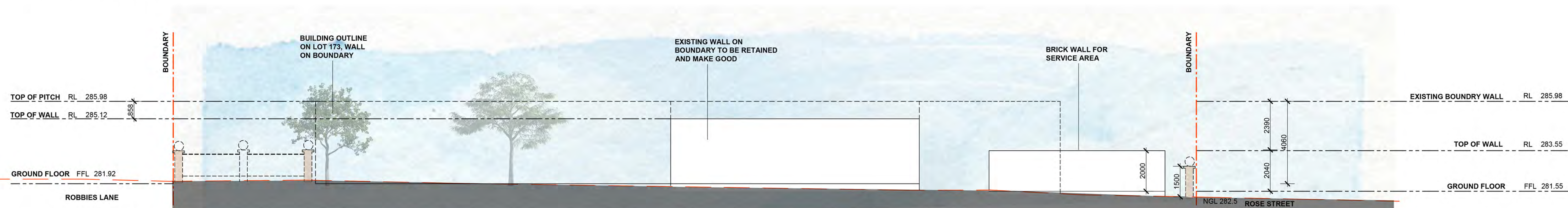
ELEVATION 1 - IPSEN STREET



ELEVATION 2 - ROSE STREET

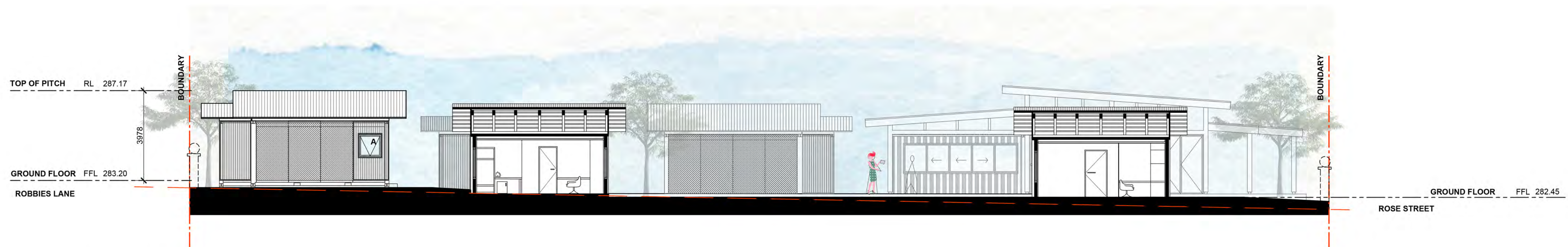
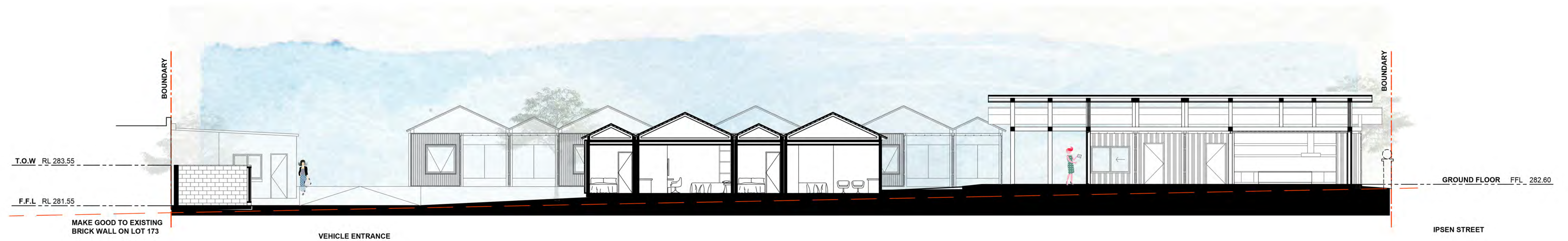


ELEVATION 3 - ROBBIES LANE



ELEVATION 4 - ADJACENT TO LOT 173









## LEGEND

ALL VEGETATION, INCLUDING TREES AND PLANTS, WILL BE SELECTED AT A LATER STAGE BY LANDSCAPE CONTRACTOR

- ① CREEPER PLANTING UP WIRES AROUND BRICK AND METEL FENCE (IE: HIBBERTIA SCANDENS)
- ③ SANDPIT WITH NATIVE PLANTINGS AROUND EDGE,
- ④ DECKING /PAVEMENT TO EXTERNAL PEDESTRIAN WALKWAYS
- ⑤ NATIVE PLANTINGS, SHADE TREES.
- ⑥ TALL NARROW TREES IN DEEP SOIL AREA
- ⑦ NATIVE CASCADING PLANTINGS
- ⑧ NATURE WOOD KIDS PLAY AREA WITH LITTLE FREE LIBRARY NATIVE PLANTINGS, SHADE TREES,
- ⑨ SCREENING TALL SHRUBS OUTSIDE BEDROOM WINDOW

## CONCEPT IMAGERY











VIEW FROM CORNER OF ROSE STREET & IPSEN STREET



VIEW FROM ROSE STREET

RENDERING IMAGES ARE FOR ILLUSTRATIVE PURPOSES ONLY. DESIGN DETAILS PLEASE REFER TO ARCHITECTURAL DRAWINGS

TEXTURE

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PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

07-02-2025  
ISSUED FOR  
SUBMISSION  
REVISION 2

JOB NO. 2316  
SCALE NA

DRAWING TITLE  
RENDERING IMAGES

DA-6800

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au





VIEW FROM CORNER OF ROSE STREET



VIEW FROM VEHICLE ENTRANCE TO ADMINISTRATION BUILDING



VIEW TO ADMINISTRATION BUILDING

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PROPOSED MOTEL  
LOT  
174,175,176(13,15,17)  
ROSE STREET MANJIMUP

07-02-2025  
ISSUED FOR  
SUBMISSION  
REVISION 2

JOB NO. 2316  
SCALE NA

DRAWING TITLE  
RENDERING IMAGES

DA-6801

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au





VIEW FROM IPSEN STREET



VIEW FROM ROSE STREET TO ADMINISTRATION BUILDING



VIEW FROM CAR PARKING TO ADMINISTRATION BUILDING

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PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

07-02-2025  
ISSUED FOR  
SUBMISSION  
REVISION 2

JOB NO. 2316  
SCALE NA

DRAWING TITLE  
RENDERING IMAGES

DA-6802

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au



DOUBLE ROOM - PRELIMINARY STUDY ONLY



SINGLE ROOM - PRELIMINARY STUDY ONLY



VIEW TO MOTEL ROOMS

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PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

07-02-2025  
ISSUED FOR  
SUBMISSION  
REVISION 2

JOB NO. 2316  
SCALE NA

DRAWING TITLE  
RENDERING IMAGES

DA-6803

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au





BIRD VIEW TO PROPOSED DEVELOPMENT

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TEXTURE

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PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

07-02-2025  
ISSUED FOR  
SUBMISSION  
REVISION 2

JOB NO. 2316  
SCALE NA

DRAWING TITLE  
RENDERING IMAGES

DA-6804

Texture  
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www.texture-arch.com.au



## CONSTRUCTION WASTE

Approximately 30% of all waste worldwide comes from the construction and demolition of buildings, much of which ends up in landfills. The decomposition of organic materials in landfills can release methane, a potent greenhouse gas.



**MODULAR CONSTRUCTION OFFERS SEVERAL SUSTAINABILITY BENEFITS, MAKING IT AN ENVIRONMENTALLY FRIENDLY BUILDING METHOD:**

**1. Reduced Material Waste:**

Controlled factory settings minimize waste and allow for reuse of leftover materials, unlike traditional sites.

**2. Energy Efficiency:**

Factory-controlled environments reduce energy use during construction, and modular units often include better insulation, resulting in more energy-efficient buildings.

**3. Lower Carbon Footprint:**

Fewer deliveries to the site reduce transportation emissions and the environmental impact of on-site construction.

**4. Faster Construction Times:**

Shorter on-site timelines lead to reduced noise, dust, and overall environmental disturbance.

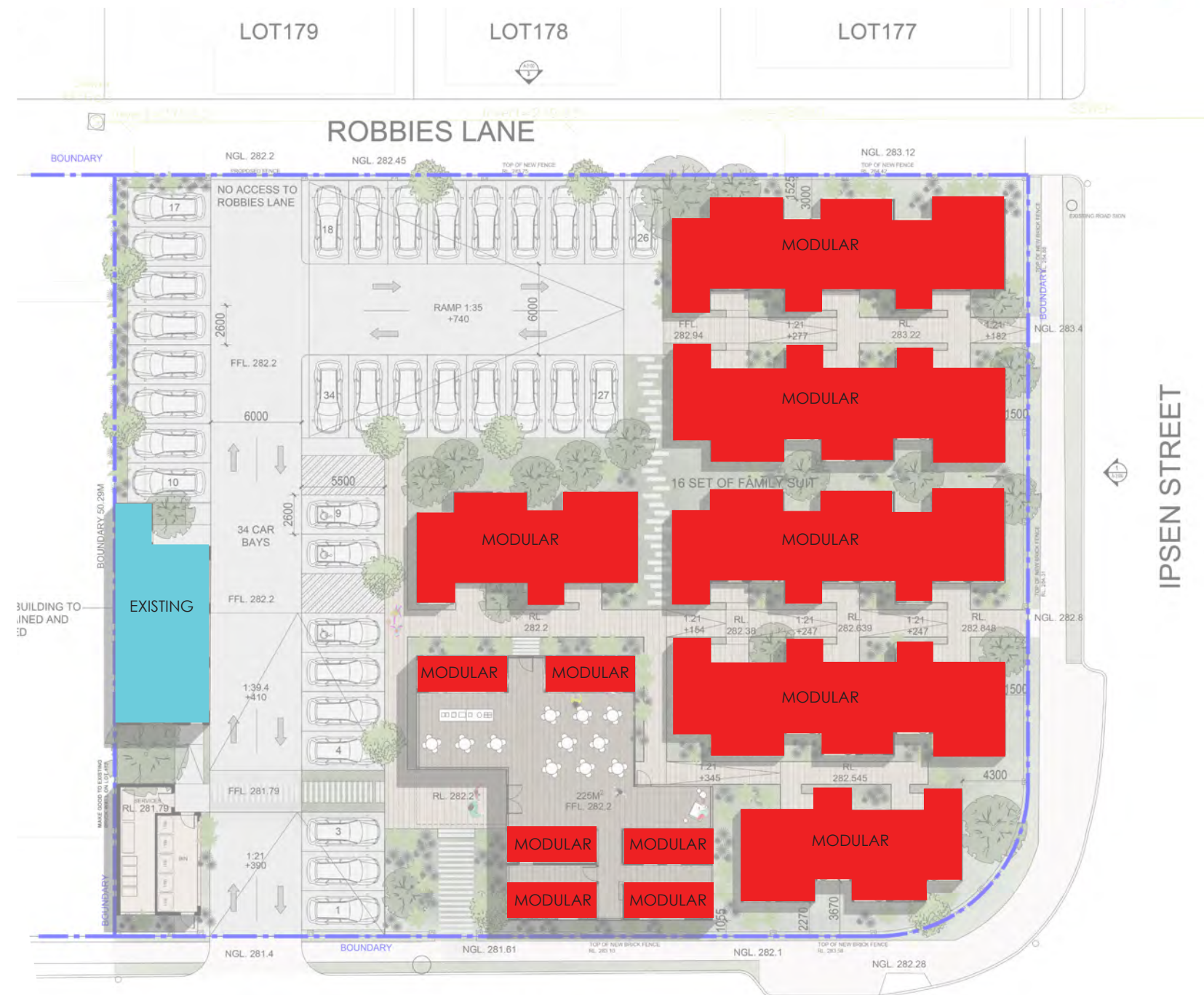
**5. Reusability and Flexibility:**

Modular units can be disassembled and relocated, promoting a circular economy and reducing demolition waste.

**6. Less Site Impact:**

Off-site construction decreases disruption to local ecosystems and communities, with lower pollutant output and minimal footprint.

These factors make modular construction ideal for eco-conscious projects, supporting sustainability by reducing waste, conserving energy, and lowering emissions.



MODULAR CONSTRUCTION METHOD + REUSE OF EXISTING BUILDING

## ATTACHMENT APPENDIX

### 9.5.2 Responsible Authority Report - Recommended Consideration of a Proposed Motel at Lot 174, 175 and 176 (13-17) Rose Street, Manjimup

<b>PROPONENT</b>	Texture-Arch
<b>OWNER</b>	P Twin Holdings Pty Ltd
<b>LOCATION / ADDRESS</b>	Lot 174, 175, 176 (13-17) Rose Street, Manjimup
<b>WARD</b>	Urban
<b>ZONE</b>	Town Centre
<b>DIRECTORATE</b>	Development Services
<b>FILE REFERENCE</b>	DA24/94 P55100 52820 54520
<b>LEGISLATION</b>	<i>Planning and Development Act 2005</i>
<b>AUTHOR</b>	Jocelyn Baister (Manager Planning Services)/Benjamin Rose (CEO)
<b>DATE OF REPORT</b>	27 March 2025
<b>DECLARATION OF INTEREST</b>	Nil.

### BACKGROUND

The subject land has a combined total area of 3,014m<sup>2</sup> and is located at the corner of Rose and Ipsen Streets within the Manjimup town centre. Lot 174 currently consists of a disused nursery building and trade area with Lots 175 and 176 vacant. A location plan is shown below.

### LOCATION PLAN



In September 2023, the Western Australian Planning Commission granted unconditional approval to amalgamate the three lots into one, which will assist in coordinated development on the land.

Council at its January 2024 Ordinary Meeting, considered an application for a proposed Hotel and resolved as follows:

**29421**

- 1. That the proposal is rejected on the basis that in its present form the traffic management, using Robbies Lane is inadequate and will disrupt other businesses using the lane. The proposal could be redesigned to include a minimum number of 1 bay per unit plus 2 bays for staff parking.**
- 2. A traffic management plan is required to be lodged as part of any re-application for the development.**

A copy of the minutes from the January meeting are appended.

**APPENDIX: 9.5.2 (A)**

Despite the terminology used in the determination, the application was considered refused and the applicant has submitted a new application for consideration.

Council is in receipt of an application for planning approval for a Motel development comprising of:

- Sixteen (16) sets of family units or thirty two (32) individual rooms, two of which are proposed to be accessible.
- A combined reception and dining area/breakfast area and kitchenette.
- Caretaker's accommodation.
- Gym.
- Parking for 35 cars.

Additional information received in support of the application states that the hotel will be operated from the head office in Fremantle and operate 24 hours a day and 365 days a year. Reception will be open from 8am to 4pm. There will be 1 person employed for reception and administration and three house keepers. Only light breakfast will be available.

The submitted plans and perspectives are shown attached.

**ATTACHMENT: 9.5.2(1)**

**ATTACHMENT: 9.5.2(2)**

The applicant has provided a notice that the application is to be determined by a Development Assessment Panel.



Council is requested to consider the recommendation to the Development Assessment Panel (DAP) due to the car parking variation and the recommendation not being in support of the proposal.

## CONSULTATION UNDERTAKEN

The proposal was referred to surrounding landowners for a period of 21 days for public comments.

One submission was received in full support of the proposal. One submission was received late which commented on additional traffic on using Bath Street.

A copy of the individual comments are provided attached.

## ATTACHMENT: 9.5.2 (3)

## COMMENT

The provisions of the Local Planning Scheme No. 4 (the Scheme) include the land within the Town Centre Zone and within Planning Precinct 1a Manjimup (MP1A) Town Centre. The application is consistent with the purpose of the Town Centre Zone, which is to *“provide for the establishment and ongoing development of nodes of diverse commercial, professional, tourist, entertainment, residential and community activities to service the populations of surrounding areas.”*

Objectives of the zone applicable to this application include maintaining opportunities for residential, grouped residential, tourist accommodation, offices and where appropriate service commercial and service industry suitable in a country town and compatible with the commercial and community functions of the town.

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- (xi) *any social issues that have an effect on the amenity of the locality;*
- (xv) *the preservation of the amenity of the locality;*
- (xvi) *the relationship of the proposal to development on adjoining land or on other land in the locality including but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the proposal;*

- (xvii) whether the proposed means of vehicular access to and egress from the site are adequate and whether adequate provision has been made for the loading, unloading, manoeuvring and parking of vehicles;*
- (xviii) the amount of traffic likely to be generated by the proposal, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;*
- (xxiii) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;*
- (xxvi) any relevant submissions received on the application; and*
- (xxvii) the comments or submissions received from any authority consulted under Clause 10.1.*

To assist Council in determining the application, the following comments are offered:

#### Land Use Classification

The completed application form describes the proposed development as "Proposed Motel". From examination of the Scheme, the proposed development could be deemed to be consistent with either of the following definitions:

*Hotel "means premises providing accommodation the subject of a hotel license under the Liquor Licensing Act 1988, and may include a betting agency on those premises, but does not include a tavern or a motel".*

*Motel "means premises used to accommodate patrons in a manner similar to a hotel but in which specific provision is made for the accommodation of patrons with motor vehicles and may comprise premises licensed under the Liquor Licensing Act 1988".*

As reflected on the submitted plans, the applicants are making special provision for vehicles, with allocated parking bays. Given this, it is considered that the use is appropriately classified as a Motel with associated facilities.

#### Setbacks

Provisions of the Scheme do not identify specific setback requirements for development within the Town Centre Zone, but instead identify that:

- a) Site coverage of up to 100% where the local government is satisfied that adequate arrangements have been made in regard to access, car parking, traffic circulation of traffic, servicing and loading and unloading; and
- b) A zero setback from the front boundary may be permitted where landscaped and paved pedestrian areas are to be provided adjacent to the front boundary and the local government is satisfied on the above matters.

In this case the applicants are proposing a 1.2m setback to Robbies Lane, 1.9m setback to Ipsen Street, a 1.5m setback to Rose Street (majority at 5.5m and a nil setback to the adjoining property.

### Incongruous Development

Clause 5.12.4 of the Scheme provides weight to the assessment of proposed buildings to ensure that the development is in harmony with the existing buildings or landscape of the locality by virtue of design, the colour or type of materials to be used on exposed surfaces, the height, bulk and massing. This provision is included to ensure that a development will not have any adverse impact of the character of the area or amenity and landscape of the locality.

The applicant is proposing the use of gabled roofs and timber to reflect the local character of the area. The applicant has selected brick pillars and metal panel perimeter fencing and will select landscaping plants local to the area.

### Planning Precinct

The Scheme includes the subject land within Planning Precinct MP1A which relates to the traditional town commercial and business centre. As outlined in clause 2.1.1 of the Scheme, the continuation of the individuality that is representative of most eras is encouraged.

Development within the precinct will be encouraged to:

- *Combine a wide range of uses and to include opportunities for combined residential and commercial or office uses;*
- *Accommodate tourist and entertainment orientated activities;*
- *Maintain a mix of larger and small scale development but where larger new developments are designed to appear as smaller more interesting units that relate to the street and are interesting for pedestrians;*
- *Create small scale one and two storey shops and other buildings with varying styles;*
- *Require new developments and renovations to be designed to be pedestrian oriented where sheltered outdoor spaces are created where footpath and open space awnings are developed for pedestrian comfort; and*
- *The preservation and enhancement of buildings representative of the “art deco” or jazz” and those building on the Heritage Inventory.”*

Apart from the above statement, there are no other design guidelines for the town centre to prescribe materials, colours and built form.

Based on the statements above, the proposed design has not provided for pedestrian shelter through awnings to footpath or provided designs responsive to the “art deco” or “jazz style” architecture.

In addition, the applicant is proposing a geometric roof line to a curved property boundary. This design is considered by staff to not respond to the site context. A site responsive (curved) design would have offered a level of design similar to the “art deco” style required by the Scheme.

### State Planning Policy 7.0 Design of the Built Environment

The intent of SPP 7.0 is to deliver the broad economic, environmental, social and cultural benefits that derive from good design outcomes and supports consistent and robust design review and assessment processes across the State.

#### South West Design Review Panel

Given the prominent development location and the importance of the design when considering a substantial development within a town centre, Shire staff referred the proposal to the South West Design Review Panel (SWDRP). The SWDRP is a shared initiative between South West Shires and the Cities of Bunbury and Busselton. The panel comprises professionals in the fields of architecture, urban design, landscape architecture, heritage, sustainability and environmental design, town planning, arts and culture, and meets monthly to provide design advice on development applications, structure plans, design guidelines and any local government projects occurring in the local government areas.

The proposal was considered by the panel on 1 November 2024 and revised plans were presented to a meeting on 7 March 2025. Minutes taken by the Chair are provided attached.

#### **ATTACHMENT: 9.5.2(4)**

The panel considered that the intent and content of the project had alignment with the Scheme and Town Centre requirements and that the approach to sustainability including the choice of materials and construction techniques could be supported. The revised plans show a concerted attempt to address the matters raised in the first review as well as other functional improvements. The design has reached a point where although there are several items that might still be reconsidered, these can be resolved with some nominated changes, but without major change to the general arrangement of the site.

The SWDRP comments are not binding and the recommendations are not mandatory. The advice and recommendations can be used as a decision making tool forming part of the assessment of the proposal.

Shire staff consider that there has been an improvement in the proposed site layout, however there is an evident lack of response to the site and to the art deco or jazz style of buildings that exist in the Manjimup town site which has not been introduced into the main building design.

#### Car Parking

In accordance with clause 5.17 of the Scheme the following off street-car parking requirements apply to the proposed development:

Use	Minimum Number of Parking Spaces to be Provided	Proposal	Parking Required	Parking provided
Motel	1 per unit	33 units (inc caretakers)	33 bays	35 bays & 10 on-street
	plus 1 per 25m <sup>2</sup> of	177m <sup>2</sup> amenities	7 bays	



	service area.			
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The applicant has proposed 35 car parking bays off street. There is a proposed parking short fall of 5 (five) car parking spaces for the number of rooms and service area to be provided. Given Council's previous resolution the provision of 1 bay per unit plus two bays for staff results in a one bay surplus, should Council uphold that advice.

#### Cash in Lieu

In accordance with Clause 5.17.11 of the Scheme where an applicant can satisfy the local government that the minimum car parking requirements cannot be provided on the site, a cash payment can be accepted in lieu of the provision of parking. As outlined within the clause, the payment shall be equivalent to the cost of providing and constructing the car parking together with the value of the land that would otherwise be occupied by the car parking.

Clause 5.7.11 (b) stipulates that before accepting the payment of cash-in-lieu, the local government must have:

- i. purchased land for a car park; or
- ii. provided a public car park in the vicinity of the proposed development or have a firm commitment to do so; or
- iii. have an endorsed car parking strategy with agreed works to be implemented.

In this case, the Shire has an adopted Parking Strategy, which identifies the formalising of parking bays located on the railway reserve to the rear of the shops fronting Giblett Street. As the Shire is already in control of the land, which was obtained without the need to purchase the land, it is recommended the requirements of clause 5.17.11 be varied such that any cash in-lieu component is equivalent to the construction cost only. Any cash-in-lieu received could also be utilised to formalise parking abutting the property on the Ipsen and Rose Streets.

#### Relaxation of Standards

In accordance with clause 5.5.1 of the Scheme, where a development does not comply with a standard or requirement prescribed by the Scheme, the local government may approve the application, despite this non-compliance. As stated in clause 5.5.3 of the Scheme, *"the power conferred by this clause may only be granted if the local government is satisfied that:*

- (i) *Approval of the proposed development would be appropriate having regard to the criteria set out in clause 10.2; and*
- (ii) *The non-compliance will not have an adverse effect upon the occupiers or users of the development, the inhabitants of the locality of the likely future development of the locality."*

Traditionally when calculating car parking requirements relating to a proposed development or change of use within the Town Centre, both Shire Staff and

Council have supported permanent on-street car bays to be taken into account when considering a relaxation of parking standards.

In this case, taking into account ten on-street parking bays, the required car parking bays could be reduced from 40 to 30, without having a detrimental impact on the occupiers or users of the development, the inhabitants of the locality of likely future development.

Given Council's previous resolution for 1 space per unit plus two bays for staff, the applicant has met this requirement. With the extra bays on street, the potential impact is even further reduced.

### Landscaping

Provisions of the Scheme specify that a minimum of 5% of the site is required to be set aside for landscaping. In accordance with clause 5.13 of the Scheme, landscaping may consist of garden plantings and areas for pedestrian use. At the discretion of the local government landscaping may include natural bushland, swimming pools and areas under covered walkways.

Notwithstanding the above, clause 5.13.3 of the Scheme states that the requirements for landscaping will be determined by Council on the merits of each case. In order to provide further guidance on this to applicants and Shire Staff alike, Council has adopted Local Planning Policy 6.1.8 – Landscaping.

As outlined within the Policy, a minimum three metre landscaping strip is required for commercial developments, except where development is approved with a nil setback. In this case the applicant has not achieved a landscaping strip to Ipsen Street and Rose Street

The policy states that applicants are encouraged to use waterwise plants and water sensitive urban design with a minimum of 75mm of mulch (25mm for native plant species). Unless otherwise justified, landscaped areas are required to be reticulated and the use of programmable irrigation controls and water efficient irrigation controllers is encouraged.

With respect to the subject proposal, the following comments are offered:

- The SWDRP commented that the retention of the existing trees should have been a higher priority, even at the expense of a parking bay;
- applicants are proposing extensive paved areas within the site for pedestrian movement within the site along with landscaping adjacent to the neighbouring property; and
- the level of landscaping complies with the scheme requirements.

The submitted concept landscape plan indicates a planting palette incorporating coastal plant species. This is considered by the DRP and Shire staff as inappropriate and the applicant has been encouraged to engage a

landscape architect/designer to assist in plant species selection. A condition for a landscape plan is provided within the recommendation.

#### Motel Unit Design

It was noted by the SWDRP that the proposed accessible rooms would not achieve Disability Discrimination Act (DDA) compliance as the floor plan does not provide a 1m circulation space around bed. Should the proposal be supported, the building permit plans would need to be compliant with the DDA.

Given the smaller unit size of the Motel rooms, it was suggested by the SWDRP that all kitchenette facilities within the rooms include a microwave, sink, kettle for reheating and preparing small meals.

#### Conclusion

Despite addressing the traffic access and management concerns raised relating to the previous application, and the revised plans being supported by the SWDRP, the applicant has not addressed the preferred building design style for the Manjimup Planning Precinct. In addition, the reduced provision of landscaping to the street setback will result in a development which does not provide pedestrian shelter and at the same time an unmanageable landscaping strip. Ultimately the proposed design does not response to the location, context and site constraints and is overdeveloped. It is therefore recommended that the RJDAP consider refusing the application.

### **STATUTORY ENVIRONMENT**

*Planning and Development Act 2005, Planning and Development (Development Assessment Panels) Regulations 2011 and Local Planning Scheme No 4.*

### **POLICY / STRATEGIC IMPLICATIONS**

Approval to the application as submitted is consistent with Strategy B2 of the Shire of Manjimup's Community Strategic Plan 2021-31, being to:

*B2: Attract business-class accommodation services to Manjimup.*

### **ORGANISATIONAL RISK MANAGEMENT**

Nil.

### **FINANCIAL IMPLICATIONS**

The required application fee has been paid in accordance with the Schedule of Fees and Charges adopted as part of the 2024/25 annual budget in addition to the Fees for the Development Assessment Panel.

## **SUSTAINABILITY**

Environmental: No environmental impacts are anticipated.

Economic: Approval to the application as submitted will result in the creation of short term employment associated with development of the site and long term employment through its ongoing operation. The establishment of accommodation as proposed will add to existing accommodation options within the town, potentially attracting additional visitors to the Shire and region.

Social: The proposal is in close proximity to existing businesses that emit noise and residences which are sensitive to excessive noise.

## **VOTING REQUIREMENTS: SIMPLE MAJORITY**

## **OFFICER RECOMMENDATION**

### **PART A**

That Council recommend that the Regional Joint Development Assessment Panel refuse the Development Assessment Panel Application reference DAP/24/02783 at contained in Attachment 9.5.2(1) in accordance with Clause 68 of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of Clause 10.3 of the Shire of Manjimup Local Planning Scheme No. 4 for the following reasons:

1. The proposed development does not comply with the minimum three (3) metre landscaping strip to Ipsen Street and Rose Street in accordance with Local Planning Policy 6.1.8 – Landscaping and does not provide as an alternative a nil setback with pedestrian shelter.
2. The proposed development does not respond to the site context and art deco or jazz style architecture within the Manjimup Planning Precinct in accordance with clause 2.1.1 of the Local Planning Scheme No. 4.
3. The proposed development does not provide compliant parking numbers in accordance with Table 2 of Local Planning Scheme No. 4

### **PART B**

Should the Regional Joint Development Assessment Panel resolve to approve the application the Council provides the following conditions



and advice:

1. The development hereby approved is to be carried out in accordance with the plans and specifications submitted with the application and these shall not be altered and/or modified without the prior knowledge and written consent of the Shire of Manjimup.

Reference	Document Title	Date Received
A-2000	Demolition Plan	27 March 25
A-2001	Site Plan	27 March 25
A-2100	Floor Plan	27 March 25
A-2102	Floor Plan	27 March 25
A-3100	Elevations	27 March 25
A-4100	Sectional Elevations	27 March 25

2. Notwithstanding condition 1, prior to application for building permit, the plans submitted and hereby approved shall be modified as follows:

2.1 Revised floor plan of accessible units to ensure compliance with Disability Discrimination Act standards.

3. Prior to the issue of a Building Permit, a Geotechnical Report and an urban water and drainage management plan is to be prepared and approved, to the satisfaction of the Shire of Manjimup.
4. The urban water management plan referred to in Condition 3, shall be implemented to the satisfaction of the Shire of Manjimup.
5. Prior to the application for Building Permit, a noise management plan is to be submitted to the Shire for approval and thereafter applied to the development to the satisfaction to the Shire of Manjimup.
6. Prior to the issue of a Building Permit, a Waste Management Plan must be submitted to and approved by the Shire of Manjimup. The plan must include the following details to the satisfaction and specification of the Shire of Manjimup:
  - 6.1 the location of bin storage areas and bin collection areas.
  - 6.2 the number, volume and type of bins, and the type of waste to be placed in the bins.
  - 6.3 details on the future ongoing management of the bins and the bin storage areas, including cleaning, rotation and moving bins to and from the bin collection areas.
  - 6.4 frequency of bin collections.
7. A schedule of the colour and texture of the building materials, demonstrating that the proposed development complements the surrounding area, must be submitted to and approved by the Shire of Manjimup, prior to lodging an application for a building permit. The development must be finished, and thereafter maintained, in accordance with the schedule provided to and approved by the

**Shire of Manjimup, prior to occupation of the development.**

- 8. A dilapidation report, prepared at the applicant's expense, documenting the current state of the verge, footpath and road shall be prepared and submitted to the Shire of Manjimup for approval prior to the commencement of any works associated with the development.**
- 9. Prior to the commencement of works, the applicant is to submit, and have approved to the satisfaction of the Shire of Manjimup, a detailed parking plan design which complies with Table 2 and 3, Clause 5.17.11, of the Shire of Manjimup Local Planning Scheme No. 4 including 40 car parking bay/s, aisle widths, circulation areas driveway/s and points of ingress and egress. Alternatively, the Shire of Manjimup is prepared to accept payment of cash-in-lieu for the required parking that cannot be provided on-site, with such payment to be used by the Shire to formalise parking on Rose Street and/or Ipsen Street prior to the occupation of the development.**
- 10. Prior to the commencement of construction, a detailed landscaping and reticulation plan for the subject site and/or verge(s) must be submitted to and approved to the satisfaction of the Shire of Manjimup.**
- 11. The approved landscaping and reticulation plan must be fully implemented within the first available planting season prior to the occupation of the development, and maintained thereafter, to the satisfaction of the Shire of Manjimup. Any species which fail to establish within the first two planting seasons following implementation must be replaced in consultation with and to the satisfaction of the Shire of Manjimup.**
- 12. Prior to the commencement of construction, the applicant must submit and have approved by the Shire of Manjimup, and thereafter implement to the satisfaction of the Shire of Manjimup, a construction management plan addressing the following matters:**
  - 12.1 How materials and equipment will be delivered and removed from the site.**
  - 12.2 How materials and equipment will be stored on the site.**
  - 12.3 Parking arrangements for contractors.**
  - 12.4 Construction waste disposal strategy and location of waste disposal bins.**
  - 12.5 Details of cranes, large trucks or similar equipment which may block public thoroughfares during construction.**
  - 12.6 How risks of wind and/or water borne erosion and sedimentation will be minimised during and after the works.**
  - 12.7 Other matters likely to impact on the surrounding properties**
- 13. Prior to commencement of construction the applicant is to prepare an Operation Management Plan to address amenity issues including, fumes, noise, vibration, odour, vapour, dust wastewater,**

waste products or other pollutants to the satisfaction of the Shire of Manjimup.

14. Prior to the occupation of the development, vehicle crossovers between the subject land and Rose Street are to be located, designed, constructed, sealed and drained to the specification and satisfaction of the Shire of Manjimup.
15. The development hereby approved shall be connected to the Water Corporation reticulated sewerage system.
16. All piped, ducted and wired services, air conditioners, hot water systems, water storage tanks, service meters and bin storage areas must be located to minimise any visual and noise impact on the occupants of nearby properties and screened from view from the street. Design plans for the location, materials and construction for screening of any proposed external building plant must be submitted to and approved by the Shire of Manjimup, prior to lodging an application for a Building Permit.
17. External lighting must comply with the requirements of AS4282 – Control of Obtrusive Effects of Outdoor Lighting to the satisfaction of the Shire of Manjimup.

#### **Advice to Applicant**

1. This Development approval is NOT a building permit. A certified building permit must be formally applied for and obtained from Building Services BEFORE the commencement of any site and/or development works.
2. With regards to Condition 10, privacy screening is to be shown between the motel unit living spaces opposite, the sandpit is not supported, additional fencing is to be provided to the nature play area and landscape buffer between parking and units to be increased.
3. The development and associated uses are required to comply all relevant provisions of the *Health (Miscellaneous Provisions) Act 1911* (as Amended), *Health (Public Buildings) Regulations 1992*, the *Food Act 2008* and *Food Regulations 2009*. Prior to commencement of the uses hereby approved, various applications are required under this legislation, and it is recommended that you liaise with the Shire of Manjimup's Environmental Health Team over the preparation, lodgement and approvals processes.
4. If public consumption of alcohol is likely to occur on the subject premises, additional requirements may be imposed by the Liquor Licensing Division of the Department of Local Government, Sport and Cultural Industries. It is recommended that the proponent consult with the Liquor Licensing Division, either directly (on 1800 634 541) or via the website: [www.dlgsc.wa.gov.au](http://www.dlgsc.wa.gov.au) for further information.

**ATTACHMENTS**

- |   |   |         |
|---|---|---------|
| 1 | Attachment 1 - Architectural Plans                    | 9 Pages |
| 2 | Attachment 2 - Perspectives                           | 5 Pages |
| 3 | Attachment 3 - Submissions                            | 2 Pages |
| 4 | Attachment 4 - South West Design Review Panel Minutes | 7 Pages |

**APPENDICES**

- A Appendix A - Council Decision 18 January 2024 38 Pages

**Ordinary Meeting****COUNCIL RESOLUTION**

**MOVED: Cr De Campo    SECONDED: Cr Winfield**

**29693**

**PART A**

That Council recommend that the Regional Joint Development Assessment Panel refuse the Development Assessment Panel Application reference DAP/24/02783 at contained in Attachment 9.5.2(1) in accordance with Clause 68 of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of Clause 10.3 of the Shire of Manjimup Local Planning Scheme No. 4 for the following reasons:

1. The proposed development does not comply with the minimum three (3) metre landscaping strip to Ipsen Street and Rose Street in accordance with Local Planning Policy 6.1.8 – Landscaping and does not provide as an alternative a nil setback with pedestrian shelter.
2. The proposed development does not respond to the site context and art deco or jazz style architecture within the Manjimup Planning Precinct in accordance with clause 2.1.1 of the Local Planning Scheme No. 4.
3. The proposed development does not provide compliant parking numbers in accordance with Table 2 of Local Planning Scheme No. 4

**PART B**



**Should the Regional Joint Development Assessment Panel resolve to approve the application the Council provides the following conditions and advice:**

- 1. The development hereby approved is to be carried out in accordance with the plans and specifications submitted with the application and these shall not be altered and/or modified without the prior knowledge and written consent of the Shire of Manjimup.**

<b>Reference</b>	<b>Document Title</b>	<b>Date Received</b>
<b>A-2000</b>	<b>Demolition Plan</b>	<b>27 March 25</b>
<b>A-2001</b>	<b>Site Plan</b>	<b>27 March 25</b>
<b>A-2100</b>	<b>Floor Plan</b>	<b>27 March 25</b>
<b>A-2102</b>	<b>Floor Plan</b>	<b>27 March 25</b>
<b>A-3100</b>	<b>Elevations</b>	<b>27 March 25</b>
<b>A-4100</b>	<b>Sectional Elevations</b>	<b>27 March 25</b>

- 2. Notwithstanding condition 1, prior to application for building permit, the plans submitted and hereby approved shall be modified as follows:**

- 2.1 Revised floor plan of accessible units to ensure compliance with Disability Discrimination Act standards.**

- 3. Prior to the issue of a Building Permit, a Geotechnical Report and an urban water and drainage management plan is to be prepared and approved, to the satisfaction of the Shire of Manjimup.**
- 4. The urban water management plan referred to in Condition 3, shall be implemented to the satisfaction of the Shire of Manjimup.**
- 5. Prior to the application for Building Permit, a noise management plan is to be submitted to the Shire for approval and thereafter applied to the development to the satisfaction to the Shire of Manjimup.**
- 6. Prior to the issue of a Building Permit, a Waste Management Plan must be submitted to and approved by the Shire of Manjimup. The plan must include the following details to the satisfaction and specification of the Shire of Manjimup:**

- 6.1 the location of bin storage areas and bin collection areas.**
- 6.2 the number, volume and type of bins, and the type of waste to be placed in the bins.**
- 6.3 details on the future ongoing management of the bins and the bin storage areas, including cleaning, rotation and moving bins to and from the bin collection areas.**
- 6.4 frequency of bin collections.**

- 7. A schedule of the colour and texture of the building materials, demonstrating that the proposed development complements the surrounding area, must be submitted to and approved by the Shire of Manjimup, prior to lodging an application for a building permit.**

The development must be finished, and thereafter maintained, in accordance with the schedule provided to and approved by the Shire of Manjimup, prior to occupation of the development.

8. A dilapidation report, prepared at the applicant's expense, documenting the current state of the verge, footpath and road shall be prepared and submitted to the Shire of Manjimup for approval prior to the commencement of any works associated with the development.
9. Prior to the commencement of works, the applicant is to submit, and have approved to the satisfaction of the Shire of Manjimup, a detailed parking plan design which complies with Table 2 and 3, Clause 5.17.11, of the Shire of Manjimup Local Planning Scheme No. 4 including 40 car parking bay/s, aisle widths, circulation areas driveway/s and points of ingress and egress. Alternatively, the Shire of Manjimup is prepared to accept payment of cash-in-lieu for the required parking that cannot be provided on-site, with such payment to be used by the Shire to formalise parking on Rose Street and/or Ipsen Street prior to the occupation of the development.
10. Prior to the commencement of construction, a detailed landscaping and reticulation plan for the subject site and/or verge(s) must be submitted to and approved to the satisfaction of the Shire of Manjimup.
11. The approved landscaping and reticulation plan must be fully implemented within the first available planting season prior to the occupation of the development, and maintained thereafter, to the satisfaction of the Shire of Manjimup. Any species which fail to establish within the first two planting seasons following implementation must be replaced in consultation with and to the satisfaction of the Shire of Manjimup.
12. Prior to the commencement of construction, the applicant must submit and have approved by the Shire of Manjimup, and thereafter implement to the satisfaction of the Shire of Manjimup, a construction management plan addressing the following matters:
  - 12.1 How materials and equipment will be delivered and removed from the site.
  - 12.2 How materials and equipment will be stored on the site.
  - 12.3 Parking arrangements for contractors.
  - 12.4 Construction waste disposal strategy and location of waste disposal bins.
  - 12.5 Details of cranes, large trucks or similar equipment which may block public thoroughfares during construction.
  - 12.6 How risks of wind and/or water borne erosion and sedimentation will be minimised during and after the works.
  - 12.7 Other matters likely to impact on the surrounding properties

13. Prior to commencement of construction the applicant is to prepare an Operation Management Plan to address amenity issues including, fumes, noise, vibration, odour, vapour, dust wastewater, waste products or other pollutants to the satisfaction of the Shire of Manjimup.
14. Prior to the occupation of the development, vehicle crossovers between the subject land and Rose Street are to be located, designed, constructed, sealed and drained to the specification and satisfaction of the Shire of Manjimup.
15. The development hereby approved shall be connected to the Water Corporation reticulated sewerage system.
16. All piped, ducted and wired services, air conditioners, hot water systems, water storage tanks, service meters and bin storage areas must be located to minimise any visual and noise impact on the occupants of nearby properties and screened from view from the street. Design plans for the location, materials and construction for screening of any proposed external building plant must be submitted to and approved by the Shire of Manjimup, prior to lodging an application for a Building Permit.
17. External lighting must comply with the requirements of AS4282 – Control of Obtrusive Effects of Outdoor Lighting to the satisfaction of the Shire of Manjimup.

#### **Advice to Applicant**

1. This Development approval is NOT a building permit. A certified building permit must be formally applied for and obtained from Building Services BEFORE the commencement of any site and/or development works.
2. With regards to Condition 10, privacy screening is to be shown between the motel unit living spaces opposite, the sandpit is not supported, additional fencing is to be provided to the nature play area and landscape buffer between parking and units to be increased.
3. The development and associated uses are required to comply all relevant provisions of the *Health (Miscellaneous Provisions) Act 1911* (as Amended), *Health (Public Buildings) Regulations 1992*, the *Food Act 2008* and *Food Regulations 2009*. Prior to commencement of the uses hereby approved, various applications are required under this legislation, and it is recommended that you liaise with the Shire of Manjimup's Environmental Health Team over the preparation, lodgement and approvals processes.
4. If public consumption of alcohol is likely to occur on the subject premises, additional requirements may be imposed by the Liquor Licensing Division of the Department of Local Government, Sport and Cultural Industries. It is recommended that the proponent consult with the Liquor Licensing Division, either directly (on 1800

**634 541) or via the website: [www.dlgsc.wa.gov.au](http://www.dlgsc.wa.gov.au) for further information.**

**CARRIED: 9/0**

**For:** Shire President Buegge, Cr Darin, Cr De Campo, Cr Eiby, Cr Miolin, Cr Omodei, Cr Ventris, Cr Willcox, Cr Winfield.

**Against:** Nil.



**ATTACHMENT****9.5.5 Proposed Motel with Parking Variation at Lot 174-176 (13-17) Rose Street, Manjimup**

<b>PROPONENT</b>	Texture - Arch
<b>OWNER</b>	P Twin Holdings Pty Ltd
<b>LOCATION / ADDRESS:</b>	Lot 174-176 (13-17) Rose Street, Manjimup
<b>WARD:</b>	Urban
<b>ZONE:</b>	Town Centre
<b>DIRECTORATE:</b>	Development and Regulation
<b>FILE REFERENCE:</b>	DA23/142 P55100, 52820, 54520
<b>LEGISLATION:</b>	<i>Planning and Development Act 2005</i>
<b>AUTHOR:</b>	Jocelyn Baister
<b>DATE OF REPORT:</b>	21 December 2023
<b>DECLARATION OF INTEREST:</b>	Nil

**BACKGROUND:**

The subject land has a combined total area of 3,014m<sup>2</sup> and is located at the corner of Rose and Ipsen Streets within the Manjimup town centre. Lot 174 currently consists of a disused nursery building and trade area with Lots 175 and 176 vacant. A location plan is shown below.

**LOCATION PLAN**

In August 2023, Shire staff provided preliminary comments to the landowner with regards to the proposed development of a Hotel on the subject land. Comments were provided without prejudice with regards to the built form layout, parking calculations and site conditions, including access.

In September 2023, the Western Australian Planning Commission granted unconditional approval to amalgamate the three lots into one, which will assist in a coordinated development on the land.

Council is in receipt of an application for planning approval for a Hotel development comprising of:

- 35 accommodation units, two of which are proposed to be accessible;
- A combined reception and dining area;
- Outdoor barbeque area; and
- Parking for 27 cars and six bicycles.

Additional information received in support of the application states that the hotel will be operated from the head office in the city and operate 24 hours a day and 365 days a year. There will be two persons employed for reception and administration and three house keepers. Only light breakfast will be provided.

The submitted plans are shown attached.

#### **ATTACHMENT: 9.5.5 (1)**

Council is requested to determine the proposal given the development is seeking approval for a parking shortfall.

#### **PUBLIC CONSULTATION UNDERTAKEN:**

The proposal was referred to surrounding landowners and signs were placed on site for a period of 21 days for public comments. The proposal was also referred to Tourism WA for comment.

Seven comments were received from the public, with one submission in full support and the other submissions raising concerns relating to traffic movements, parking and building design.

Whilst some submissions are addressed in the Comments section below, a Schedule of Submissions and copies of the individual comments are provided attached.

#### **ATTACHMENT: 9.5.5 (2)**

#### **COMMENT (Includes Options):**

The provisions of the Local Planning Scheme No. 4 (the Scheme) include the land within the Town Centre Zone and within Planning Precinct 1a Manjimup (MP1A) Town Centre. The application is consistent with the purpose of the Town Centre Zone, which is to *“provide for the establishment and ongoing development of nodes of diverse commercial, professional, tourist, entertainment, residential and community activities to service the populations of surrounding areas.”*

Objectives of the zone applicable to this application include maintaining opportunities for residential, grouped residential, tourist accommodation, offices and where appropriate service commercial and service industry suitable in a country town and compatible with the commercial and community functions of the town.

In considering an application for planning consent, clause 10.2 of the Scheme requires that the local government has regard to various matters, including, but not limited to:-

- (i) *the aims and provisions of the Scheme and any other relevant Local Planning Scheme operating within the Scheme area;*
- (vii) *the content and objective of Planning Precinct Statements set out in Schedule 8 of this Scheme;*
- (xi) *any social issues that have an effect on the amenity of the locality;*
- (xv) *the preservation of the amenity of the locality;*
- (xvi) *the relationship of the proposal to development on adjoining land or on other land in the locality including but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the proposal;*
- (xvii) *whether the proposed means of vehicular access to and egress from the site are adequate and whether adequate provision has been made for the loading, unloading, manoeuvring and parking of vehicles;*
- (xviii) *the amount of traffic likely to be generated by the proposal, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety;*
- (xxiii) *whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;*
- (xxvi) *any relevant submissions received on the application; and*
- (xxvii) *the comments or submissions received from any authority consulted under Clause 10.1.*

To assist Council in determining the application, the following comments are offered:

#### Land Use Classification

The completed application form describes the proposed development as "Proposed Hotel and reception building". From examination of the Scheme, the proposed development could be deemed to be consistent with either of the following definitions:

*Hotel "means premises providing accommodation the subject of a hotel license under the Liquor Licensing Act 1988, and may include a betting agency on those premises, but does not include a tavern or a motel".*

*Motel "means premises used to accommodate patrons in a manner similar to a hotel but in which specific provision is made for the*

*accommodation of patrons with motor vehicles and may comprise premises licensed under the Liquor Licensing Act 1988”.*

As reflected on the submitted plans, the applicants are making special provision for vehicles, with allocated parking bays. Given this, it is considered that the use is appropriately classified as a Motel with associated facilities.

#### Setbacks

Provisions of the Scheme do not identify specific setback requirements for development within the Town Centre Zone, but instead identify that:

- a) Site coverage of up to 100% where the local government is satisfied that adequate arrangements have been made in regard to access, car parking, traffic circulation of traffic, servicing and loading and unloading; and
- b) A zero setback from the front boundary may be permitted where landscaped and paved pedestrian areas are to be provided adjacent to the front boundary and the local government is satisfied on the above matters.

In this case the applicants are proposing a 2.4m setback to Robbies Lane, a 3.6m setback to Rose Street and a 3.2m setback to the adjoining property. The proposal includes a parking area within a 19.2m setback to Ipsen Street.

#### Planning Precinct

The Scheme includes the subject land within Planning Precinct MP1A which relates to the traditional town commercial and business centre. As outlined in clause 2.1.1 of the Scheme, the continuation of the individuality that is representative of most eras is encouraged.

Development within the precinct will be encouraged to:

- *Combine a wide range of uses and to include opportunities for combined residential and commercial or office uses;*
- *Accommodate tourist and entertainment orientated activities;*
- *Maintain a mix of larger and small scale development but where larger new developments and designed to appear as smaller more interesting units that relate to the street and are interesting for pedestrians;*
- *Create small scale one and two storey shops and other buildings with varying styles;*
- *Require new developments and renovations to be designed to be pedestrian oriented where sheltered outdoor spaces are created where footpath and open space awnings are developed for pedestrian comfort; and*
- *The preservation and enhancement of buildings representative of the “art deco” or jazz” and those building on the Heritage Inventory.”*

Apart from the above statement, there are no other design guidelines for the town centre to prescribe materials, colours and built form.



### Car Parking

In accordance with clause 5.17 of the Scheme the following off street-car parking requirements apply to the proposed development:

Use	Minimum Number of Parking Spaces to be Provided	Proposal	Parking Required	Parking provided
Motel	1 per unit	35 units	35 bays	27 bays & 10 on-street
	plus 1 per 25m <sup>2</sup> of service area.	168m <sup>2</sup> amenities	7 bays	

The applicant has proposed 27 car parking bays and six bicycle parking spaces off street. There is a proposed parking short fall of 15 car parking spaces for the number of rooms and service area to be provided.

### Relaxation of Standards

In accordance with clause 5.5.1 of the Scheme, where a development does not comply with a standard or requirement prescribed by the Scheme, the local government may approve the application, despite this non-compliance. As stated in clause 5.5.3 of the Scheme, *“the power conferred by this clause may only be granted if the local government is satisfied that:*

- (i) *Approval of the proposed development would be appropriate having regard to the criteria set out in clause 10.2; and*
- (ii) *The non-compliance will not have an adverse effect upon the occupiers or users of the development, the inhabitants of the locality of the likely future development of the locality.”*

Traditionally when calculating car parking requirements relating to a proposed development or change of use within the Town Centre, both Shire Staff and Council have supported permanent on-street car bays to be taken into account when considering a relaxation of parking standards.

In this case, taking into account ten on-street parking bays, the required car parking bays could be reduced from 42 to 32, without having a detrimental impact on the occupiers or users of the development, the inhabitants of the locality of likely future development. A reduction in the required parking from 42 is therefore supported, however there is a still a shortfall of five spaces.

### Cash in Lieu

In accordance with Clause 5.17.11 of the Scheme where an applicant can satisfy the local government that the minimum car parking requirements cannot be provided on the site, a cash payment can be accepted in lieu of the provision of parking. As outlined within the clause, the payment shall be equivalent to the cost of providing and constructing the car parking together with the value of the land that would otherwise be occupied by the car parking.

Clause 5.7.11 (b) stipulates that before accepting the payment of cash-in-lieu, the local government must have:

- i. purchased land for a car park; or
- ii. provided a public car park in the vicinity of the proposed development or have a firm commitment to do so; or
- iii. have an endorsed car parking strategy with agreed works to be implemented.

In this case, the Shire has an adopted Parking Strategy, which identifies the formalising of parking bays located on the railway reserve to the rear of the shops fronting Giblett Street. As the Shire is already in control of the land, which was obtained without the need to purchase the land, it is recommended the requirements of clause 5.17.11 be varied such that any cash in-lieu component is equivalent to the construction cost only. Any cash-in-lieu received could also be utilised to formalise parking abutting the property on the Ipsen and Rose Streets. The applicant has also proposed converting Robbies Lane to one way to address the concerns raised by the public about access and sightline issues.

#### Landscaping

Provisions of the Scheme specify that a minimum of 5% of the site is required to be set aside for landscaping. In accordance with clause 5.13 of the Scheme, landscaping may consist of garden plantings and areas for pedestrian use. At the discretion of the local government landscaping may include natural bushland, swimming pools and areas under covered walkways.

Notwithstanding the above, clause 5.13.3 of the Scheme states that the requirements for landscaping will be determined by Council on the merits of each case. In order to provide further guidance on this to applicants and Shire Staff alike, Council has adopted Local Planning Policy 6.1.8 – Landscaping.

As outlined within the Policy, a minimum three metre landscaping strip is required for commercial developments, except where development is approved with a nil setback. In this case the applicant has not achieved a landscaping strip to Ipsen Street and although the setback of 3.6m to Rose Street could achieve the required landscaping, each Motel room has provided a private courtyard encroaching on the landscaping area.

The policy states that applicants are encouraged to use waterwise plants and water sensitive urban design with a minimum of 75mm of mulch (25mm for native plant species). Unless otherwise justified, landscaped areas are required to be reticulated and the use of programmable irrigation controls and water efficient irrigation controllers is encouraged.

With respect to the subject proposal, the following comments are offered:

- applicants are proposing extensive paved areas within the site for pedestrian movement within the site along with landscaping adjacent to the neighbouring property and an outdoor barbeque area; and
- the level of landscaping complies with the scheme requirements.

### Submissions Received

In addition to the submissions mentioned above, other comments received raised concerns and questions with regards to:

- Increase in parking demand in the area and the shortfall;
- Robbies Lane access and vehicle movements;
- Sightlines onto Ipsen Street;
- Impact on town Services;
- Noise impacts from Coles deliveries;
- Viability of additional accommodation proposals.

### *Vehicular access to and egress (Robbies Lane)*

A number of concerns have been raised regarding the increased traffic movements onto Robbies Lane and the restricted sightlines for exiting onto Ipsen Street. Robbies Lane is currently 5m in width and therefore not wide enough for two vehicles to safely pass each other without using private land as a passing lane. To alleviate the concerns Shire Staff have proposed the conversion of Robbies Lane to one-way from Ipsen Street to Lock Street. As there are costs associated with this project in terms of line marking and signage, it is recommended that the applicant be requested to contribute to the costs for the conversion.

### *Servicing requirements*

Comments were received from the public with regards to the Water Corporation infrastructure and its ability to support the proposed increase in demand for reticulated water supply. Whilst the comments are noted, the responsibility of maintaining the water supply is with the Water Corporation. As the land has been zoned for Town Centre since 2010 the service agency has had the appropriate information to forecast loading demands on its infrastructure as applicable to the subject land.

### *External Noise Intrusion*

Concerns were raised with regards to the existing noise being emitted from the commercial development to the north and private gymnasium to the south and how guests might not accept that these are considered normal for the area. Although the accommodation units are setback due to the location of the car park, it is recommended that the proponent be advised of these existing emissions and encouraged to introduce design elements in order to mitigate these factors.

### *Viability of proposed accommodation*

One of the submitters has questioned the viability of the proposed accommodation given the existing and proposed accommodation in Manjimup. Whilst this is not a valid planning consideration, the concerns are noted and it is expected that the operator of the Motel has undertaken its due diligence and considered the market demand for the area.

### Conclusion

Whilst the Shire has received a number of concerns regarding the proposal, it is considered by Shire Staff that with appropriate conditions the development

can comply with the provisions of the Scheme and can achieve a quality development outcome.

**STATUTORY ENVIRONMENT:**

*Planning and Development Act 2005*, Local Planning Scheme No. 4 and relevant Planning Policies as adopted by Council.

**POLICY / STRATEGIC IMPLICATIONS:**

Approval to the application as submitted is consistent with Strategy B2 of the Shire of Manjimup's Community Strategic Plan 2021-31, being to:

*B2: Attract business-class accommodation services to Manjimup.*

**ORGANISATIONAL RISK MANAGEMENT:**

Nil.

**FINANCIAL IMPLICATIONS:**

The required application fee has been paid in accordance with the Schedule of Fees and Charges adopted as part of the 2023/24 annual budget.

Any cash in lieu received would be held in a reserve account for the construction of public parking by the Shire.

**SUSTAINABILITY:**

Environmental: No environmental impacts are anticipated.

Economic: Approval to the application as submitted will result in the creation of short term employment associated with development of the site and long term employment through its ongoing operation. The establishment of accommodation as proposed will add to existing accommodation options within the town, potentially attracting additional visitors to the Shire and region.

Social: The proposal is in close proximity to existing businesses that emit noise and residences which are sensitive to excessive noise.

**VOTING REQUIREMENTS:**

**SIMPLE MAJORITY**

**OFFICER RECOMMENDATION:**

That Council in accordance with Clause 5.5 and Part 10 of the Shire of Manjimup Local Planning Scheme No. 4 grants planning approval to the proposed Motel at Lots 174-176 (13-15) Rose Street, Manjimup in accordance with the submitted plans and specifications as attached at Attachment 9.5.5(1), subject to compliance with the following conditions:

1. The development hereby approved is to be carried out generally in accordance with the plans and specifications submitted with the application and these shall not be altered and/or modified without the prior knowledge and written consent of the Shire of Manjimup.



Reference	Document Title	Date Received
A2100	Floor Plan	13 October 2023
A3100	Elevation	13 October 2023
A3101	Elevation	13 October 2023

2. Notwithstanding Condition 1 above, the applicant shall submit a revised site/floor plan following a review of sightlines and access onto Robbies Lane;
3. Prior to the application for a demolition permit a dilapidation report is to be prepared at the applicants expense, documenting the current state of the adjoining premises located at Lot 173 Rose Street, Manjimup;
4. A dilapidation report, prepared at the applicants expense, documenting the current state of the verge, footpath and road shall be prepared and submitted to the Shire of Manjimup for approval prior to the commencement of any works associated with the development;
5. Prior to the application for Building Permit, the applicant must submit and have approved by the Shire of Manjimup, and thereafter implement to the satisfaction of the Shire of Manjimup, a construction management plan addressing the following matters:
  - a) How materials and equipment will be delivered and removed from the site;
  - b) How materials and equipment will be stored on the site;
  - c) Parking arrangements for contractors;
  - d) Construction waste disposal strategy and location of waste disposal bins;
  - e) Details of cranes, large trucks or similar equipment which may block public thoroughfares during construction;
  - f) How risks of wind and/or water borne erosion and sedimentation will be minimised during and after the works; and
  - g) Other matters likely to impact on the surrounding properties.
6. Prior to the application for Building Permit a Waste Management Plan must be submitted to and approved by the Shire of Manjimup. The plan must include the following details to the satisfaction and specification of the Shire of Manjimup:
  - a) the location of bin storage areas and bin collection areas;
  - b) the number, volume and type of bins, and the type of waste to be placed in the bins;
  - c) details on the future ongoing management of the bins and the bin storage areas, including cleaning, rotation and

moving bins to and from the bin collection areas; and  
d) frequency of bin collections.

7. The construction works involved in the implementation of the development must not cause a nuisance to neighbours through noise, dust and/or sand drift;
8. Within 60 days of a Building Permit being issued, a detailed landscaping and reticulation plan for the subject site and/or the road verge(s) must be submitted to and approved to the satisfaction of the Shire of Manjimup;
9. The approved landscaping and reticulation plan must be fully implemented within the first available planting season after the initial occupation of the development, and maintained thereafter, to the satisfaction of the Shire of Manjimup. Any species which fail to establish within the first two planting seasons following implementation must be replaced in consultation with and to the satisfaction of the Shire of Manjimup;
10. Prior to the commencement of works, the applicant is to submit, and have approved to the satisfaction of the Shire of Manjimup, a detailed parking plan design which complies with Table 2 and 3 of Shire of Manjimup Local Planning Scheme No. 4, including 32 car parking bay/s, aisle widths, circulation areas, driveway/s and points of ingress and egress;
11. Prior to the occupation or use of the development hereby approved, the area set aside for the parking of vehicles, together with the associated access lanes as delineated on the endorsed plan shall:
  - a) be constructed, drained and marked in accordance with Clause 5.17 of the Shire of Manjimup Local Planning Scheme No. 4 to the satisfaction of the Council prior to the commencement of the use hereby permitted.
  - b) thereafter be maintained to the satisfaction of the Council.
  - c) be made available for such use at all times and not used for any other purpose.
  - d) be properly formed to such levels that it can be used in accordance with the plan.
12. Prior to the occupation of the development, vehicle crossover between the subject land and Robbies Lane is to be located, designed, constructed, sealed and drained to the specification and satisfaction of the Shire of Manjimup;
13. The development hereby approved shall be connected to the Water Corporation reticulated sewerage system;
14. All stormwater and drainage runoff is to be retained on the subject property or to be provided with stormwater drainage connections to the drainage system in the area at the developers cost to the satisfaction of the Shire of Manjimup;

15. All piped, ducted and wired services, air conditioners, hot water systems, water storage tanks, service meters and bin storage areas must be located to minimise any visual and noise impact on the occupants of nearby properties and screened from view from the street. Design plans for the location, materials and construction for screening of any proposed external building plant must be submitted to and approved by the Shire of Manjimup, prior to lodging an application for a building permit;
16. The use hereby approved must not create community safety concerns, or otherwise adversely affect the amenity of the subject locality by reason of (or the appearance or emission of) smoke, fumes, noise, vibration, odour, vapour, dust, waste water, waste products or other pollutants to the satisfaction of the Shire of Manjimup; and
17. Any external lighting proposed on the subject property must be installed as to not have a detrimental impact upon traffic in the vicinity or upon the general amenity of neighbouring properties to the satisfaction of the Shire of Manjimup.

**Advice to Applicant**

- a) This Development approval is NOT a building permit. A building permit must be formally applied for and obtained from Building Services BEFORE the commencement of any site and/or development works;
- b) Further to Condition 10) above, the applicant is advised that as an alternative, the Shire of Manjimup is prepared to accept payment of cash-in-lieu for the required parking that cannot be provided on-site, with such payment to be used by the Shire to formalise the parking spaces on Ipsen Street prior to occupation of the development. Any balance of funds is to be held in reserve for the improvement of parking on Bath Street;
- c) A minimum number of accessibility car bays shall be maintained on site at all times in accordance with the Australian Standard 2890.6 –2009, and connected to a continuous accessible path to the main entrance of the building or facility. The design and signage of the bay(s) and path(s) are to be in accordance with the Australian Standard 1428.1 – 2009;
- d) Existing commercial land uses to the north and south of the subject site may emit noise and odours which may not be acceptable to the guests staying at the Motel, the proponent is encouraged to introduce design elements to mitigate these impacts;
- e) The development and associated uses are required to comply all relevant provisions of the *Health (Miscellaneous Provisions) Act 1911* (as Amended), *Health (Public Buildings) Regulations 1992*, the *Food Act 2008* and *Food Regulations 2009*. Prior to commencement of the uses hereby approved, various

applications are required under this legislation and it is recommended that you liaise with the Shire of Manjimup's Environmental Health Team over the preparation, lodgement and approvals processes; and

- f) If public consumption of alcohol is likely to occur on the subject premises, additional requirements may be imposed by the Liquor Licensing Division of the Department of Local Government, Sport and Cultural Industries. It is recommended that the proponent consult with the Liquor Licensing Division, either directly (on 1800 634 541) or via the website: [www.dlgsc.wa.gov.au](http://www.dlgsc.wa.gov.au) for further information.

#### **ATTACHMENTS**

- 1 Attachment 1 - Plans of Proposed Motel 12 Pages
- 2 Attachment 2 - Schedule and Copy of Submissions 14 Pages

#### **Ordinary Meeting**

#### **COUNCIL RESOLUTION:**

**MOVED:** Winfield, C      **SECONDED:** De Campo, W

**29421**

- 1. That the proposal is rejected on the basis that in its present form the traffic management, using Robbies Lane is inadequate and will disrupt other businesses using the lane. The proposal could be redesigned to include a minimum number of 1 bay per unit plus 2 bays for staff parking.
- 2. A traffic management plan is required to be lodged as part of any re-application for the development.

**CARRIED: 9/0**

**For:** Cr D Buegge, Cr J Darin, Cr W De Campo, Cr W Eiby, Cr S Miolin, Cr P Omodei, Cr M Ventris; Cr J Willcox; Cr C Winfield.

**Against:** Nil.

#### **Reason Council Decision**

The Council was dissatisfied with parking and traffic management outcomes as part of the proposed development and proposed condition of development approval.



MANJI HOTEL  
LOT 174, 175, 176 ROSE STREET MANJIMUP



DRAWING LIST

- A-1101 EXISTING SURVEY PLAN
- A-2000 DEMOLITION PLAN
- A-2001 SITE / ROOF PLAN
- A-2100 FLOOR PLAN
- A-3100 ELEVATIONS
- A-3101 ELEVATIONS
- A-6800 RENDERING IMAGES
- A-6801 RENDERING IMAGES
- A-6802 RENDERING IMAGES
- A-6803 RENDERING IMAGES
- A-6804 RENDERING IMAGES

SCANLAN  
ARCHITECTS

P. TWIN HOLDINGS PTY LTD

MANJI HOTEL

LOT 174, 175, 176  
ROSE ST  
MANJIMUP

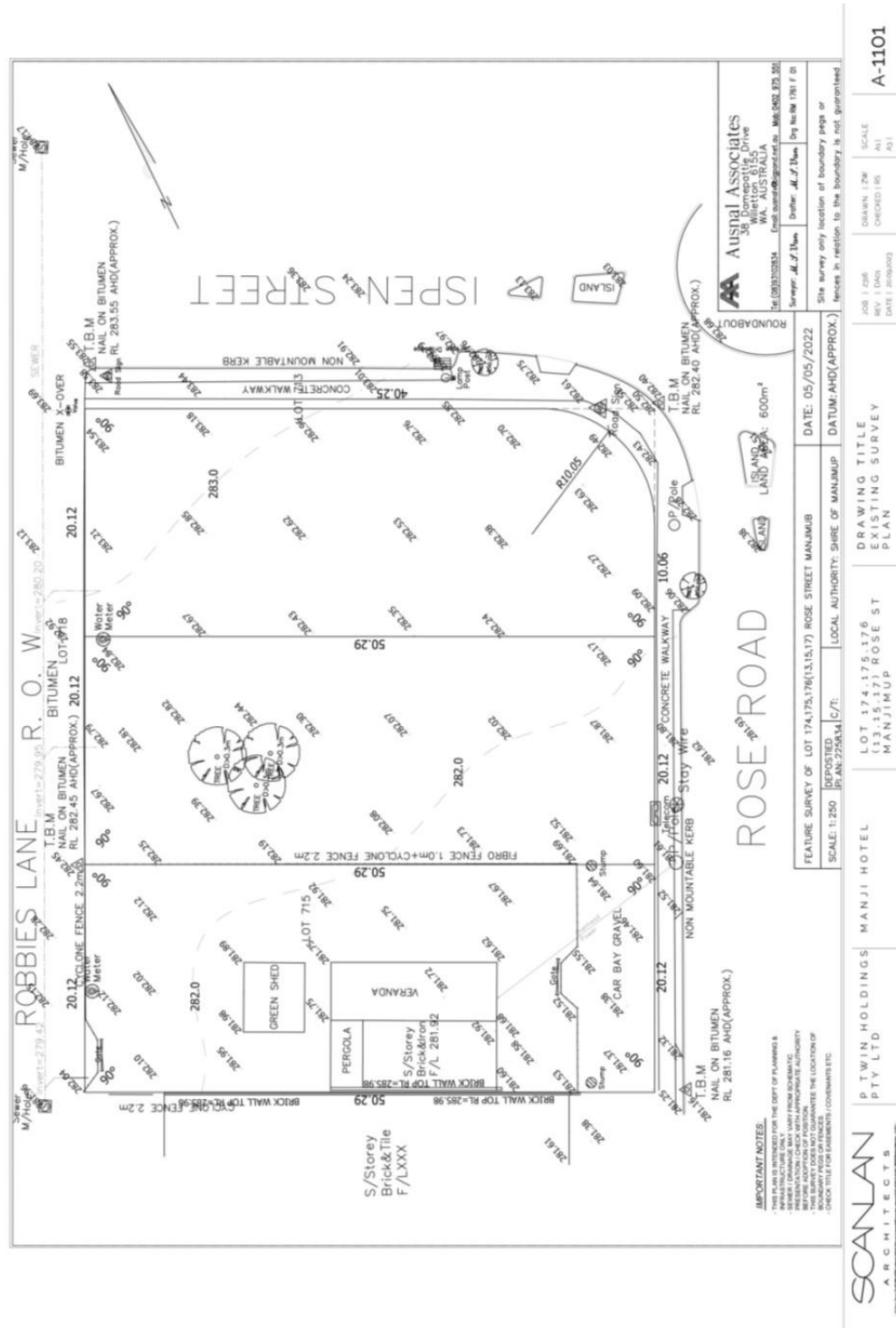
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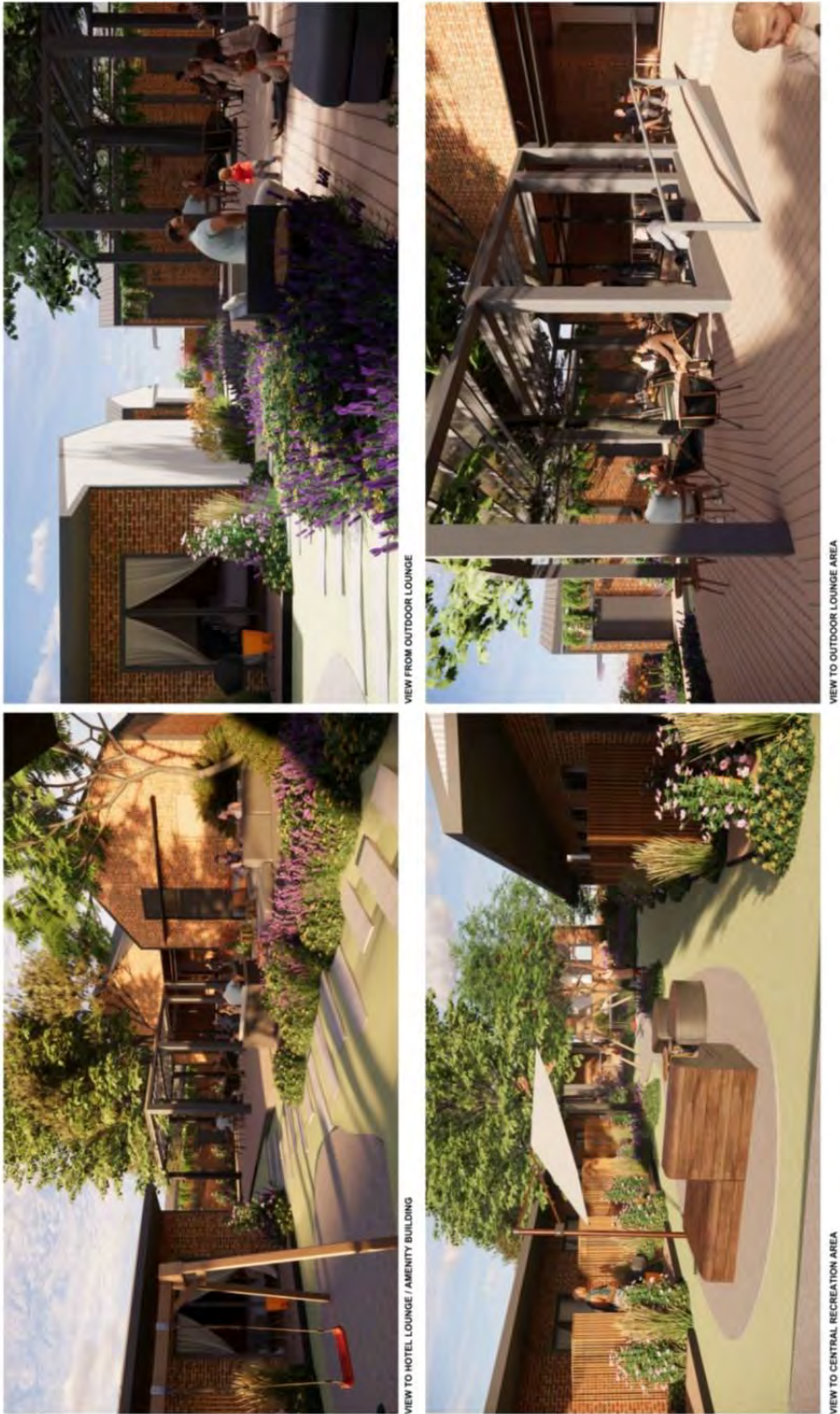












SCANLAN ARCHITECTS	P. TWIN HOLDINGS PTY LTD	MANJI HOTEL	LOT 174, 175, 176 175 ROSE ST MANJIMUP	DRAWING TITLE RENDERING IMAGES	JOB / TEND REV / DATE DATE / COMMENTS	DRAWN / TEND CHECKED / REV	SCALE ALL FULL	A-6802
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AERIAL VIEW FROM CORNER OF ROSE STREET & IPSEN STREET

SCANLAN ARCHITECTS	P. TWIN HOLDINGS PTY LTD	MANJI HOTEL	LOT 174, 175, 176 175 ST MANJIMUP	DRAWING TITLE RENDERING IMAGES	JOB / JOB REV / DATE DATE / QUANTITY	DRAWN / 120 CHECKED / 100	SCALE A1 A3	A-6804
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**SCHEDULE OF SUBMISSIONS DA23/142**

No	Name/Address	Summary of Submission	Officer Comment	Council's Recommendation
1.	<b>Private</b> B Wintergreen	<p>(i) Requests no black/dark grey roofs and development is sympathetic to forest/country type environment;</p> <p>(ii) Concerns regarding the increase of parking on Ipsen Street, request a no parking area from Bath Street to Rose Street.</p>	Although the Shire can encourage a developer to select certain materials or colours, there is no policy prescribing these to condition these suggestions. A detailed discussion on Parking is provided for in the report to Council.	<b>Noted.</b>
2.	S Porter	<p>(i) Comments with regards to Robbies lane being not wide enough for two vehicles;</p> <p>(ii) The access point onto Robbies Lane will add to congestion;</p> <p>(iii) Concerns about sightlines onto Ipsen Street;</p> <p>(iv) Request for vehicle counting to be undertaken;</p> <p>(v) The parking shortfall is an issue, questions where overflow parking will be for staff or emergency vehicles;</p> <p>(vi) Comments in relation to the vacant land currently being used for parking and lack of parking in the</p>	<p>Whilst the development is setback from Robbies Lane, a low perimeter wall is proposed. It is suggested that the lane be converted to one way at the cost of the developer.</p> <p>See above with regards to parking.</p> <p>See above with regards to parking.</p>	Approve subject to conditions relating to parking and management plans during construction.



		<p>area;  (vii) Requests the Council consider a solution to the current parking problem;  (viii) Concerns relating to Water Corporation infrastructure and capacity of the water supply and power  (ix) Concerns regarding potential closures to Robbies Lane or disruption to power during construction;  (x) Suggests a re-design to have vehicle access from Rose Street, a multistorey proposal or less rooms.</p>	<p>See above with regards to parking.</p> <p>A detailed discussion on town services is provided for in the report to Council.</p> <p>Details on construction management has been included in the recommended conditions. Although the Shire can encourage the developer to design an alternative development, there is no policy provision restricting the proposal to proceed.</p> <p><b>Noted.</b></p>		
3.	L Gomme	<p>(i) Comments made that the location is an excellent choice with walking distance to food outlets and restaurants;  (ii) Comments that there is adequate parking for staff and guests.</p>			
4.	B Cutts	<p>(i) Request that the proponent arrange for a dilapidation report of the Fit 4 Life building prior to the demolishing the old nursery building;</p>	<p>A condition to this effect is provided in the report to Council.</p>	<p>That the applicant prepare a dilapidation report for the adjoining property and Council infrastructure.</p>	

	(ii)	Request that landscaping alongside the boundary to be non-deciduous.	Although the Shire can encourage the developer to select evergreen landscaping, all trees are likely require management.	Noted.
5.	Warren Electrical Service	<p>(i) Concerns that there is no provision for family sized rooms; Robbies lane is not wide enough for two vehicles;</p> <p>(iii) Concerns about sightlines onto Ipsen Street;</p> <p>(iv) Shortfall of parking will result in parking on street;</p> <p>(v) Concerns relating to Water Corporation infrastructure;</p> <p>(vi) Concerns regarding potential closures to Robbies Lane during construction.</p>	<p>This concern has been discussed with the applicant who is proposing to provide access into adjoining rooms to provide larger rooms for families.</p> <p>It is suggested that the lane be converted to one way at the cost of the developer.</p>	Approve subject to conditions relating to parking and management plans during construction.
6.	S Cully	<p>(i) Suggestions made regarding sustainable building design;</p> <p>(ii) Questions whether the parking will be also for the public;</p> <p>(iii) Suggests that the low boundary wall to Rose Street needs to have an artistic feature, perhaps sculptural;</p> <p>(iv) Statement relating to the traffic on the corner and query if access to lane could be achieved.</p>	<p>Although the Shire can encourage a developer to introduce sustainable design features, there is no policy prescribing these to condition these suggestions. The land is private and not open to public car parking. Access to the lane is proposed on the plans.</p>	Approve subject to conditions relating to parking.

7.	K Grainger	<p>(i) Statements made relating to limited parking availability, sight lines onto Ipsen Street from Robbies Lane</p> <p>(ii) Concerns of the proposed parking variations and the impact to street parking already in high demand in peak times.</p> <p>(iii) Concerns raised that the occupiers of the motel will be disturbed by noise from Coles deliveries or gym activities;</p> <p>(iv) Questions raised regarding the validity of the short stay accommodation proposal and whether the occupiers will be staying for longer periods;</p> <p>(v) Questions regarding the viability of the project with two other applications for motel accommodation being considered in Manjimup.</p>	<p>See above with regards to parking.</p> <p>A detailed discussion on noise is provided within the Council report.</p> <p>Approval is being sought for the land use which is a short stay type of land use.</p> <p>This is discussed within the Council report.</p>	Approve subject to conditions relating to parking.
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K & B Wintergreene  
7 Bath St.  
Manjimup. 6258.  
13/11/23.

Chief Executive Officer.

Re: Your ref DA23/142 P55100  
Proposal for Motel, Ipsen/Rose St.

Dear Sir

With reference to the above development & invitation to comment, we have no objection to the overall development, providing there are no black/dark grey roofs proposed, & the overall look of the development is in keeping with the forest/country type environment.

Our main worry is parking on Ipsen St, on that side of the road, as it is very difficult to see past the parked cars when turning right onto Ipsen St from Bath St [Lock St end of Bath St.] We feel a development like this will increase the parking on Ipsen St & would like to see a No Parking Area from Bath St to Rose St, on that side.

Yours Sincerely

B & K Wintergreene.

Luke & Sonia Porter  
8 Bath Street  
MANJIMUP WA 6258

15 November 2023

To the Chief Executive Officer,

**RE: INVITATION TO PROVIDE COMMENT ON DEVELOPMENT PROPOSAL: Lot 174, 175 & 176, ROSE STREET, MANJIMUP**

Regarding the proposed "Manji Hotel" development on the corner of Rose and Ipsen Streets, we would like to raise a few of our concerns, as both residents in Bath Street, and business owners in Rose Street.

**ROBBIES LANE:**

Robbie's Lane is the access point for Manjimup Carpets, Economy Auto Parts, Warren Electrical Service and Armanti Tiles & Bathrooms, along with residents of Bath Street who have back lane access to their properties. The number of vehicle movements per day is very high, including tradesmen, freight vans, trucks, rubbish removal/skip bin removal, workers and quite often bicyclists and pedestrians. The width of the lane does not allow for movement of 2 vehicles side by side. Often you need to pull over onto the vacant block to allow a truck or tradesman's ute pass before you can proceed down the lane. The entry and exit point for the hotel parking from Robbies Lane, is a huge cause for concern, as it will add to the congestion that already exists.

Often when trying to exit Robbies Lane onto Ipsen Street, vision is obscured by the cars that are parked along Ipsen Street – if there are caravans/campers parked it is near on impossible to see oncoming traffic and is quite dangerous. Having an entry and exit point at the proposed location will have a terrible impact on the current situation, and will result in accidents, as there have already been near-misses on a regular basis.

We would like to see that the vehicle movements on Robbies Lane are monitored by the tracking strips, to get a true indication of vehicle movements over the period of one month to gain a true understanding of the impact the development will have on the businesses located adjacent to the site.

**PARKING:**

Parking is another issue. The plans show 35 motel style rooms, with only 27 parking spaces available. How is this adequate to accommodate the required number of vehicles? This does not allow for staff of the facility to park on site, and it does not allow for oversized vehicles. Will there be overflow parking, and where will it be located? How will emergency vehicles access the site if required to do so?

Rose Street already has issues with parking, given the location of the gym, the Warren Valley Church and the businesses along this strip of road. During a funeral at the church, there is limited parking available. Often the car parks of the businesses are taken up by attendees, therefore a detriment to the business' clientele. Looking at the undeveloped site presently, there are vehicles parked on the vacant block daily, mainly staff of Coles, the Dental Clinic and Yield Accounting, along with travellers towing caravans or campers. Workers also park along both sides of Ipsen Street. There is a severe

lack of parking for the current situation, even before the development of the site as proposed. If the development goes ahead, there will be more parking issues as these vehicles will then be parked in other areas, having an impact on other businesses, or on residents in Bath Street, with street parking being the only option.

Can angle parking along the Eastern side of Rose Street be a consideration? What other options will there be for an already existing parking problem?

**RESOURCES:**

Adequate resources is another point of concern, and infrastructure associated with them. There have been numerous occasions over the past 13-14 years where the water pipe has burst in the laneway due to ageing infrastructure. Will this be rectified? How many times will businesses and residents have their water supply cut off or affected both during and after construction? The town water supply is limited, and with this development, along with the proposed resort accommodation in Narocki Way and the development adjacent to the timber park, will the resource be adequate for the demand? The power network will struggle as the state government is shifting away from coal fired power to renewable energy. In the height of summer, the local area will be affected by rolling power outages due to the demand and the need to use air-conditioning.

**INTERRUPTION DURING CONSTRUCTION:**

Interruption to business trading could be an issue during construction. We note on the plans, that a power line must be removed, and in the past (namely during the construction of the Southern Forests Medical Centre) there was a disruption to business when power needed to be disconnected and reconnected to a new transformer. Will access down Robbies Lane be blocked during construction? Businesses cannot have their access blocked or reduced during their trading hours. How will construction affect noise levels for residents. Dust and debris during construction also poses a concern.

We do understand the need for accommodation and developments to occur within Manjimup, however the proposal put forward for this site needs to be adapted or changed significantly if it is not going to have a negative impact on the businesses adjacent to the location.

Perhaps a reduced footprint with a multi-level development could be considered, which would allow for more parking and a better plan for vehicle access via Rose Street rather than Robbies Lane. Can the development be "turned around" with the entry and exit off Rose Street? Does there need to be so many rooms on this site? Can it be reduced to 30 from 35, to allow for another plan with better parking and access considered?

There are more options (and issues) to consider, but we feel that if the development goes ahead as proposed, the problems arising from it will far outweigh any benefits it brings to our community.

Kind regards

Luke & Sonia Porter



L & G Gomme

13<sup>th</sup> Nov 2023

Chief Executive Officer,

Thankyou for the invitation to comment of the development proposal lots 174, 175, 176. Rose St Manjimup.

I believe the location to be an excellent choice for the proposed Motel, with adequate parking for staff and guests on the property. The location is walking distance and in close proximity of food outlets and restaurants, essential for visitors.

Providing the building standards meet the regulation requirements I would give this proposal a big thumbs up and suggest Council make approval as soon as possible.

From information received there is an extreme shortage of tourist and visitors accommodation in Manjimup. With the mining companies demands, the situation is not going to change in the near future.

Yours sincerely

Laura & Grae Gomme

**Jocelyn Baister**

---

**From:** Brooke Phillips [REDACTED]  
**Sent:** Monday, 20 November 2023 12:57 PM  
**To:** Margie Parkinson  
**Subject:** Fwd: [External] Holiday accommodation - proposed Motel with parking variations

Sent from [Outlook for Android](#)

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**From:** Brooke Phillips  
**Sent:** Friday, November 17, 2023 8:12:09 AM  
**To:** info@manjimup.wa.gov.au <info@manjimup.wa.gov>  
**Cc:** [REDACTED]  
**Subject:** Holiday accommodation - proposed Motel with parking variations

Hello to whom it may concern, below are a few concerns we have going forward for the proposed motel ( lot 174, 175 & 176 ).

1. As our building at 11 rose street is built right next to the soon to be removed building on Lot 174, we would like to ask that there is a dilapidation report completed on our building to make sure that when they demolish the building it does not affect our structure going forward. We would expect the proponent to organise and pay for this.
2. We would also like to request that all the trees/bushes along our boundary to be non-deciduous to help keep this area tidy.

Thank you for taking our comments into consideration, we look forward to seeing the build go ahead.

Thanks, Brooke & Kahn Cutts  
 @ fitlife 24/7  
 11 rose street Manjimup  
 [REDACTED]

---

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7 Rose St Manjimup WA 6258  
**Phone: (08) 9771 1289**  
 admin@warrenelectrical.com.au  
 EC001394



24 November 2023

Shire of Manjimup  
 PO Box 1  
 MANJIMUP WA 6258

Dear Chief Executive Officer

We would like to make comment on the Development proposal at Lot 174,175,176 (13,14,15) Rose Street Manjimup.

As a business owner in Rose Street Manjimup, we have some concerns about the proposed development.

While we appreciate and support development in the Manjimup Shire to attract visitors to the area this development is somewhat concerning.

The plans that were sent to us inviting us to make comments were not very clear. We have since been provided with clear plans we have some serious concerns about the design and impact of the project.

One of our many concerns is the lack of family rooms on the plans. The plan shows only single rooms which is not suitable for families with children wanting to visit the area. This is concerning as there is a lack of family accommodation in the Manjimup shire and enticing tourists to this area. We would think this would be of huge importance for the future and we believe that this project is missing out on a valuable opportunity to attract and retain more visitors to the area. The plans look more like worker accommodation than tourist accommodation.

The proposed access is via Robbies Lane. Robbies Lane is a one-vehicle lane with many businesses and houses being accessed via this lane. There are several trade vehicles, delivery vehicles/trucks who use this lane on a daily basis and the visibility to exit onto Ipsen Street is very limited and we believe there will be dangerous congestion if the entry and exit point to this development is via Robbies Lane. We believe that Rose Street access would be a better option.

We are concerned about the amount of parking bays available for the proposed development. The number of bays is less than the number of rooms which will result in excessive parking on the street. This will potentially be in front of our business reducing our customer parking options therefore having a negative impact on our business revenue. We already face challenges with the current parking situation for our staff and customers and we think this would worsen the problem.

The water infrastructure along Robbies lane has been a concern for years and is still leaking as per the following photos. A development of this size would put increased pressure on this infrastructure.

The construction is also a concern to our business if Robbies lane is going to be closed off at any point restricting access for our trade vehicles and delivery vehicles again impacting the running of our business for an extended period of time.





I urge the council to reconsider the plans for the proposed development and address the concerns raised by ourselves and other nearby businesses and residents. I hope that the council will work with the developer to make this project compatible with the needs of the local community and what is best for our local tourism and local businesses and residents and not just the desires of the developer.

Kind Regards

Paul & Tawana Taylor

Directors

7 Rose St Manjimup WA 6258

P 08 97711289

E [admin@warrenelectrical.com.au](mailto:admin@warrenelectrical.com.au)



*Celebrating 50 years in Business. Est 1973*

**Jocelyn Baister**

---

**From:** Mike cully [REDACTED]  
**Sent:** Tuesday, 28 November 2023 7:26 AM  
**To:** Info  
**Subject:** [External] Comment Proposed development cnr Rose and Ipsen streets

To whom it may concern,

Thank you for giving the community time to comment on the proposed development.

I will dot point my thoughts for easy digestion....

1. It would be terrific to see some sort of sustainable insight in the building.  
Solar hot water or even solar panels.
2. Is the car park available for public parking?  
Many Coles customers use the existing land for parking, especially when a trailer or caravan is attached.
3. The boundary wall of the property on Rose Street.  
I believe this needs to have an artistic feature, not just a brick or colour-bond wall.  
This corner is in such a prominent position that a feature could be made with rocks (similar to Pemberton walls.)  
Perhaps a sculptural feature. I am no artist but there needs to be some "taste" about this feature.
4. Traffic flow on this corner is very heavy, with daily bus movements and school traffic to Kearnan College.  
Could there be another one way exit from the car park down the back lane?

Many thanks for allowing the public to comment...

Suzzanne Cully

---

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Chief Executive Officer  
Shire of Manjimup  
PO Box 1  
Manjimup WA 6258

*Via email only to: [info@manjimup.wa.gov.au](mailto:info@manjimup.wa.gov.au)*

Dear Sir/Madam

**Re INVITATION TO PROVIDE COMMENT ON DEVELOPMENT PROPOSAL**

I refer to the letter dated 7 November in relation to Holiday Accommodation – Proposed Motel with Parking Variations relating to Lots 174, 175 and 176.

I am an owner of Lot 177 and the rear of our building backs onto the entry of the proposed parking space.

It appears from the plans provided, that the development will consist of:

- 28 rooms;
- a reception/service area; and
- 27 car spaces.

**Car Parking and Access to the Site**

5.18.1 of the Town Planning Scheme requires 1 car park per unit + 1 per 25m<sup>2</sup> service area for motels. The current plan does not appear to allow for that car parking requirement.

Currently, Ipsen Street and Rose Street endures parking for a number of different persons including caravans and other large vehicles for accessing Coles, employees from different business and customers accessing services from different businesses. We note that there is very little parking in Manjimup for long vehicles to park to allow quick access to supermarkets.

Access from Robbie's Lane onto Ipsen Street already has limited and difficult visibility when there are multiple vehicles parked along Ipsen Street. Ipsen Street in particular is a main thoroughfare for access to schools and residential properties by buses, cars and medium size trucks and emergency services. It is particularly busy during school drop off and pick up. Parking along Rose Street outside the Warren Valley Community Church and FitLife Gym is also utilised by Harvey Norman, persons attending the Church, customers of a number of businesses in the complex on Rose St (including trades persons who often have trailers attached) and users of FitLife gym. This road is also busy in the mornings and the afternoons around peak use times.

The use of Robbie's Lane for access will prove difficult and increase traffic out onto Ipsen Street.

On the plans provided, there is currently not sufficient parking for the proposed number of rooms, no allocated parking area for staff and no area designated for services, loading and unloading including linen, food, waste removal. Is it proposed that Robbie's Lane will be blocked at times to allow services to be provided the motel or will these service vehicles be parked on Ipsen Street? I note that Robbie's Lane is currently used by a number of businesses to access the rear of their premises.

**Disturbance/ Noise**



Currently, Coles has trucks unloading in the early hours of the morning, the gym is used in the early hours of the mornings. I query whether this will cause disturbance to holiday makers/ occupiers of the motel accommodation.

#### Use

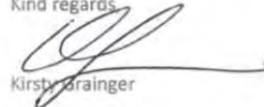
Schedule 1 Section 2 of the Town Planning Scheme provides holiday accommodation to mean "*land and buildings providing facilities for tourist and travelers, including chalets, cabins, farm stay, bed and breakfast, camping grounds, caravan parks and motels, none of which is occupied by the tenant for a period of more than three months in any one calendar year*".

Currently, it appears that a lot of the existing motel style accommodation is occupied by employees or contractors of the Greenbushes mine site and for longer periods of time. This clause specifically requires the tenant to not occupy the accommodation for a period greater than 3 calendar months in a calendar year. Whilst the application states proposed "Holiday Accommodation" I query whether the reality of the situation will be that the motel will be utilised for mine employees and contractors for lengthy periods of time rather than true holiday accommodation as the proposal suggests.

In the short term, I can see that having extra accommodation within Manjimup will be beneficial given the shortage of accommodation options in Manjimup as a result of the Greenbushes mine expansion. I query for how long there will be such a demand for accommodation. This in turn brings into question the ongoing viability of the accommodation given that there is accommodation currently being constructed behind the police station and I understand talk of another proposed accommodation facility near Nutrien. It would be prudent to give consideration to any plans Tallison has for the development of future accommodation on site at Greenbushes. Further consideration should also be given to longer term accommodation needs for Manjimup to attract employees of Tallison to relocate rather than being housed in short term accommodation. If the population can be increased by families relocating to the area there will be demand for future development requirements of shops and other services. There is currently limited space within the central business district for such future development.

If you require any clarification regarding the contents above, please don't hesitate to contact me.

Kind regards



Kirsty Brainger

MANJI MOTEL  
LOT 174, 175, 176 ROSE STREET MANJIMUP

DRAWING LIST

- LOCATION PLAN
- EXISTING SURVEY PLAN
- DEMOLITION PLAN
- SITE PLAN
- FLOOR PLAN
- ROOF PLAN
- FLOOR PLAN
- ELEVATIONS
- SECTIONAL ELEVATIONS
- LANDSCAPE CONCEPT PLAN

- A-1100
- A-1101
- A-2000
- A-2001
- A-2100
- A-2101
- A-2102
- A-3100
- A-4100
- A-7100



TEXTURE

PROPOSED MOTEL  
LOT 174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

25-03-2025  
ISSUED FOR  
REVIEW  
REVISION 3

JOB NO. 2316  
SCALE NA

DRAWING TITLE  
COVER

DA-0000

Texture  
office@texturearch.com.au  
www.texturearch.com.au



DA-1101

### EXISTING SURVEY PLAN

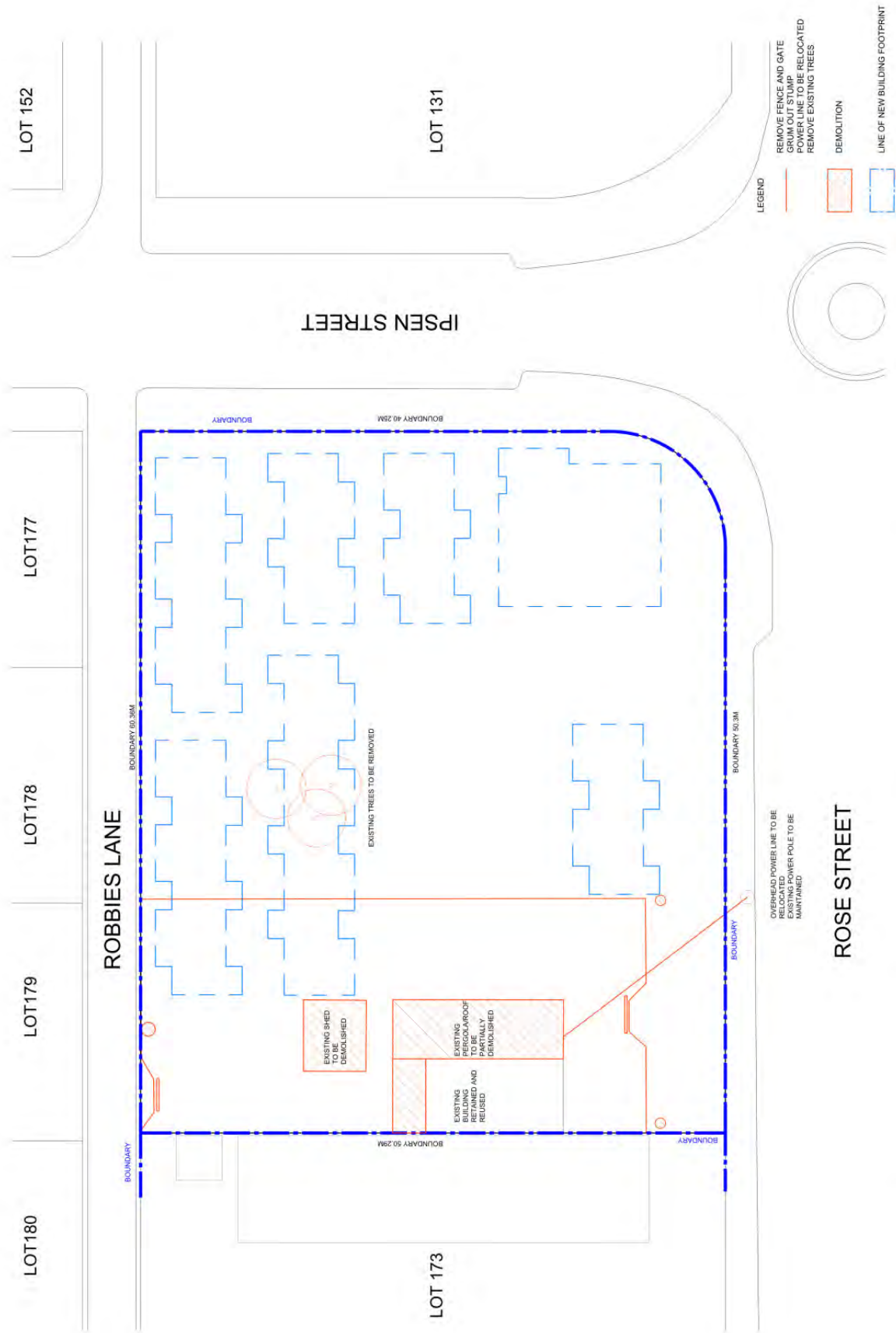
JOB NO. 2316  
SCALE 1:150 @ A1

ISSUED FOR  
SUBMISSION

PROPOSED MOTEL  
LOT  
174,175,176(13,15,17)  
ROOSE STREET MANHATTAN

# LEXIQUE





TEXTURE

PROPOSED MOTEL  
LOT 174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

25-03-2025  
ISSUED FOR  
REVIEW  
REVISION 3

JOB NO. 2316  
SCALE 1:150 @ A1

DRAWING TITLE  
DEMOLITION PLAN

DA-2000

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au



**TEXTURE**

PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

25-03-2025  
ISSUED FOR  
REVIEW  
REVISION 3

JOB NO. 2316  
SCALE 1:150 @ A1

DRAWING TITLE  
FLOOR PLAN

DA-2100

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au



TEXTURE

PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

25-03-2025  
ISSUED FOR  
REVIEW  
REVISION 3

JOB NO. 2316  
SCALE 1:150 @ A1

DRAWING TITLE  
ROOF PLAN

DA-2101

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au





Texture  
office@texture-arch.com.au  
www.texture-arch.com.au

DA-2102



DRAWING TITLE  
FLOOR PLAN  
REVISION 2

JOB NO. 2316  
SCALE 1:50 @ A1

25-03-2025  
ISSUED FOR  
REVIEW  
REVISION 3

PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

TEXTURE







SECTIONAL ELEVATION 1



SECTIONAL ELEVATION 2

TEXTURE

PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

25-03-2025  
ISSUED FOR  
REVIEW  
REVISION 3

JOB NO. 2316  
SCALE 1:100 @ A1

DRAWING TITLE  
SECTIONAL ELEVATION

DA-3101

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au





TEXTURE

PROPOSED MOTEL LOT 174, 175, 176 (13, 15, 17) ROSE STREET MANJIMUP

25-03-2025 ISSUED FOR REVIEW REVISION 3

JOB NO. 2316 SCALE 1:150 @A1

DRAWING TITLE LANDSCAPE PLAN

DA-7100

Texture office@texture-arch.com.au www.texture-arch.com.au





VIEW FROM CORNER OF ROSE STREET & IPSEN STREET



VIEW FROM ROSE STREET

PROPOSED MOTEL LOT 174, 175, 176 (13, 15, 17) ROSE STREET MANJIMUP	07-02-2025 ISSUED FOR SUBMISSION REVISION 2	JOB NO. 2316 SCALE NA	DRAWING TITLE RENDERING IMAGES	DA-6800	Texture office@texture-arch.com.au www.texture-arch.com.au
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VIEW FROM CORNER OF ROSE STREET



VIEW TO ADMINISTRATION BUILDING



VIEW FROM VEHICLE ENTRANCE TO ADMINISTRATION BUILDING

PROPOSED MOTEL LOT 174-175, 176 (13, 15, 17) ROSE STREET MANJIMUP	07-02-2025 ISSUED FOR SUBMISSION REVISION 2	JOB NO. 2316 SCALE NA	DRAWING TITLE RENDERING IMAGES	DA-6801	Texture office@texture-arch.com.au www.texture-arch.com.au
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VIEW FROM IPSEN STREET



VIEW FROM CAR PARKING TO ADMINISTRATION BUILDING



VIEW FROM ROSE STREET TO ADMINISTRATION BUILDING

TEXTURE		PROPOSED MOTEL LOT 174, 175, 176 (13, 15, 17) ROSE STREET MANJIMUP	07-02-2025 ISSUED FOR SUBMISSION REVISION 2	JOB NO. 2316 SCALE NA	DRAWING TITLE RENDERING IMAGES	DA-6802	Texture office@texture-arch.com.au www.texture-arch.com.au
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<p>PROPOSED MOTEL LOT 174, 175, 176 (13, 15, 17) ROSE STREET MANJIMUP</p>	<p>07-02-2025 ISSUED FOR SUBMISSION REVISION 2</p>	<p>JOB NO. 2316 SCALE NA</p>	<p>DRAWING TITLE RENDERING IMAGES</p>	<p>DA-6803</p>	<p>Texture office@texture-arch.com.au www.texture-arch.com.au</p>
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BIRD VIEW TO PROPOSED DEVELOPMENT

RENDERING IMAGES ARE FOR ILLUSTRATIVE PURPOSES ONLY. DESIGN DETAILS PLEASE REFER TO ARCHITECTURAL DRAWINGS.

**TEXTURE**

PROPOSED MOTEL  
LOT  
174, 175, 176 (13, 15, 17)  
ROSE STREET MANJIMUP

07-02-2025  
ISSUED FOR  
SUBMISSION  
REVISION 2

JOB NO. 2316  
SCALE NA

DRAWING TITLE  
RENDERING IMAGES

DA-6804

Texture  
office@texture-arch.com.au  
www.texture-arch.com.au



**Jocelyn Baister**

---

**From:**  
**Sent:** Friday, 28 June 2024 2:51 PM  
**To:** Info  
**Subject:** [External] Lot 174 , 13 Rose Street Manjimup

Planning Officer ,  
Excellent layout of area , with good parking for guests .  
I have one question ? Is there street parking in Rose Street ?  
for walk in traffic , Guests check in , and delivery vans .  
You have probably allowed for this , it does not show  
on the plan .  
Overall a great asset for Manjimup's future , a facility and service  
for visitors with employment for locals .  
Congratulations well done.

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**Jocelyn Baister**

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**From:**  
**Sent:** Thursday, 11 July 2024 7:46 AM  
**To:** Info  
**Subject:** [External] DA24/94 - INVITATION TO PROVIDE COMMENT ON DEVELOPMENT PROPOSAL: Lot 174, 13 Rose Street MANJIMUP

To whom it may concern

Thank you for allowing the PTA to provide comments regarding **DA24/94 - INVITATION TO PROVIDE COMMENT ON DEVELOPMENT PROPOSAL: Lot 174, 13 Rose Street MANJIMUP**.

We have no comments to provide regarding this application.

Warm regards,

Public Transport Authority of Western Australia  
Public Transport Centre, West Parade, Perth, 6000  
PO Box 8125, Perth Business Centre, WA, 6849  
Tel: (08) 9326 2000 Fax: (08) 9326 2000 Mob: 0400 000 000  
Email: Web: [www.pta.wa.gov.au](http://www.pta.wa.gov.au)



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## SOUTH WEST Design Review Panel

### Review and Recommendations

Local government	Shire of Manjimup	
Item no.	8 (second review)	
Date	07 March 2025	
Time	11:00am	
Location	Microsoft Teams	
Panel members	Craig Smith Kent Lyon Suzie Zuber	Chair Member Member
Disclosures of Interest	Nil	
Local government officers	Jocelyn Baister	Manager Planning and Sustainability
Proponent/s	Zara Wang Alana Stewart	Texture Architecture Lateral Planning
Observer/s	Schae Haskett	City of Busselton
<b>Design review</b>		
Proposed development	<b>Motel:</b> 32 Motel units within 6 separate buildings; 34 parking spaces; central administration and guest facilities.	
Property address	Lots 174-176 (No.13-17) Rose Street, Manjimup	
Background	<p>The subject land has a combined total area of 3,014m<sup>2</sup> and is located at the corner of Rose and Ipsen Streets within the Manjimup town centre. Lot 174 currently consists of a disused nursery building and trade area with Lots 175 and 176 vacant. Surrounding land uses consist of a Coles supermarket, Car Dealership, Harvey Norman, private gymnasium.</p> <p>In September 2023, the Western Australian Planning Commission granted unconditional approval to amalgamate the three lots into one, which will assist in a coordinated development on the land.</p> <p>Council previously resolved to refuse and application for 35 motel units at the same property for the following reasons:</p> <ol style="list-style-type: none"> <li>1. That the proposal is rejected on the basis that in its present form the traffic management, using Robbies Lane is inadequate and will disrupt other businesses using the lane. The proposal could be redesigned to include a minimum number of</li> </ol>	



	<p>1 bay per unit plus 2 bays for staff parking.</p> <p>2. A traffic management plan is required to be lodged as part of any reapplication for the development.</p> <p>The applicant has subsequently redesigned to remove access to Robbies Lane. The application was referred to neighbouring properties within a 250m radius for a 21 day period. One comment was received in support for the proposal and raised questions with regards to service vehicle (loading) zones.</p> <p>The proposal was reviewed by the SWDRP on 1 November 2024 with the following in the overview:</p> <p>The panel consider that the intent and content of the project has substantial alignment with the scheme and Town Centre requirements and that the approach to sustainability including the choice of materials and construction techniques could be supported. However, there are serious design issues that need to be addressed in order for the project, as a whole, to meet the desired outcomes of The Town Centre Zone within Planning Precinct 1a (MP1A) Town Centre. Review items include the following:</p> <ul style="list-style-type: none"> <li>- Reconsider the general arrangement.</li> <li>- Reconsider the advantages of removing the existing building.</li> <li>- The amenities building should address the corner</li> <li>- Some units have living spaces adjoining each other and some —bedrooms are directly opposite and about 3m apart. Neither is an acceptable outcome.</li> <li>- Obtain expert landscape advice.</li> <li>- Parking could be closer to units. The proposal is not a typical Motel outcome.</li> </ul>
Proposal	<p><b>Current proposal</b></p> <p>The uses and components of the development are generally in line with the planning requirements and there are no conflicts with the nearby uses.</p>

## REVIEW AND RECOMMENDATIONS

### Proponent Presentation

The presentation was generally in SPP7.3 format.

### Alan Stewart

Introduced the presentation and referred to obvious and smaller changes that specifically respond the items raised in Review 1

### Zara Wang

- Main change is moving the Facilities building to the corner.
- Ipsen setbacks have been increased and windows reoriented to face the street

- Reconstituted timber has been chosen for the decking and cladding.
- Danpalon is to be used on translucent roofs
- The street edges are greener and the landscaping deeper.
- The renders show intent rather than finished product. There are some inconsistencies.
- The buildings generally have steel structure and timber cladding
- The existing buildings continue to be proposed for reuse.
- The unit layout is improved.
- Units will include sinks and microwave.

#### Concluding remarks

There was no formal response from the proponent team, but general recognition of the points raised in the review.

### OVERVIEW

The revised plans show a concerted attempt to address the matters raised in first review of November 2024 as well as other functional improvements.

The Summary Evaluation below lists several items that might still be reconsidered, but the design has reached a point where these can be resolved with some nominated changes, but without major change to the general arrangement of the site.

The advice in this and the previous review should be taken into account in the DA submission.

### SUMMARY EVALUATION AGAINST SPP7.0


Good Design Principles	Comments
1: Context and character	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>a) General improvement in the street interface</li> <li>b) The relocation of the facilities building and landscaping to Rose Street provide a better engagement with the corner and with the planning intent for the town centre. The proposal generally relates better to the town and across the site.</li> <li>c) Fenestration to Ipsen Street.</li> </ul> <p><b>Areas for improvement</b></p> <ul style="list-style-type: none"> <li>d) The Ipsen setbacks remain less than ideal, but the increased fenestration and greater setbacks are a plus.</li> </ul>
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Design Reviewer:	Signature:	Date:
Craig Smith		17/03/2025







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Note scheme nominates 2.6m wide parking bays.

7 February 2025

Jocelyn Baister  
Manager Planning and Sustainability  
Shire of Manjimup  
Jocelyn.Baister@manjimup.wa.gov.au

**APPLICATION FOR DEVELOPMENT APPROVAL  
PROPOSED MOTEL  
LOTS 174 to 176 (Nos.13 to 17) ROSE STREET, MANJIMUP**

We refer to the Application for Development Approval ('Application') for the construction of a Motel at Lots 174 to 176 (Nos.13 to 17) Rose Street, Manjimup ('site').

Please find enclosed Amended Architectural Drawings ('Amended Drawings') in response to the Recommendations of the South West Design Review Panel ('SWDRP') meeting held 1 November 2024. We set out below our response to the SWDRP.

**Context & Character**

**Strengths**

- Parking has street access.

**Areas for improvement**

- The project should address the street corner. The Reception building should play that role.
- Ipsen setback is only 1.5m - a minimal response.
- The number of units with road interface could be reduced.
- Blank facades to the street could be more active
- The gold metal screening is at odds with the local context (See also 3. below).
- Parking might be better organised for simpler circulation and closer proximity to the units.
- Control of road noise is not yet covered.
- Landscaping detail is insufficient, as currently shown.
- Timber decking noted as an option. In a timber town the real thing should be a priority.

The Reception has been relocated to address the corner of Ipsen Street and Rose Street. A reduced setback to Ipsen Street is proposed for the Reception, however, as suggested by the SWDRP, the Motel units have been provided with a larger setback varying from 1.9 to 2.2 metres. The redesign has also reduced the number of units with an interface to Ipsen Street (from five to three). Windows have been added to the Ipsen Street elevation of the Motel units and Caretakers Room.

With respect to Rose Street, a more generous setback of 6 to 7 metres is provided to the Motel units, with the setback area now set aside for landscaping / pedestrian access. The car bays in the Rose Street setback have been relocated. Further activation of the Rose Street frontage is achieved with the children's play area and external deck to the guest amenities / breakfast room.

The other significant change made to the design of the development is the arrangement of the car parking bays. The main car park has been centralised to reduce the distance to the units.

With respect to materials, natural timber will be utilised in the children's play area (i.e. climbing structures, logs etc) while the administration building will utilise a combination of natural and composite timber to reflect Manjimup's status as a historic "timber town". The Project Architect has provided the following additional comments with respect to the use of composite timber.

*The external cladding to the units, portions of the administration building and decking to pedestrian / alfresco areas will be composite timber, which contains a high percentage of recycled compressed timber. This makes it low maintenance, durable, fire-resistant, cost-effective, sustainable, and eco-friendly - unlike natural solid timber, which is typically used for high-end residential buildings. It is a very common building material especially for commercial building. Using natural timber in commercial buildings has several disadvantages, including:*

**1. High Maintenance Costs**

- Requires regular sealing, staining, or painting to protect against weathering, moisture, and pests.
- Susceptible to rot, warping, and cracking over time.

**2. Fire Risk**

- Natural timber is highly flammable, increasing fire hazards and insurance costs. Requires additional fire-retardant treatments to meet safety regulations.

**3. Durability Concerns**

- Prone to termite and insect damage, requiring chemical treatments.
- May not withstand extreme weather conditions as well as steel or concrete.

**4. Cost and Availability**

- High-quality timber can be expensive, especially sustainable or exotic hardwoods. Prices fluctuate due to supply chain issues and deforestation concerns.

**5. Environmental Impact**

- Harvesting natural timber contributes to deforestation and habitat destruction.
- Processing timber requires significant energy and resources.

**Composite Timber Material Overview**

Composite timber is a manufactured material made from a mix of wood fibres, recycled plastics, and bonding agents. It is designed to mimic the appearance of natural wood while offering enhanced durability, sustainability, and low maintenance.

Key Benefits

- ✓ Low Maintenance - No need for staining, sealing, or painting.
- ✓ Highly Durable - Resistant to rot, warping, cracking, and insects.
- ✓ Weather & Moisture Resistant - Withstands extreme climates better than natural timber.
- ✓ Fire-Resistant Options - Many composite products meet fire safety standards.
- ✓ Eco-Friendly - Made from recycled wood and plastic, reducing deforestation.
- ✓ Cost-Effective - Higher upfront cost but lower maintenance over time.
- ✓ Design Flexibility - Available in various colours, textures and finishes to resemble natural wood.



## Landscape Quality

### Strengths

- Quantity of DRZ (19%)

### Areas for improvement

- Given the extent of the landscaping, better functionality could be achieved.
- Proposed large local trees (Karri) may be a long term issue – consider other local options
- More clarity on the planting scheme and varieties is required.
- Expert landscape advice is recommended.
- Noted that trees shown on images don't match the tree plan

Please find attached Landscape Plan.

## Built Form & Scale

### Strengths

- Scale is acceptable

### Areas for improvement

- More detail on form required.
- The metal screen above the roof line is not supported. It contributes little and is likely to age badly.
- Retention and repurposing of the storage building has limited advantages and other options may be better.
- The proximity of the rows of units is a concern for privacy, visual amenity, noise control and daylight access/overshadowing.

The metal screening has been deleted.

The utilisation of an existing building for storage purposes is considered to represent a good example of building adaptation. It also represents a sustainable design outcome by reducing reliance on new materials.

## Functionality & Build Quality

### Strengths

- Materials and construction methods generally supported.
- Single level residential is appropriate scale
- Cross ventilation provided in most units but should be demonstrated for all units).
- DDA provision generally acceptable.
- Internal layouts of residential are functional.

### Areas for improvement

- Consider reconfiguring units so that living spaces don't abut each other.
- Construction thickness to unit roofs is unrealistic.
- Undercover reception parking would be useful in winter.
- The parking shortfall of 1 bay could be supported, given the ample street parking.
- The unit clusters could be more functional and grouped more efficiently.
- Privacy screening mentioned but not shown in the drawings. Intent should be demonstrated.
- Sectional drawings need to be included to help explain the construction and falls.

The units have been reconfigured so that living spaces do not abut each other.

A total of 34 car bays are now proposed:

- 32 car bays will be set aside for the Motel units (1 per unit);
- 1 car bay (the rear tandem bay) will be set aside for staff parking; and
- 1 car bay will be set aside for guest check-in parking (the front tandem bay), which will also be available for additional staff / contractor parking prior to the afternoon check-in times.

## Sustainability

### Strengths

- Sustainability intent on the construction side is encouraging, including reusable units and site minimal impact from residential units.
- There is potential for a certified result.
- Low carbon approach is supported.

### Areas for improvement

- Energy use not yet covered.
- Drainage/water storage & usage not yet covered (Laterite issue in Manjimup)
- Sustainability should be further explained and a commitment confirmed.
- Sun protection may suffice between rows of units, but the east and west extremities are largely unprotected.

The west and east facing units are provided with a roof overhang and window awning for summer sun protection. Further information prepared by the Project Architect relating to the sustainable benefits of the modular construction is attached.

It is requested that a condition of approval be imposed requiring the submission of a Stormwater Management Plan prior to the submission of an Application for a Building Permit.

## Amenity

### Strengths

- Meals provision well catered for in Reception building.
- Extent of DDA provision.
- Water supply.
- Internal layouts of residential units.
- The quantity of landscaping is encouraging.
- External lighting.

### Areas for improvement

- Unclear if basic fridge and kettle provision is available in all units. Noted that the absence of cooking facilities is a deliberate decision and typical of many motels, but may be expected by visitors, including families.
- The provision of external facilities and safe play areas for families/children.
- The minimum distance between units is around 3m and the walkway 1800 wide. This is tight and lacks a sense of generosity or privacy. Living spaces are positioned opposite each other.
- Blank walls facing Ipsen lack street engagement
- Back of house functions/spaces should demonstrate efficiency, including storage types, plant and equipment and cleaning.

An outdoor play area is proposed within the front setback to Rose Street. The configuration of the units has been adjusted to increase the separation distance between openings to living rooms. Windows have been added to the units facing Ipsen Street.

Back of house facilities utilise the buildings situated on the site's southern boundary. These facilities are ideally positioned away from the Motel units with good access from the main driveway. This is considered to be an efficient design.

## Legibility

### Strengths

- Position of the single vehicle access.

### Areas for improvement

- A clearer access to the Reception point on arrival.
- Ensure pedestrian priority in parking areas.

Clearly defined pedestrian paths are provided to the relocated reception, from the car park, main driveway and Rose Street.

## Safety

### Strengths

- Lighting provision

### Areas for improvement

- There are no gates on Ipsen and no windows on the street.
- Fencing and secure lines not provided. Kids at risk
- Entrapment / hiding places between rows of units.
- Further attention is required to pedestrian access and egress.

Fencing and gates are provided to all frontages and the development will incorporate lighting to external walkways and unit entries. There is a high level of visibility from windows / entry doors to all external areas between the units.

## Community

### Strengths

- The project can make a significant contribution to the Manjimup community and economy.

### Areas for improvement

- Check for any possible cultural questions and contributions that the project might have.
- Could make a better community contribution with better street interfaces.

The revised design greatly enhances the street interfaces and the development will generate activity adjacent to, and within, the abutting streets.



## Aesthetics

### Strengths

- Materials and details are generally supported.

### Areas for improvement

- Not yet aesthetically resolved. The form is unnecessarily complex
- The interface to the lane is not supported.
- Landscape, environment and buildings to be considered as one.

The interface to Robbies Lane has been improved with the relocation of additional units adjacent to this boundary.

Should you require any further information or clarification in relation to this matter, please contact Alan Stewart on 0413 842 645.

Yours faithfully,

*Alan Stewart*

**Alan Stewart**

Lateral Planning



## SOUTH WEST Design Review Panel

### Review and Recommendations

Local government	Shire of Manjimup	
Item no.	8 (second review)	
Date	07 March 2025	
Time	11:00am	
Location	Microsoft Teams	
Panel members	Craig Smith Kent Lyon Suzie Zuber	Chair Member Member
Disclosures of Interest	Nil	
Local government officers	Jocelyn Baister	Manager Planning and Sustainability
Proponent/s	Zara Wang Alana Stewart	Texture Architecture Lateral Planning
Observer/s	Schae Haskett	City of Busselton
<b>Design review</b>		
Proposed development	<b>Motel:</b>  32 Motel units within 6 separate buildings; 34 parking spaces; central administration and guest facilities.	
Property address	Lots 174-176 (No.13-17) Rose Street, Manjimup	
Background	<p>The subject land has a combined total area of 3,014m<sup>2</sup> and is located at the corner of Rose and Ipsen Streets within the Manjimup town centre. Lot 174 currently consists of a disused nursery building and trade area with Lots 175 and 176 vacant. Surrounding land uses consist of a Coles supermarket, Car Dealership, Harvey Norman, private gymnasium.</p> <p>In September 2023, the Western Australian Planning Commission granted unconditional approval to amalgamate the three lots into one, which will assist in a coordinated development on the land.</p> <p>Council previously resolved to refuse and application for 35 motel units at the same property for the following reasons:</p> <ol style="list-style-type: none"> <li>1. That the proposal is rejected on the basis that in its present form the traffic management, using Robbies Lane is inadequate and will disrupt other businesses using the lane. The proposal could be redesigned to include a minimum number of</li> </ol>	

	<p>1 bay per unit plus 2 bays for staff parking.</p> <p>2. A traffic management plan is required to be lodged as part of any reapplication for the development.</p> <p>The applicant has subsequently redesigned to remove access to Robbies Lane. The application was referred to neighbouring properties within a 250m radius for a 21 day period. One comment was received in support for the proposal and raised questions with regards to service vehicle (loading) zones.</p> <p>The proposal was reviewed by the SWDRP on 1 November 2024 with the following in the overview:</p> <p>The panel consider that the intent and content of the project has substantial alignment with the scheme and Town Centre requirements and that the approach to sustainability including the choice of materials and construction techniques could be supported. However, there are serious design issues that need to be addressed in order for the project, as a whole, to meet the desired outcomes of The Town Centre Zone within Planning Precinct 1a (MP1A) Town Centre. Review items include the following:</p> <ul style="list-style-type: none"> <li>- Reconsider the general arrangement.</li> <li>- Reconsider the advantages of removing the existing building.</li> <li>- The amenities building should address the corner</li> <li>- Some units have living spaces adjoining each other and some —bedrooms are directly opposite and about 3m apart. Neither is an acceptable outcome.</li> <li>- Obtain expert landscape advice.</li> <li>- Parking could be closer to units. The proposal is not a typical Motel outcome.</li> </ul>
Proposal	<p><b>Current proposal</b></p> <p>The uses and components of the development are generally in line with the planning requirements and there are no conflicts with the nearby uses.</p>

## REVIEW AND RECOMMENDATIONS

### Proponent Presentation

The presentation was generally in SPP7.3 format.

#### Alan Stewart

Introduced the presentation and referred to obvious and smaller changes that specifically respond the items raised in Review 1

#### Zara Wang

- Main change is moving the Facilities building to the corner.
- Ipsen setbacks have been increased and windows reoriented to face the street



- Reconstituted timber has been chosen for the decking and cladding.
- Danpalon is to be used on translucent roofs
- The street edges are greener and the landscaping deeper.
- The renders show intent rather than finished product. There are some inconsistencies.
- The buildings generally have steel structure and timber cladding
- The existing buildings continue to be proposed for reuse.
- The unit layout is improved.
- Units will include sinks and microwave.

#### Concluding remarks

There was no formal response from the proponent team, but general recognition of the points raised in the review.

## OVERVIEW

The revised plans show a concerted attempt to address the matters raised in first review of November 2024 as well as other functional improvements.

The Summary Evaluation below lists several items that might still be reconsidered, but the design has reached a point where these can be resolved with some nominated changes, but without major change to the general arrangement of the site.

The advice in this and the previous review should be taken into account in the DA submission.

## SUMMARY EVALUATION AGAINST SPP7.0


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<p>Design Reviewer:</p> <p>Craig Smith</p>	<p>Signature:</p> 	<p>Date:</p> <p>17/03/2025</p>
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## **PART D – OTHER BUSINESS**

- 1. State Administrative Tribunal Applications and Supreme Court Appeals**
- 2. Meeting Closure**