



*'The Council and Staff of the Shire of Boddington, in partnership with the community, are committed to operating effectively and efficiently to provide quality lifestyle opportunities that encourage population growth and development'*

## **MINUTES**

**For the  
Special Meeting of Council  
Held On  
3 March 2022**

**At 6:00pm**

Council Chambers  
39 Bannister Rd, Boddington

## **DISCLAIMER**

No responsibility whatsoever is implied or accepted by the Shire of Boddington for any act, omission or statement or intimation occurring during Council/Committee meetings or during formal/informal conversations with staff. The Shire of Boddington disclaims any liability for any loss whatsoever and howsoever caused arising out of reliance by any person or legal entity on any such act, omission or statement or intimation occurring during Council/Committee meetings or discussions. Any person or legal entity who acts or fails to act in reliance upon any statement does so at that person's or legal entity's own risk.

In particular and with derogating in any way from the broad disclaimer above, in any discussion regarding any planning application or application for a licence, any statement or limitation of approval made by a member or officer of the Shire of Boddington during the course of any meeting is not intended to be and is not taken as notice or approval from the Shire of Boddington. The Shire of Boddington warns that anyone who has an application lodged with the Shire of Boddington must obtain and only should rely on WRITTEN CONFIRMATION of the outcome of that application and any conditions attaching to the decision made by the Shire of Boddington in respect of the application.

## Minutes

1.	DECLARATION OF OPENING .....	4
2.	ATTENDANCE/APOLOGIES/LEAVE OF ABSENCE .....	4
3.	DISCLOSURES OF INTEREST .....	4
4.	PUBLIC QUESTION TIME .....	4
5.	PETITIONS/DEPUTATIONS/PRESENTATIONS/SUBMISSIONS .....	7
6.	CONFIRMATION OF MINUTES .....	7
7.	ANNOUNCEMENTS BY PRESIDING MEMBER WITHOUT DISCUSSION .....	7
8.	REPORTS OF OFFICERS AND COMMITTEES .....	8
8.1	PLANNING & DEVELOPMENT SERVICES .....	8
8.1.1	Proposed subdivision of Lots 21 and 23 Crossman Road and Lot 22 Fraser Road, Boddington .....	8
12.	CLOSURE OF MEETING .....	22

**1. DECLARATION OF OPENING**

G Ventris, Shire President declared the meeting open at 6:00pm.

I would like to begin by acknowledging the Traditional Owners of the land on which we meet today. I would also like to pay my respects to Elders past and present and emerging.

**2. ATTENDANCE/APOLOGIES/LEAVE OF ABSENCE**

**2.1 Attendance**

G Ventris	Shire President
E Smalberger	Deputy Shire President
C Erasmus	Councillor
L Lewis	Councillor
A Ryley	Councillor
E Schreiber	Councillor
I Webster	Councillor

J Burton	CEO
P Haas	PEHO/BS
J Atkins	MWS

T Hodder	EA (minutes)
----------	--------------

Steve Thompson	Consultant Town Planner
----------------	-------------------------

Visitors: 5

**2.2 Apologies**

Nil

**2.3 Leave of Absence**

Nil

**3. DISCLOSURES OF INTEREST**

Nil.

**4. PUBLIC QUESTION TIME**

Public question time is limited to a total of fifteen minutes of duration, except by consent of the person presiding. Each speaker is limited to three minutes duration to speak, except by consent of the person presiding.

Questions asked at special council meetings must relate to the purpose of the meeting.

Brendan Metcalf presented written questions to Council:



## **Concerns regarding proposed subdivision of Lots 21 and 23 Crossman Road and Lot 22 Fraser Road, Boddington**

1. How will the morale and overall feel and look of the town and community be if we have another development started but not taken up, such as the one on the west edge of town? It doesn't exactly look very vibrant! What is our community vision?

S. Thompson: I don't see a comparison between Banksia Estate and this development application.

2. Will the development be carbon neutral? We are in a climate emergency, and the Shire of Boddington could be leaders and game changers for how we want developments to go ahead. How about we champion green development, be proactive on issues such as sustainable housing, encourage eco-friendly development that reduces energy consumption, uses resources and materials in a sustainable way, and promotes healthy living within the development.

We should also look at how well the development sits within its natural environment and how it compensates for the ecology it is built upon. Surely we want people to move to Boddington and feel connected and have a desire to care for their immediate environment?

S. Thompson: The Shire can exert some influence in some ways but cannot make it mandatory for someone to put in a rain water tank.

There is no evidence it is a carbon neutral development. There are proposals for revegetation. They will not be required to be carbon neutral.

3. Will the development company be establishing vegetation to offset any clearing that is undertaken, particularly where that vegetation is used by threatened species such as black cockatoos?

S. Thompson: There is no commitment to provide offset for cockatoos. The application will likely be referred to the DBCA and DWER for comment also.

4. Will there be water issues if all blocks are to be connected to existing water infrastructure, which already has pressure issues along the line at Wandering? Could all blocks be required to have a water tank and be independent with regards water?

S. Thompson: The Shire has been asked to provide its comments to the WAPC (Western Australian Planning Commission), who will then make the decision. If the commission approves it, the subdivision is likely to have a lot of conditions to meet the satisfaction of Western Power and Water Corp etc. There might be a need for a duplicate line – if the development application proceeds, it cannot negatively affect the pressure or availability of water to others.

5. Flooding issues – plans have been drawn up using historic 100 year flood levels, however we are experiencing climate change, with extreme events being more likely, including severe rainfall events.

S. Thompson: The Shire has the flood-study for the rivers. The proposed building sites are outside of the floodway.

6. Infilling of low lying areas could affect environmental flows into the Hotham river. Where will the water go if these areas are infilled? Where will this infill come from?

S. Thompson: There will be an urban water management plan to look at all flood risks i.e homes higher than roads. Some blocks will need to be built up. There will be detention basins where the water goes. At a block level, each property must control water on their own property. There will be drains on the roads.

7. Sizes of blocks to be developed – Boddington prides itself as having a rural lifestyle, surely the minimum of sizes of blocks in this development are more akin to a suburb?

S. Thompson: Boddington needs a better range of lot sizes, which will attract a greater range of people. It will be a suburb as it is a large area.

8. Landscape amenity – if all smaller blocks are to be concentrated on the hill, trees will be removed and this will be clearly visible to all driving in on Crossman Road.

S. Thompson: The previous proposal subdivision guide plan showed 150 lots on the property- this would mean many trees would be removed. The current proposal is 175 blocks – necessitating removal of trees. Houses will be clearly visible.

9. Will there be a link to existing bike path to encourage alternative transport to and from town rather than having to rely on cars?

S. Thompson: There is a requirement to connect the estate to River Road. Previous plans were to have footpath/cycling on both sides of the road and a bridle trail around river. Alternative transport would be riding and walking.

10. Is there really a need to build another hall when there are so many buildings in Boddington that are hardly used? Who will upkeep such a building and it's surrounds over the next 10, 20, 50 years?

S. Thompson: I doubt there will be another hall – the plan shows a provision of open space to provide for a 'community purpose'. No decision has been made on what would be on the land.

11. How does this affect the 3 heritage Noongar sites, including the wandoo hill?

S. Thompson: the Department of Planning Lands and Heritage work with WAPC – if a registered aboriginal site is in the application it will be addressed.

12. Since the original proposal was so long ago, does it have to be assessed again?

S. Thompson: There is a framework in place so it does not start again from the beginning. The zoning stays in place – subdivision approval lasts for 4 years. Bush fire requirements and requirements for sewage disposal have changed. Much remains the same.

13. Do the impacts from the development get looked at?

S. Thompson: Any environment impact potential may be sent to PHCC etc who may provide comment.

Brad Whyte of 99 River Road

1. Does there need to be another feasibility study for block sizes? There could be larger sizes. Why is the developer going for smaller blocks when small blocks for sale in town are struggling to sell?

S. Thompson: The developer knows all their requirements and has done market research. Most projects need a range of lot sizes. With zoning, 9 stages are mentioned and the developers may change tactic as required.

2. Can the Shire influence the size of blocks?

S. Thompson: This could only occur in Council's recommendation to the planning commission.

3. The previous planning application occurred when Boddington had super-town status and that is not the case now. Newmont is going autonomous so there are fewer employment opportunities.

Cr Ryley: My wife and I moved here and met several families who have come here to get away from the rat race – some are fly in/out. The town is still attracting people for the rural lifestyle.

Shire President: If we don't get people to live in town, we won't grow.

Cr Webster: If the small blocks do not sell, the bigger blocks will open up instead.

4. Will there be leach drains?

S. Thompson: It won't be connected to deep sewerage. Since they are outside of the 100 year flood-study, it meets the sewerage policy.

Tam Ringrose

1. Can the trees on the hills be left as much as possible? There is a huge population of black cockatoos that go there.

Shire President: This will be noted.

**5. PETITIONS/DEPUTATIONS/PRESENTATIONS/SUBMISSIONS**

Nil.

**6. CONFIRMATION OF MINUTES**

Nil

**7. ANNOUNCEMENTS BY PRESIDING MEMBER WITHOUT DISCUSSION**

Nil

## **8. REPORTS OF OFFICERS AND COMMITTEES**

### **8.1 PLANNING & DEVELOPMENT SERVICES**

#### **8.1.1 Proposed subdivision of Lots 21 and 23 Crossman Road and Lot 22 Fraser Road, Boddington**

File Reference:	161908
Applicant:	Dynamic Planning and Developments
Disclosure of Interest:	Edge Planning & Property receive a payment for planning advice to the Shire and declare a Financial Interest (section 5.70 of the Local Government Act 1995)
Author:	Steve Thompson – Consultant Planner
Attachments:	8.1.1A Subdivision Plan 8.1.1B Letter from applicant 8.1.1C Bushfire Management Plan (extract) 8.1.1D Site and Soil Evaluation (extract) 8.1.1E Staging Plan 8.1.1F Extract from Shire of Boddington Local Planning Scheme No.3 8.1.1G Approved Subdivision Guide Plan (Local Structure Plan)

#### **Summary**

A subdivision application proposing residential and rural residential lots, on Lots 21 and 23 Crossman Road and Lot 22 Fraser Road, is recommended for approval subject to conditions.

#### **Background**

The Western Australian Planning Commission (WAPC) has referred subdivision application No. 161908 to the Shire for comment. The WAPC is the decision-making authority for subdivision applications. The subdivision plan, outlined in Attachment 8.1.2A, proposes 175 lots ranging between 2000m<sup>2</sup> and 1.86 hectares. Additionally, a community purpose site (1 hectare), public open space (6.21 hectares and 6219m<sup>2</sup>) and a foreshore reserve (4.28 hectares) are proposed. Details provided by the applicant, including technical reports, are set out in Attachments 8.1.2B to 8.1.2E.

Various plans and studies have previously been undertaken including a flood study, a land capability report, stormwater management plan and environmental investigations. These reports have been complemented with recent technical investigations, in particular a Bushfire Management Plan and Site and a Soil Evaluation (see Attachments 8.1.2C and 8.1.2D).

Relevant matters relating to the application site include:

- The Council has considered planning and development matters associated with the site on various occasions and has supported the planning to date. This included on 28 June 2011 where a subdivision application for 121 lots was conditionally supported. The Council supported the Subdivision Guide Plan for 150 residential and rural residential lots at its meeting on 16 August 2013;
- The WAPC approved Subdivision Guide Plan (now called a Local Structure Plan) is outlined in Attachment 8.1.2G;
- It is gently sloping and contains a watercourse and various drainage lines;

- Portions of the site are affected by flooding as outlined in the *Shire of Boddington Floodplain Management Study* and the hydrological assessment undertaken for the site;
- It has access to both Crossman Road and Fraser Road and adjoins rural residential development;
- The site is predominantly cleared. The land also contains some remnant vegetation including a central ridge of Wandoo woodland along with some having some trees with hollows suitable for cockatoos;
- Portions of the site is classified as Bush Fire Prone a <https://maps.slip.wa.gov.au/landgate/bushfireprone/>;
- The site is zoned 'Special Use' (SU2) in the *Shire of Boddington Local Planning Scheme No. 3* (LPS3) and portions of the site are within Special Control Area No. 1 – Flood Prone Area. Various site-specific statutory provisions relate to the property (see Attachment 8.1.2F);
- The site is identified as 'Existing Residential – low density' in the endorsed *Shire of Boddington Local Planning Strategy*; and
- The legal tests for valid subdivision conditions are that it is imposed for a planning purpose, it fairly and reasonably relates to development (nexus) and that it is reasonable.

### Comment

#### *A) Overview*

The subdivision is conditionally supported for reasons including:

- It is consistent with the Local Planning Strategy and is generally consistent with the endorsed Subdivision Guide Plan (including the provision of public open space, road pattern and size of perimeter lots);
- The Department of Planning, Lands and Heritage recently confirmed they are comfortable in the applicant proceeding directly to a subdivision application without updating the Local Structure Plan;
- It appears that the proposed lots can achieve suitable planning outcomes including bushfire and on-site sewerage disposal, noting there is a need for detailed civil engineering design and associated works including possible fill on some lower lying lots;
- It will be appropriately serviced;
- Shire officers raise no objections; and
- If implemented, it will provide an important boost to the on-going development of Boddington.

The application does however raise various considerations which are outlined below. Some of the key considerations with the subdivision application are summarised below.

#### *B) Clearing of native vegetation*

The endorsed Subdivision Guide Plan and former subdivision approvals would have resulted in clearing considerable portions of the central ridge of Wandoo woodland. Based on modified bushfire management requirements (from a decade ago) and the submitted subdivision

application (which increases the lot yield in the central area compared to former plans), there will be increased clearing of the Wandoo woodland to facilitate proposed subdivision/development. It is expected relevant State Government agencies will review the appropriateness of the clearing on the Wandoo woodland vegetation.

The Subdivision Guide Plan shows 'trees with hollows' which may be suitable for protected cockatoos. To protect the nominated trees, there is a need to identify these on site and ensure that future subdivision works and buildings are appropriately located to ensure on-going conservation. To ensure that all nominated trees with hollows are retained, this may involve minor changes to some lot boundaries at the detailed civil design stage.

### *C) Revegetation*

Based on the approved Subdivision Guide Plan, the developer is responsible for appropriate revegetation in portions of the site. For example:

- The site is visible from Crossman Road which is an important gateway into Ranford and Boddington. LPS3 Condition 7 requires a 10 metre wide landscape buffer strip with local indigenous vegetation for much of the Crossman Road frontage (not adjoining the POS and community purpose site);
- Page 15 of the Scheme Amendment No. 16 documentation, in part, states 'The developer proposes to plant up the winter creek (located within the Building Exclusion Zone) on the eastern side of the subdivision with some mature local seedlings. This will assist the remnant vegetation in this area in being a wildlife corridor from the river vegetated area to native bushland to the south side of Crossman Road'; and
- Page 15 of the Scheme Amendment No. 16 documentation, in part, states 'The developer has also agreed to the planting up of the perimeter of the 6ha POS area on the south western boundary of the subdivision with mature local seedlings, in consultation with the Shire of Boddington'.

To enhance the amenity of the estate, it is expected the developer will support the planting of appropriate street trees to the satisfaction of the Shire. Considerations of preferred species will include on-going management, safety and impacts on services.

In relation to Conditions 16 and 17, the public open space in the south-west section, the community purpose site and the foreshore reserve should be provided as part of the stage 1 subdivision.

### *D) Bushfire Management Plan*

A Bushfire Management Plan has been submitted with the subdivision application (Attachment 8.1.2C). This outlines the subdivision complies with State planning requirements. This includes that there is sufficient area on each lot to accommodate a dwelling which achieves BAL-29 or below. Implementation of the Bushfire Management Plan needs to be consistent with the requirements to protect trees with hollows and conserve other identified remnant vegetation.

Given the subdivision will be staged, commencing near Fraser Road, appropriate interim arrangements are required to provide secondary access for emergency purposes.

### *E) On-site sewerage disposal*

A Site and Soil Evaluation (SSE) has been prepared (Attachment 8.1.2D) which is accepted by the Shire. The SSE demonstrates there is a suitable area on each proposed lot for a Land

Application Area (area for on-site sewerage disposal) that addresses the Government Sewerage Policy.

The SSE is supported by information on highest groundwater levels. In addition to the Hotham River and the north-south watercourse on the eastern boundary, there are also other drainage lines that may have SSE implications including near the southern boundary, with a possible need for some fill.

#### *F) Stormwater management*

A Local Water Management Strategy has previously been prepared which provides the framework for the more detailed *Urban Water Management Plan* (UWMP). The UWMP will be imposed as condition of the subdivision approval.

There is a need to ensure that the UWMP suitably addresses stormwater management, nutrient stripping, flood protection and opportunities for effectively using water. Given the proposed lot sizes, it is expected that stormwater can be suitably detained on each lot which can be enhanced through measures such as rainwater tanks and soakwells. Stormwater management measures are required to be appropriately designed and constructed which meet high environmental standards and which can be effectively maintained by the Shire.

#### *G) Public open space and community purpose site*

In relation to the public open space (POS), the subdivision application is generally consistent with the endorsed Subdivision Guide Plan. The subdivision plan shows a large POS area of 6.22 hectares in the south-west section of the site plus a centrally located area of 6219m<sup>2</sup>. The POS will benefit future estate residents and the broader community. The POS (in the south-west) adjoins a proposed community purpose site (1 hectare). The POS and the community purpose site will be provided free of cost by the developer to the Shire.

The subdivision application however proposes to remove an area of 9027m<sup>2</sup> of POS of in the northern section of the site. Accordingly, a key consideration is the lack of convenient public access, to future residents, in the northern section to the foreshore. This needs to be suitably addressed such as through the provision of a public access way between Lots 21 and 22.

At this stage, there has not been any detailed planning relating to the POS or community purpose reserve by the developer or the Shire. The Shire administration will seek to progress matters with the developer and seek further direction from the Council. There is a need, in time, to:

- Consider uses, anticipated facilities and management;
- Prepare concept plans, which gain Council approval, before progressing to detailed design;
- Ensure that improvements can be appropriately sustained/maintained by the Shire;
- Consider water availability including groundwater and dams; and
- Consider possible naming of the POS.

It is suggested that the POS is likely to be used predominantly for recreation purposes e.g. equestrian activities, walking, cycling and opportunities for informal active recreation such as a 'kick around area'. There is no proposal for a recreation centre and it will not duplicate facilities and the standard of the Town Oval. Accordingly, the POS is not likely to be used for formal sporting facilities. The POS should complement the community site which could incorporate a community hall, tennis court, barbeque facilities and a children's playground.

Page 19 of the Scheme Amendment No. 16 documentation in part states:

“The developer is also committed to developing the areas of POS, the larger for informal active recreation which includes some heritage interpretation, and a smaller pocket park for a children’s playground and revegetation opportunities.”

The community purpose site should enhance the amenity and attractiveness of the estate and assist to create opportunities for community activities and interaction. The community purpose site could accommodate a possible children’s playground (or on the adjoining POS). There is also a need to prepare concept plans, which gain Council approval, before progressing to detailed design and to consider the on-going management of the site.

It is noted that the subdivision plan has deleted the 9027m<sup>2</sup> POS in the north-west. This needs further consideration including ensuring there is suitable public access between the estate and the foreshore in the northern part of the estate.

The Shire administration would prefer that the POS in the south-west section and the community purpose site are provided as part of the stage 1 subdivision. This would provide increased certainty for relevant stakeholders, including the Shire, in relation to tenure, management and maintenance. There is no requirement to provide the centrally located POS until stage 9.

#### *H) Hotham River foreshore reserve*

An existing foreshore reserve, reserved as Public Open Space in LPS3, currently adjoins the site and is largely vegetated. The Subdivision Guide Plan proposes to widen the foreshore reserve which amongst matters will ensure paths/tracks can be provided on cleared land.

The Subdivision Application proposes to widen the foreshore reserve in accordance with the endorsed Subdivision Guide Plan. The widened foreshore reserve is required to:

- Provide a suitable alignment, on cleared land which avoids environmental assets, to accommodate the construction of a proposed track. The track will be for walking, cycling and possible horse riding, along with vehicular emergency access/emergency escape route;
- Assist to improve public access to and along the Hotham River in accordance with the Subdivision Guide Plan, as well as assisting to protect riparian vegetation; and
- Provide areas for drainage swales and revegetation opportunities.

As set out in Condition 16 of the LPS3 provisions (Attachment 8.1.2F), the developer is required to prepare and implement a Foreshore Management Plan as a condition of subdivision approval. The main elements of the Foreshore Management Plan are to include addressing:

- Weed control;
- Restrict vehicular access (other than for emergency situations);
- Ensure appropriate fencing between the public and private domain;
- Identify revegetation opportunities and the recommended species;
- Restrict stock within the foreshore reserve;
- Address drainage swale construction and treatment; and,
- Prevent activities or access that may result in erosion.



The required Foreshore Management Plan should ideally be prepared upfront for all of the foreshore adjoining the entire site to provide increased guidance and certainty for relevant stakeholders including the Shire. In terms of implementation, the works would be staged as appropriate to relevant sections of the foreshore.

#### *I) Traffic and crossovers*

The road pattern set out in the subdivision application is consistent with the endorsed Subdivision Guide Plan.

The first stages will generate limited traffic with traffic utilising Fraser Road. In time, the intersection of the western subdivision road and Crossman Road, will however accommodate moderate traffic (particularly relative to a country town). As part of the detailed civil engineering designs, there may be a need for traffic calming treatments at the intersection of the western subdivision road to Crossman Road along with internal treatments to manage traffic safety. A possible vehicle turning lane at the western subdivision road/Crossman Road intersection should be separately considered by the developer's consulting engineer for future stages.

As the subdivision is progressively implemented, there may be a need to request that Main Roads Western Australia review the speed zoning on this section of Crossman Road.

In accordance with Council's *Local Planning Policy No. 9 Car Parking and Vehicular Access*, it is recommended that Council seek the imposition of a condition requiring the sealing and draining of crossovers to all lots.

#### *J) Paths and tracks/cycling and walking paths*

There is a need to provide safe, convenient and appropriate dual use paths (for walking and cycling) and other paths/tracks through the site and which connect the estate to Ranford.

LPS3 Development Standard/Condition 17 states:

*'A dual use path between River Road and the subject land is to be provided, generally in the location depicted on the Subdivision Guide Plan, to the satisfaction of the local government.'*

Accordingly, the above requirement is a recommended subdivision condition. There is a need to consider the timing of the subdivider constructing the dual use path between where the dual use path finishes (west of the property, around River Road) and the application site.

Additionally, the Council at its meeting on 18 July 2013 required that a dual use path to be provided as a minimum on one side of all roads.

The endorsed Subdivision Guide Plan (Attachment 8.1.2G) shows a system of dual use paths throughout the site. A subdivision condition is recommended to provide dual use paths based on the Subdivision Guide Plan.

#### *K) Fencing*

LPS3 Development Standard/Condition 14 states:

*'All fencing within the Special Use zone shall retain the rural character of the area and the use of asbestos, metal sheeting or wooden pickets shall be prohibited. The local government may impose fencing requirements as a condition of its approval to protect substantial vegetation or the river environs.'*

It is recommended that the developer install suitable uniform fencing of lots adjoining the foreshore reserve, POS, the community purpose site and backing onto Crossman Road. For areas within the floodplain, fence design should be consistent with the above development standard and ensure the design does not impede floodwaters.

It is suggested that the developer not be responsible for fencing the western, southern and eastern boundaries of the POS in the south-west section, only where it backs onto proposed Lot 1.

While not a condition of subdivision, it is also expected that the developer will install suitable fencing on common lot boundaries prior to sale.

#### *L) Local Planning Policy No. 3 - Urban Drainage Contribution*

The Council, at its meeting on 28<sup>th</sup> June 2011 agreed that no contribution of \$2000 per lot is sought for the proposed lots. Local Planning Policy No. 3 sets out that contributions only apply for lots below 1 hectare (other than industrial lots). Given the site's location, no proposed lot will be connected to the Shire's existing stormwater network. Accordingly, it is suggested that the developer is not required to make an urban drainage contribution for any lot.

#### *M) Developer/subdivider contributions*

Given the scale of the subdivision, the requested off-site contributions are minor. The identified subdivider contribution is the construction of a dual use path between the site and River Road to ensure safe and convenient pedestrian/cyclist links. This contribution is consistent with LPS3 Condition 17, WAPC policy and the Council's *Local Planning Policy No. 5 Developer and Subdivider Contributions*.

It is acknowledged that the developer will provide land (POS, community purpose site) and facilities (community hall) that will not only benefit estate residents but also the broader community. Based on WAPC policy, the developer will establish and maintain the POS for two summers.

#### *N) Building and Landscaping Guidelines*

Development Standard/Condition 18 sets out the need to consider the approach to building design guidelines, which take account of the Planning Regulations, and how they are implemented e.g. restrictive covenants, local planning policy or other measures. Clarification is required whether there will be site specific guidelines or that matters are addressed in Local Planning Policy 16.

At this stage, a condition has been recommended requiring the developer to prepare and implement Building and Landscaping Design Guidelines. The guidelines are ideally backed up by Restrictive Covenants and/or a Council Local Planning Policy to assist in providing a quality estate and to control future development on the subject land. The guidelines should generally be consistent with *Local Planning Policy No.16 Residential Development and Design*.

#### *O) Model Subdivision Conditions*

Based on WAPC requirements, conditions and advice from local government should reflect the WAPC's Model Subdivision Conditions unless there are site specific matters to be addressed. Accordingly, the conditions set out in the Officer Recommendation are generally based on the Model Subdivision Conditions.

## *P) Conclusion*

It is recommended that the subdivision application be conditionally approved given it is consistent with past Council decisions relating to the site and importantly consistent with the endorsed Subdivision Guide Plan (Structure Plan).

Should the subdivision be approved and implemented, the proposed estate should positively enhance Boddington/Ranford. The estate has the potential to deliver an attractive, higher quality and well serviced estate which provides a range of lot sizes that are typically not available in Boddington/Ranford. The subdivision, if approved and implemented, will also provide POS, a community purpose site, community facilities and improved access to the Hotham River foreshore.

There is a requirement for some detailed plans and strategies to be commissioned by the developer to ensure the proposed subdivision/development suitably addresses relevant issues. These include an Urban Water Management Plan, Revegetation and Landscaping Plan, Foreshore Management Plan and civil engineering drawings.

## Consultation

The WAPC invites comments from the Shire and other government/servicing agencies on the subdivision application. Previously, community consultation occurred through the Shire advertising Scheme Amendment No. 16 and through advertising the revised Subdivision Guide Plan.

## Strategic Implications

<b>Pillar 1</b>	<b>A vibrant and connected community</b>
Outcome 1.1	Encourage development of vacant residential land to provide affordable housing

The application is consistent with the Local Planning Strategy and generally consistent with the endorsed Local Structure Plan and the *Boddington-Ranford Townsite Strategy*.

The *Shire of Boddington Strategic Community Plan 2019-2029* sets out a vision of 'A vibrant and connected community providing employment and lifestyle opportunities, a beautiful environment, and easy access to the city.'

The site is zoned 'Special Use' in LPS3 with subdivision/development to be generally in accordance with the endorsed Structure Plan. The Structure Plan allocates land for residential, rural residential, community purpose and POS. The Structure Plan is important in facilitating a co-ordinated approach to the subdivision and development of the land.

The provision of enhanced public access to and along the Hotham River foreshore is considered beneficial to future estate residents and the broader community.

The proposal, if approved and implemented, can provide Boddington/Ranford with a considerable number of residential and rural residential lots of different sizes.

## Legislative Implications

*Planning and Development Act 2005* and *Shire of Boddington Local Planning Scheme No. 3*.

### Policy Implications

Several State Planning Policies and Local Planning Policies are of relevance to the application and to the site:

*State Planning Policy 2 – Environment and Natural Resources Policy*

*State Planning Policy 2.9 – Water Resources*

*State Planning Policy 3.0 – Urban Growth and Settlement*

*State Planning Policy 3.6 - Infrastructure Contributions*

*State Planning Policy 3.7 – Planning in Bushfire Prone Areas*

*Government Sewerage Policy*

*Liveable Neighbourhoods*

*Local Planning Policy 4 – Rural Residential Lots and Water Supplies*

*Local Planning Policy 5 – Developer and Subdivider Contributions*

*Local Planning Policy 6 - Development in Flood Affected Areas*

*Local Planning Policy 8 – Fire Protection Measures for New Development and Subdivisions*

*Local Planning Policy 9 – Car Parking and Vehicular Access*

*Local Planning Policy 10 – Boddington-Ranford Townsite Strategy*

*Local Planning Policy 17 – Stormwater Management*

### Financial Implications

The developer will meet the cost of new infrastructure to service proposed lots and will pay for the construction of a dual use path between Ranford and the site in accordance with State Planning Policy, *Local Planning Policy No. 5 Developer and Subdivider Contributions Policy* and LPS3.

There are no immediate financial implications for the Council from this subdivision application, however over time they could be considerable. It will therefore be imperative, for example, that the developer is required to install appropriate drainage systems that achieve effective stormwater management that meets best practice environmental standards and which ensure lower on-going operating costs for the Shire.

The Shire would, in time, be responsible for maintaining the POS, drainage basins, paths etc. The Council should adequately increase budget accounts to ensure that the land, infrastructure and services are appropriately funded and maintained. e.g. maintenance of foreshore reserves, POS and street trees. The Council will separately need to consider the funding and management of the community purpose site.

Should the subdivision application be approved and implemented, it will increase Shire responsibilities and costs, however it will be partially off-set through increased rates.

### Economic Implications

The application, if approved and implemented, will result in the additional release of residential and rural residential lots and associated dwellings that will assist to provided economic benefits to the local economy supporting enhanced and additional services.

### Social Implications

These were addressed at the scheme amendment and structure plan stages. The additional population resulting from implementation of the subdivision should add to the strength of the community and make better use of available services. However, it will also tend to create the

demand for increased levels of service and it will be important that service providers keep pace with the demands.

The additional population, anticipated for Boddington and Ranford, should add to the strength of the community and make better use of available services. However, it will also create the demand for increased levels of service and it will be important that service providers keep pace with the demands.

A key consideration, which requires further consideration by the Council and other stakeholders, is seeking to appropriately manage the anticipated population increase. This should seek to, where possible, effectively integrate newcomers into the area with existing residents to build a stronger community.

The subject land is visible from Crossman Road which is an important gateway into Ranford and Boddington. The Subdivision Guide Plan proposes revegetation and other measures to assist in addressing the site's location.

### Environmental Considerations

It is suggested the key environmental issues for the site are protecting native vegetation, managing stormwater and appropriate on-site wastewater disposal systems.

Previously, environmental investigations were carried out as part of the scheme amendment which reported on the site's hydrology, land capability, environmental assets and fire management. These issues were taken into consideration when formulating the endorsed Subdivision Guide Plan. More detailed investigations will occur at the subdivision stage (prior to the issue of titles) and at the development stages.

Any construction needs to minimise the impact on native vegetation wherever possible and practical. In particular, there is a need to avoid impacts on nominated trees with hollows.

### Risk Considerations

Risk Statement and Consequence	Reputation, Compliance and Natural Environment
Risk Rating (prior to treatment or control)	Moderate
Principal Risk Theme	Compliance
Risk Action Plan (controls or treatment proposed)	The WAPC to determine the subdivision application. Proposed conditions will assist to minimise risks. There is a need to address statutory requirements.

### Options

The Council can:

1. Support the subdivision application with no conditions;
2. Support the subdivision application with conditions;
3. Support an amended plan; or
4. Not support the subdivision application (giving reasons).

### Voting Requirements

Simple Majority

## Officer Recommendation

### MOTION

Moved: Cr Erasmus

That Council advise the Western Australian Planning Commission that it supports the subdivision of Lots 21 and 23 Crossman Road and Lot 22 Fraser Road, Boddington (WAPC 161908) subject to the following conditions:

No.	Code	Condition
1	AM4	The landowner/applicant installing suitable rural fencing of good standing abutting the public open space, community purpose site and foreshore reserve in accordance with the approved plan (attached). (Local Government)
2	AM10	A notification, pursuant to Section 165 of the Planning and Development Act 2005 is to be placed on the certificate(s) of title of the proposed lot(s) advising of the existence of a hazard or other factor. Notice of this notification is to be included on the diagram or plan of survey (deposited plan). The notification is to state as follows:  <i>“This lot is located within the floodway / flood fringe of the Hotham River and may be affected by flooding. Additional planning and building requirements may apply to development on this lot to ensure flood risk is managed.”</i> (Western Australian Planning Commission)
3	B8 Modified	Prior to commencement of subdivisional works, a detailed plan identifying building envelope(s) or building exclusion areas on all lots on the approved plan of subdivision is to be prepared in consultation with the local government to ensure the appropriate siting of development. (Local Government)
4	B9	The landowner/applicant shall provide a written undertaking to advise prospective purchasers of the provisions of the local government’s local planning scheme that relate to the use and management of the land. (Local Government)
5	B15	A restrictive covenant to the benefit of the Western Australian Planning Commission, pursuant to Section 129BA of the Transfer of Land Act 1893 is to be placed on the certificate(s) of title of the proposed lot(s) advising of the existence of a restriction on the use of the land. Notice of this restriction is to be included on the diagram or plan of survey (deposited plan). The restrictive covenant is to state as follows:  <i>“No development is to take place unless it is designed to minimise impact on the movement of flood water and complies with the minimum habitable floor level of 0.5 metres above the 1 in 100 Annual Exceedance Probability flood level to provide an adequate measure of flood protection”.</i> (Western Australian Planning Commission)
6	D2	Prior to the commencement of subdivisional works, an urban water management plan is to be prepared and approved, in consultation with the Department of Water and Environment Regulation, consistent with any approved Local Water Management Strategy. (Local Government)
7	D3	Engineering drawings and specifications are to be submitted and approved, and works undertaken in accordance with the approved engineering drawings and specifications and approved plan of subdivision, for the filling and/or draining of the land, including ensuring that stormwater is contained on-site, or appropriately treated and

		connected to the local drainage system. Engineering drawings and specifications are to be in accordance with an approved Urban Water Management Plan (UWMP) for the site, or where no UWMP exists, to the satisfaction of the Western Australian Planning Commission. (Local Government)
8	D8	Drainage easements and reserves as may be required by the local government for drainage infrastructure being shown on the diagram or plan of survey (deposited plan) as such, granted free of cost, and vested in that local government under Sections 152 and 167 of the <i>Planning and Development Act 2005</i> . (Local Government)
9	E1	Arrangements being made with a licensed electricity network operator for the provision of an underground electricity distribution system that can supply electricity to each lot shown on the approved plan of subdivision. (Western Power / Horizon Power)
10	EN1	Prior to the commencement of subdivisional works a foreshore management plan for the Hotham River is to be prepared and approved to ensure the protection and management of the sites environmental assets with satisfactory arrangements being made for the implementation of the approved plan. (Local Government)
11	EN2	Prior to the commencement of subdivisional works, measures being undertaken to identify any vegetation on the site worthy of retention, including any potential habitat or foraging trees for threatened fauna species, and protection measures implemented to ensure such vegetation is not impacted by subdivisional works. (Local Government)
12	EN3 Modified	A revegetation plan being prepared, approved and implemented for the revegetation of the landscape buffer/revegetation as shown on the Subdivision Guide Plan with appropriate native species to the specifications of the Local Government. (Local Government)
13	EN12	<p>A restrictive covenant, to the benefit of the local government, pursuant to section 129BA of the Transfer of Land Act 1893 is to be placed on the certificate(s) of title of the proposed lot(s) advising of the existence of a restriction on the use of the land. Notice of this restriction is to be included on the diagram or plan of survey (deposited plan). The restrictive covenant is to state as follows:</p> <p>“No development or is to take place within the defined building exclusion area(s), unless otherwise approved by the local government.” (Local Government)</p>
14	F1	Information is to be provided to demonstrate that the measures contained in Section 6; Table 5 of the bushfire management plan (dated December 2021) have been implemented during subdivisional works. This information should include a completed ‘Certification by Bushfire Consultant’ from the bushfire management plan. (Local Government)
15	F2	<p>A notification, pursuant to Section 165 of the Planning and Development Act 2005, is to be placed on the certificate(s) of title of the proposed lot(s) with a Bushfire Attack Level (BAL) rating of 12.5 or above, advising of the existence of a hazard or other factor.</p> <p>Notice of this notification is to be included on the diagram or plan of survey (deposited plan).</p> <p>The notification is to state as follows:</p>

		<b>“This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and may be subject to a Bushfire Management Plan. Additional planning and building requirements may apply to development on this land” (Western Australian Planning Commission)</b>
<b>16</b>	<b>R1</b>	<b>A foreshore reserve in accordance with the approved plan, as established by survey, being shown on the diagram or plan of survey (deposited plan) as a reserve for recreation and for foreshore management and vested in the Crown under Section 152 of the <i>Planning and Development Act 2005</i>, such land to be ceded free of cost and without any payment of compensation by the Crown. (Western Australian Planning Commission)</b>
<b>17</b>	<b>R2</b>	<b>The proposed reserve(s) shown on the approved plan of subdivision being shown on the diagram or plan of survey (deposited plan) as reserve(s) for recreation and the community purpose site and vested in the Crown under Section 152 of the <i>Planning and Development Act 2005</i>, such land to be ceded free of cost and without any payment of compensation by the Crown. (Local Government)</b>
<b>18</b>	<b>R4</b>	<b>Arrangements being made for the proposed public open space to be developed by the landowner/applicant to a minimum standard and maintained for two summers through the implementation of an approved landscape plan providing for the development and maintenance of the proposed public open space in accordance with the requirements of Liveable Neighbourhoods and to the specifications of the local government. (Local Government)</b>
<b>19</b>	<b>T1</b>	<p><b>Engineering drawings and specifications are to be submitted, approved, and subdivisional works undertaken in accordance with the approved plan of subdivision, engineering drawings and specifications, to ensure that those lots not fronting an existing road are provided with frontage to a constructed road(s) connected by a constructed road(s) to the local road system and such road(s) are constructed and drained at the landowner/applicant’s cost.</b></p> <p><b>As an alternative, and subject to the agreement of the Local Government the Western Australian Planning Commission (WAPC) is prepared to accept the landowner/applicant paying to the local government the cost of such road works as estimated by the local government and the local government providing formal assurance to the WAPC confirming that the works will be completed within a reasonable period as agreed by the WAPC. (Local Government)</b></p>
<b>20</b>	<b>T3</b>	<p><b>Engineering drawings and specifications are to be submitted, approved, and subdivisional works undertaken in accordance with the approved plan of subdivision, engineering drawings and specifications, for the provision of shared paths through and connecting to the application area in accordance with the endorsed Subdivision Guide Plan.</b></p> <p><b>The approved shared paths are to be constructed by the landowner/applicant. (Local Government)</b></p>
<b>21</b>	<b>T11</b>	<b>All local streets within the subdivision being truncated in accordance with the Western Australian Planning Commission’s Liveable Neighbourhoods policy. (Local Government)</b>
<b>22</b>	<b>T20</b>	<b>Suitable arrangements being made with the local government for the provision of vehicular crossover(s) to service the lot(s) shown on the approved plan of subdivision. (Local Government)</b>



23	W1	Arrangements being made with a licensed water provider for the provision of a suitable water supply service to each lot shown on the approved plan of subdivision. (Water Corporation)
24	W5	A notification, pursuant to Section 70A of the <i>Transfer of Land Act 1893</i> is to be placed on the certificate(s) of title of the proposed lot(s). Notice of this notification is to be included on the diagram or plan of survey (deposited plan). The notification is to state as follows:  <i>'A reticulated sewerage service is not available to the lot/s.'</i> (Local Government)
25		The plan being modified to show a suitable located public access way in the northern portion of the site to connect the road system to the foreshore reserve. (Local Government)
26		A restrictive covenant, to the benefit of the local government, pursuant to section 129BA of the <i>Transfer of Land Act 1893</i> is to be placed on the certificate(s) of title of the proposed lot(s) advising of the existence of a restriction on the use of the land. Notice of this restriction is to be included on the diagram or plan of survey (deposited plan). The restrictive covenant is to state as follows: <i>"The landscape buffer is to be suitably maintained to the satisfaction of the Local Government."</i>
27		Implementation of a Trees with Hollows Management Plan to the satisfaction of the Western Australian Planning Commission. (Department of Water and Environmental Regulation)
28		Dams to be removed and the land made suitable to accommodate residential development. (Local Government)
29		The subdivider to prepare Building and Landscaping Design Guidelines for the subject land to the satisfaction of the Western Australian Planning Commission. (Local Government)
30		The subdivider making appropriate arrangements to advise prospective purchasers of the requirements of the Building and Landscaping Design Guidelines and Tree with Hollows Management Plan that relate to the subject land. (Local Government)
31		The provision of convenient public access in the northern section to the foreshore in the vicinity of Lots 20 and 21.
<b>Advice</b>		
A		In relation to Condition 20, this includes the dual use between River Road and the application site in accordance with Condition 17 for Special Use Zone No.2 as outlined in the <i>Shire of Boddington Local Planning Scheme No. 3</i> .
B		In relation to Condition 29, this is expected to require the subdivider to develop appropriate Restrictive Covenants to assist with effective implementation.
C		In relation to Conditions 16 and 17, the public open space in the south-west section, the community purpose site and the foreshore reserve should be provided as part of the stage 1 subdivision.

Seconded: Cr Lewis

Amendment

Moved: Cr Webster

That the Substantive Motion be amended to include additional advice:

1. Council advise the Western Australian Planning Commission that it supports the subdivision of Lots 21 and 23 Crossman Road and Lot 22 Fraser Road, Boddington (WAPC 161908) subject to a *redesign of the vegetated elevated area. This could include the provision of public open space and/or larger residential lots that are more reflective of the approved subdivision guide plan. The Council is supportive of appropriately designed and sized residential lots in the south west area of public open space. Additionally, the Council seeks the following conditions:*

2. That item D be added to the Advice:

<i>D</i>	<i>The Council seeks provision of suitable vehicular access to be provided from Crossman Road to service the initial stages of the development, to minimise impact on Fraser Road residents.</i>
----------	--

Seconded: Cr Smalberger

Carried: 7/0

Council Resolution: 11/22

Moved: Cr Erasmus

The Substantive Motion as Amended:

That Council:

1. endorses the additional text
2. endorses that item D be added to the Advice.

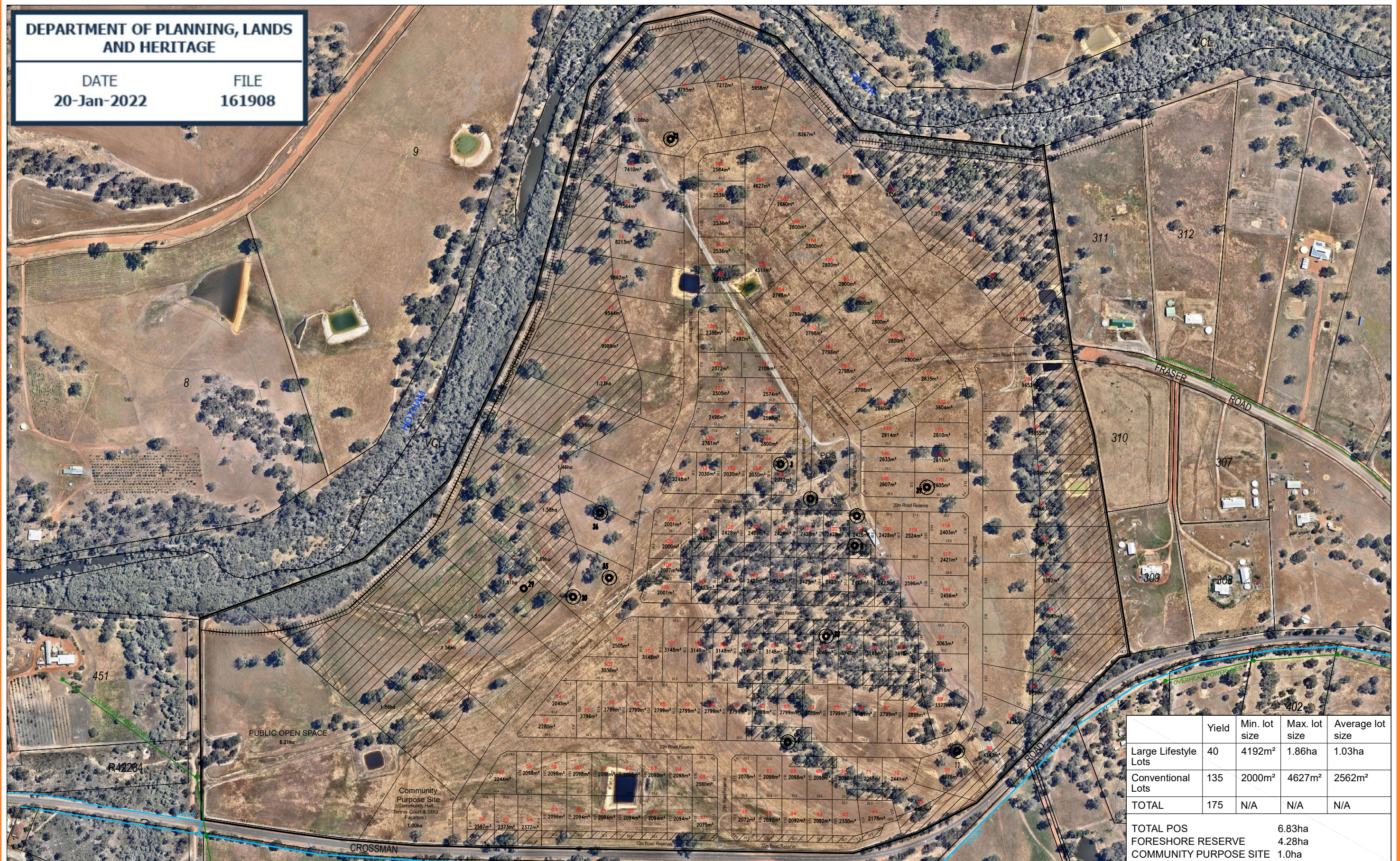
The Amended Substantive Motion was put and

Carried: 7/0

## 12. CLOSURE OF MEETING

The Shire President declared the meeting closed at 7:20pm.





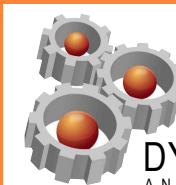
COPYRIGHT RESERVED BASE PLAN COURTESY OF LANDGATE



Planning  
Institute  
Australia



**CHECKED: -**



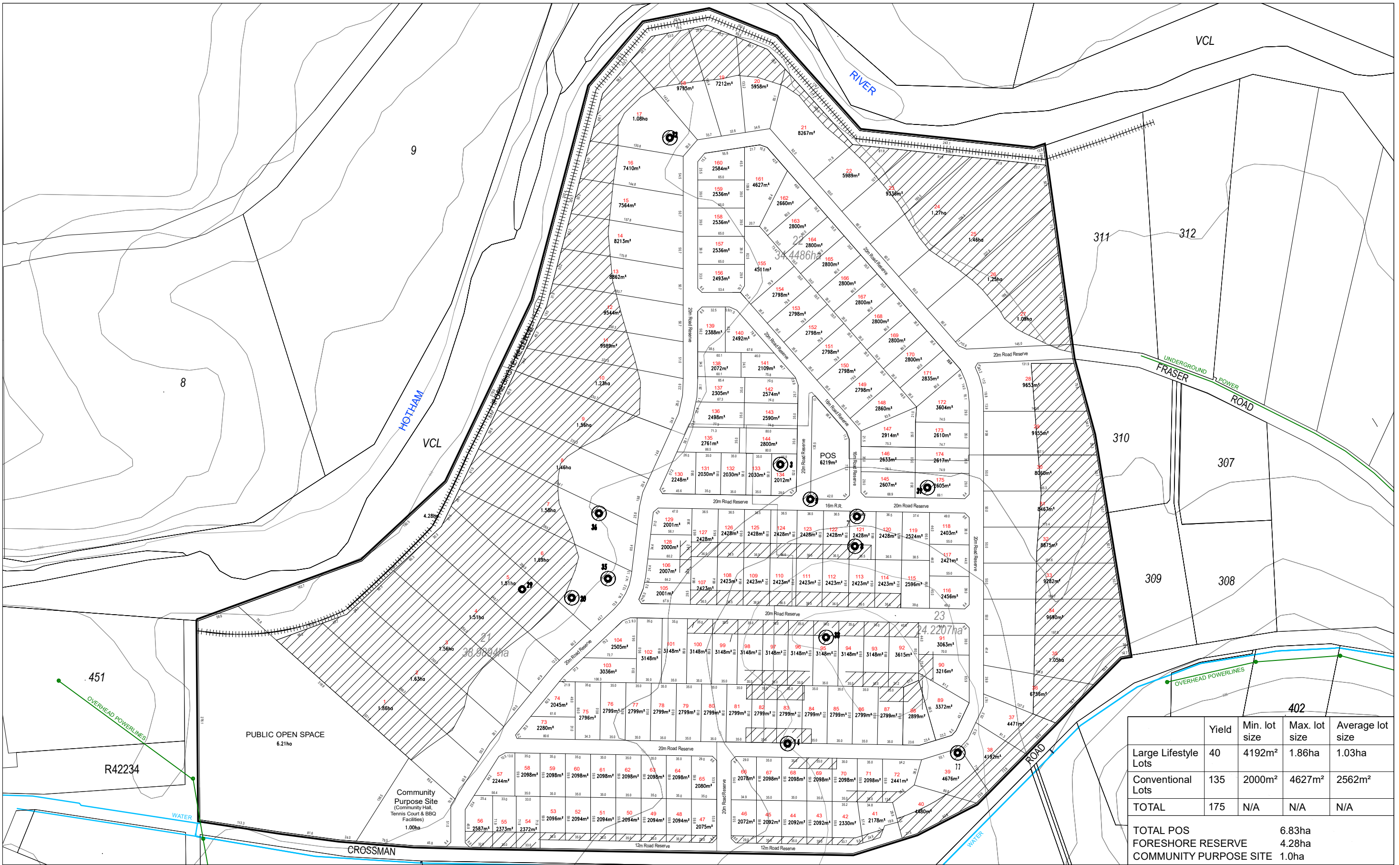
## DYNAMIC PLANNING AND DEVELOPMENTS

DISCLAIMER: This document is and remains the property of Dynamic Planning and Developments and may not be copied in whole or in part without the written consent of Dynamic Planning and Developments. All areas, distances and angles are approximate only and are subject to survey.

IDENT: 00 100 111 100







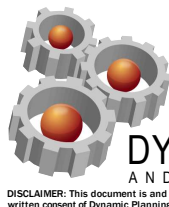
	Yield	Min. lot size	Max. lot size	Average lot size
Large Lifestyle Lots	40	4192m <sup>2</sup>	1.86ha	1.03ha
Conventional Lots	135	2000m <sup>2</sup>	4627m <sup>2</sup>	2562m <sup>2</sup>
TOTAL	175	N/A	N/A	N/A
TOTAL POS		6.83ha		
FORESHORE RESERVE		4.28ha		
COMMUNITY PURPOSE SITE		1.0ha		

PROPOSED FREEHOLD SUBDIVISION  
LOTS 21, 22 & 23 CROSSMAN ROAD  
RANFORD

COPYRIGHT RESERVED BASE PLAN COURTESY OF LANDGATE



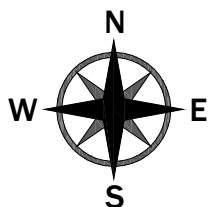
SCALE: 1:5000 @ A3  
DATE: 12th JANUARY 2022  
FILE: 1292\_12.01.2022.dwg  
DRAW: - SB  
CHECKED: -

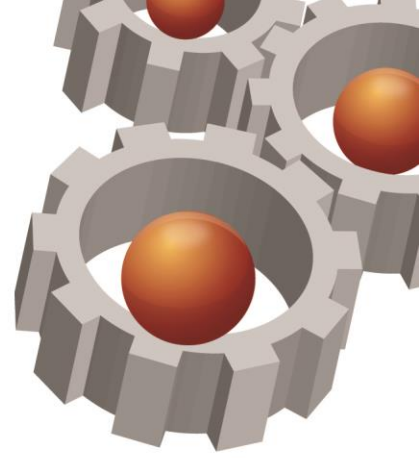


DYNAMIC PLANNING  
AND DEVELOPMENTS

DISCLAIMER: This document is and remains the property of Dynamic Planning and Developments and may not be copied in whole or in part without the written consent of Dynamic Planning and Developments. All areas, distances and angles are approximate only and are subject to survey.

e: admin@dynamicplanning.net.au  
t: (08) 9275 4433  
f: (08) 9275 4455  
SUITE 15, 29 COLLIER ROAD  
MORLEY WA 6062  
ABN: 99 169 411 705





Our Ref: 1292

22 December 2021

The Secretary  
Western Australian Planning Commission  
Locked Bag 2506  
PERTH WA 6001

Dear Sir / Madam,

**LOTS 21, 22 & 23 CROSSMAN ROAD, RANFORD**  
**FORM 1A APPLICATION FOR APPROVAL OF A FREEHOLD SUBDIVISION**

Dynamic Planning and Developments Pty Ltd (DPD) act on behalf of TAQWA Holdings Pty Ltd, OZ Division Holdings Pty Ltd, and M & A Holding Group Pty Ltd, the registered proprietors of Lots 21, 22 and 23 Crossman Road, Ranford (herein referred to as the 'subject site').

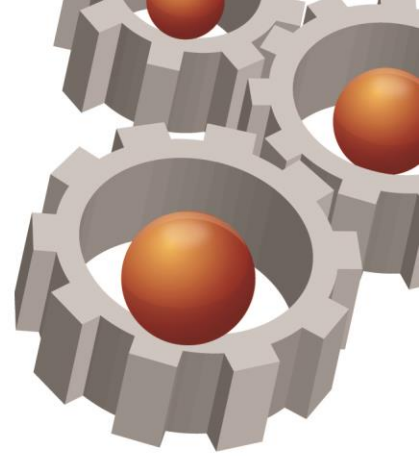
The purpose of this application is to seek conditional approval from the Western Australian Planning Commission (WAPC) for the Freehold (Green Title) subdivision of the subject site.

For submission purposes, we provide the following information as part of this submission:

- This detailed submission providing details of the proposed subdivision of the subject site;
- Copy of the applicable Certificate of Title(s) pertaining the subject site (**Attachment 1**);
- Proposed Subdivision Plan (**Attachment 2**);
- Existing Subdivision Guide Plan (**Attachment 3**);
- Proposed Staging Plan (**Attachment 4**);
- Bushfire Management Plan Summary (**Attachment 5**);
- Site and Soil Evaluation; (**Attachment 6**); and
- Executed WAPC Form 1A.

It is noted that payment of the requisite application fee being \$13,118 in this instance will be satisfied via the WAPC elodgement portal.

The sections below will explain the details of the proposal further.



## BACKGROUND

Through planning processes which occurred circa 2014, the site has been the subject of an amendment (Amendment No. 16) to the Shire of Boddington Planning Scheme to rezone the site to 'Special Use' in accordance with the associated Subdivision Guide Plan (SGP). The SGP effectively acts as a Structure Plan in that development of the site must generally be in accordance with the plan and the associated Special Use conditions as contained within Table 4 of the Scheme.

As such, this application proposes to commence subdivision of the site in accordance with an amended SGP, which has been based off the existing SGP and varies only in terms of an increase to lot yield. While discussed in greater detail throughout the succeeding sections of this support, it is noted that the amended SGP has received preliminary (albeit informal) favourable consideration from the Western Australian Planning Commission (WAPC) via past meetings with officers of the Department of Planning, Lands and Heritage (DPLH), and Shire of Boddington representatives.

## SITE DETAILS

### Legal Description

Lots 21, 22 and 23 Crossman Road, Ranford are legally described as "Lot 21 on Deposited Plan 404802", "Lot 22 on Deposited Plan 404802" and "Lot 23 on Deposited Plan 404802" and is wholly contained on Volume 2876; Folio 398, Volume 2876; Folio 399, and Volume 2876; Folio 400, respectively.

The three lots are situated adjacent to each other, with Lot 21 measuring 38.989ha, Lot 22 measuring 34.449ha, and Lot 23 measuring 24.221ha.

The subject site has a combined total area of 97.659 hectares.

A copy of the Certificate of Title of the subject site (each of the three lots) is contained within the appendices as **Attachment 1**.

### Regional & Local Context

The subject site is located within the municipal locality of the Shire of Boddington and is located in the suburb of Ranford.

The subject site is located on land bounded to the north by the Hoffman River and to the south by Crossman Road. To the east of the site is the Boddington town centre, approximately 3.5kms away. To the immediate west of the site is existing rural residential properties. Crossman Road provides access between the subject site and the broader Peel area, and ultimately provides connection to the Perth Metropolitan Region.



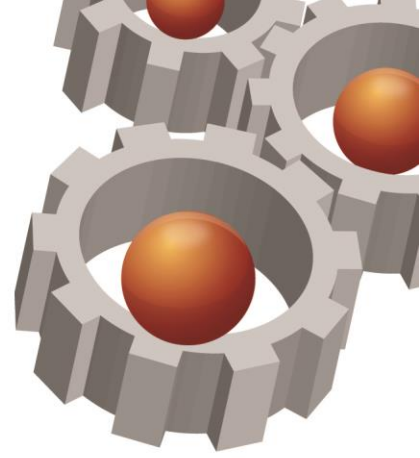
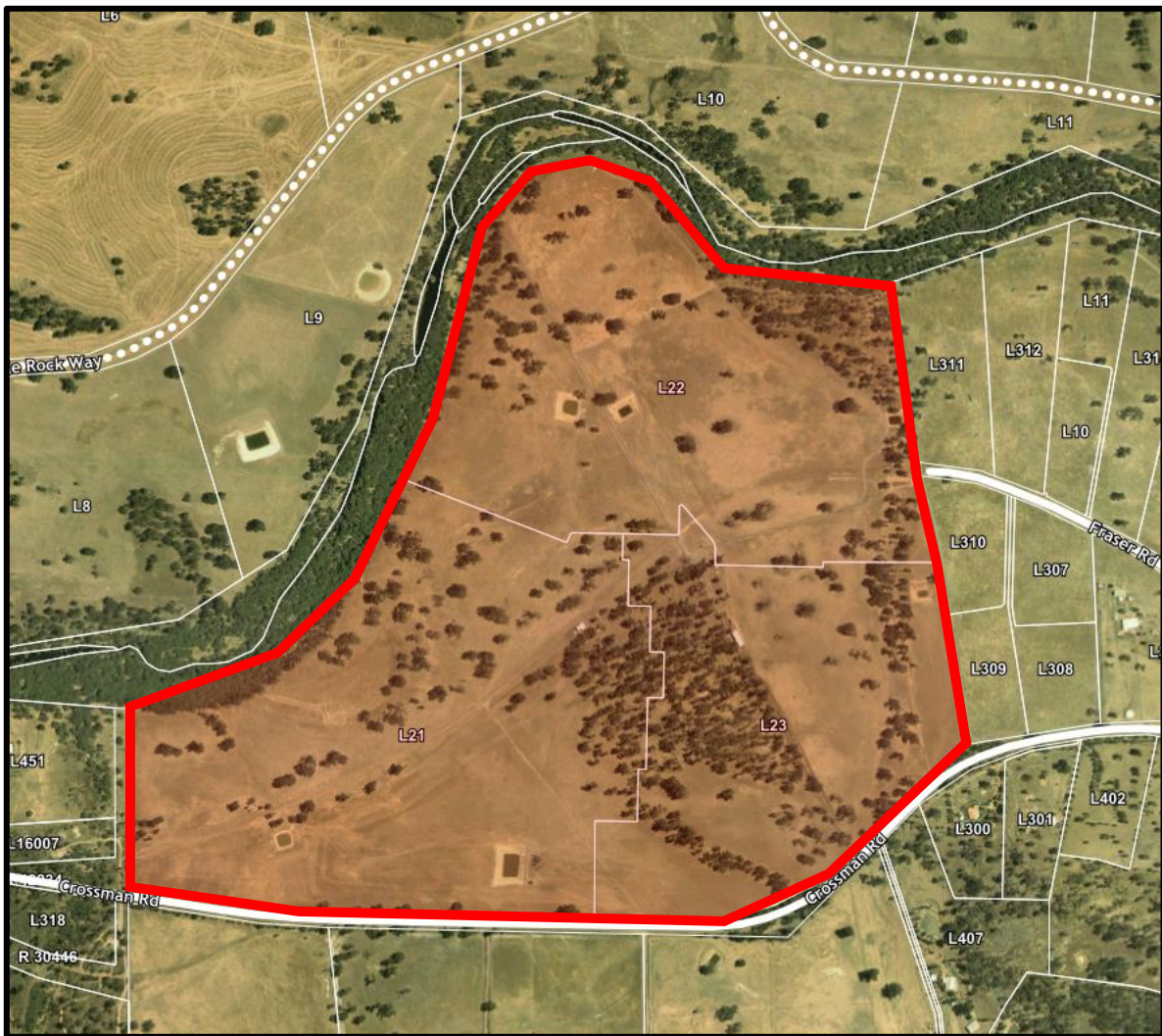


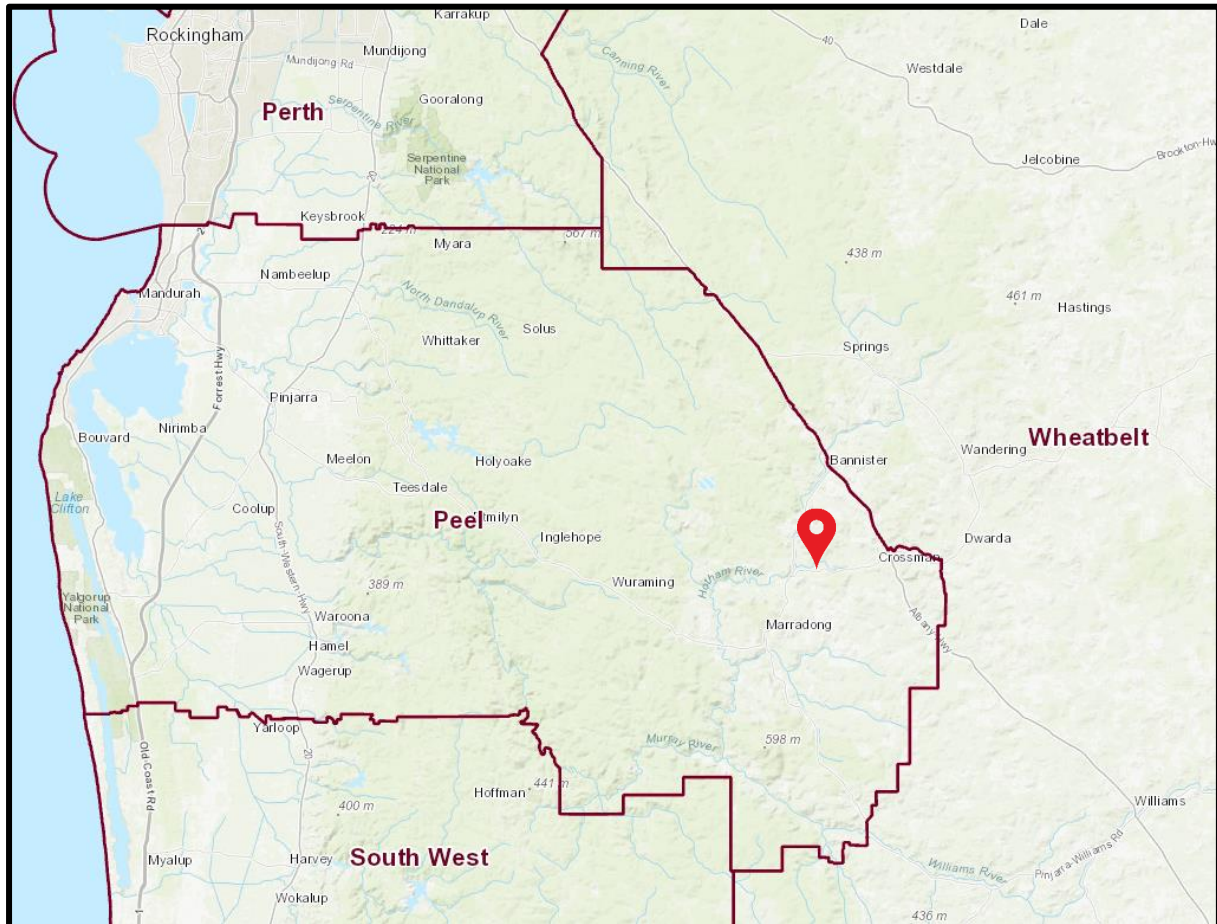
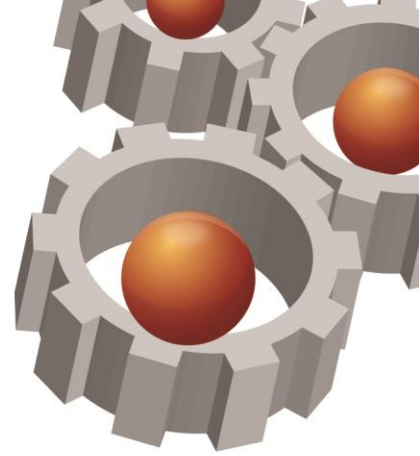
Figure 1 depicts the subject site within its local context. Figure 2 depicts the subject site within its regional context.



**Figure 1 – Local Context of Subject Site (Source: MNG Access)**

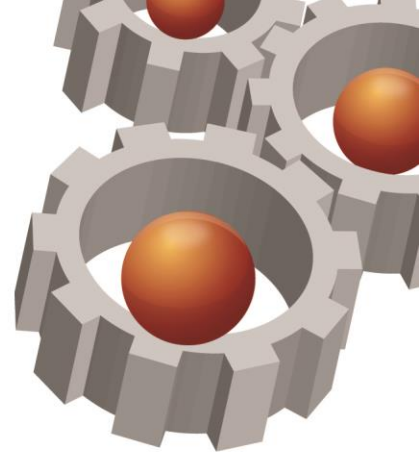


**DYNAMIC PLANNING**  
AND DEVELOPMENTS



**Figure 2 – Regional Context of Subject Site (Source: PlanWA)**





## PROPOSAL: FREEHOLD (GREEN TITLE) SUBDIVISION

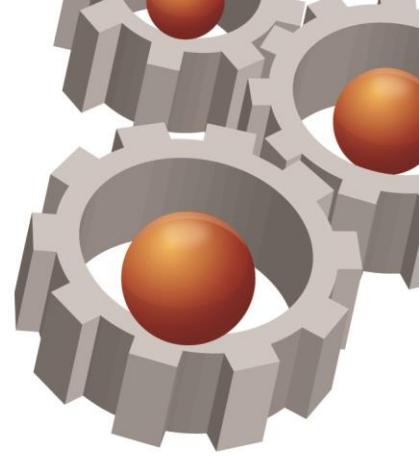
This application seeks WAPC approval for the subdivision of the subject site into 175 freehold (Green Title) lots. Table 1 below provides a summary of the subdivision proposal.

Lot Description	Number	Minimum Lot Size	Maximum Lot Size	Average Lot Size
Large Lifestyle Lots	40	4,192 m <sup>2</sup>	1.86 ha	1.03 ha
Conventional Lots	135	2,000 m <sup>2</sup>	4,627 m <sup>2</sup>	2,562 m <sup>2</sup>
Public Open Space (POS)				6.83 ha
Community Purpose Site				1 ha
Foreshore Reserve				4.28 ha

**Table 1 – Subdivision Summary**

It is acknowledged that the subject site is governed by a previously prepared Subdivision Guide Plan (2013) which did not eventuate to formal subdivision and lot creation at the time. Given the period of time which has elapsed, the proposed subdivision required the re-evaluation of site characteristics to ensure the lot layout would be able to adequately accommodate for forecasted market conditions and subsequent residential development. As such the proposed plan of subdivision proposes to:

- Improve the configuration and size of lots within the central portion of the site to better respond to the topography and the retention of mature remnant vegetation. In this regard it is noted that lots are categorised as either 'Large Lifestyle Lots' or 'Conventional Lots', the latter being smaller in size than the Large Lifestyle Lots which are generally located around the perimeter of the site;
- Reconfigure the Development Exclusion Zones and lots in the central and southern portion of the site to improve the capability of each lot to accommodate a single residential dwelling and associated structures, and to use the vegetation (in consideration of the contours) to assist with screening development from Crossman Road;
- To increase the lot yield from 150 Lots to 175 Lots;
- To increase the density in the central and southern portion of the site. The adopted SGP proposed a minimum 4,000m<sup>2</sup> and average 6,272m<sup>2</sup> lot size. The amended SGP proposes a minimum 2,352m<sup>2</sup> and average 4,952m<sup>2</sup> lot size;
- Retain the larger lots on the western, northern and eastern boundaries of the site; and
- Increase the area of the central public open space from 2,046m<sup>2</sup> to 8,161m<sup>2</sup> to improve the useability and function of the parkland, create a focus for surrounding lots, improve access to open space for a greater number of lots within the estate and to encapsulate a number of mature trees, including a tree with a hollow.



A copy of the proposed subdivision plan is contained within **Attachment 2**, and a copy of the existing subdivision guide plan produced in 2013 is contained within **Attachment 3**.

It is acknowledged that the modifications that have been made to the proposed plan of subdivision from the original SGP intends to, primarily, increase lot yield from 150 lots to 175 lots. To this end it is maintained that the increase in yield results in minimal impact to the amenity outcome for surrounding residential areas.

#### Staging of Subdivision

Due to the scale of the proposal, it is proposed that the subdivision will occur in a staged manner from the eastern portion of the site, comprising a total of nine (9) stages. The proposed staging plan is included within the appendices as **Attachment 4** and depicts the first four (4) stages of subdivision in hatched pink overlay, while the second five (5) stages in green.

It is acknowledged that there is a desire by the Shire of Boddington to commence staging from the west of the site rather than the east. While this desire is acknowledged and respected, it is noted that beginning staging from the west would render the entire development unfeasible from an economic perspective, due to the costs associated with connecting power, which currently only exists off Fraser Road at the east of the site. Ultimately, this is the primary reason as to how the stages were determined. It is requested that any subdivision approval conditions, and advice notes have an appreciation of the staging intent.

### **PLANNING CONSIDERATIONS**

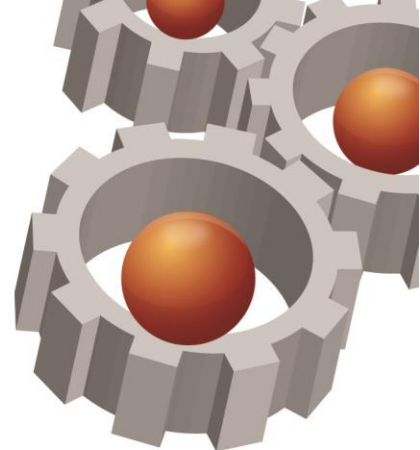
#### Shire of Boddington Local Planning Scheme No. 3 (LPS3)

The subject site is zoned 'Special Use' (SU2) under the provisions of LPS3. The general objectives of the 'Special Use' zone are:

- *To facilitate special categories of land uses which do not sit comfortably within any other zone; and*
- *To enable the Council to impose specific conditions associated with the special use.*

The proposed residential subdivision meets the objectives of the zone as it will enable the development of additional dwellings to enhance the surrounding locality. Accordingly, it is concluded that the proposal for residential subdivision aligns with the intended and objective purpose of the subject site.

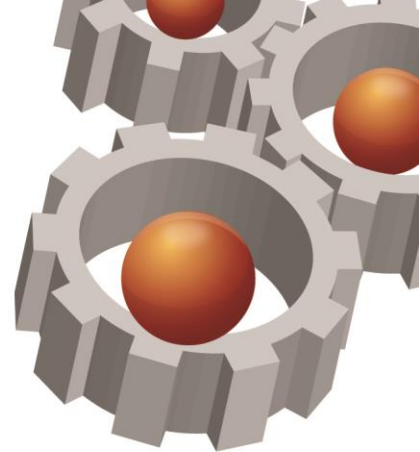
Accordingly, Clause 21 of LPS3 provides for Table 4 – Special Use zones in the Scheme Area. This table sets out the following:



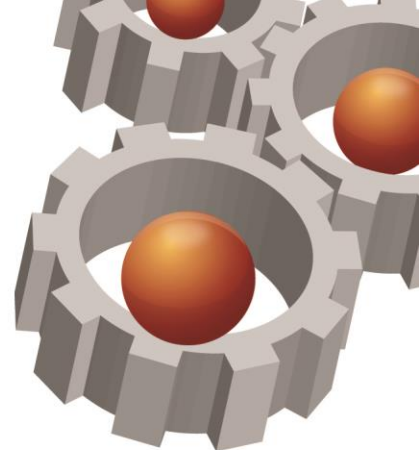
- a) special use zones for specified land that are in addition to the zones in the zoning table;
- b) the classes of special use that are permissible in that zone; and
- c) the conditions that apply in respect of the special uses.

The subject site is delineated as Special Use Area 2 (SU2) and incorporates accompanying development conditions as part of any proposal to develop or subdivide the land. A table summary of the SU2 conditions is detailed below.

Special Use No.	Description of Land	Special Use	Conditions
SU2	Lots 21, 22 and 23 Crossman Road, Ranford	Structure plan area for Subdivision and Development in accordance with the Residential zone, Rural Residential zone, Public Purpose reserve and Public Open Space reserve.	<ol style="list-style-type: none"> <li>1. Subdivision should generally be in accordance with a Structure Plan approved by the Western Australian Planning Commission</li> <li>2. Connection to reticulated water is required for all lots.</li> <li>3. No more than one dwelling will be permitted on each lot.</li> <li>4. Where depicted on the Structure Plan, all buildings are to be located outside of the designated building exclusion zones and not within 10 metres of the front lot boundary and 5 metres from side boundaries.</li> <li>5. In the interest of landscape and soil preservation, no trees or substantial vegetation shall be removed or felled except where: <ol style="list-style-type: none"> <li>a) trees are dead, diseased or dangerous; or</li> <li>b) access to a building site or for bush fire management is required and approved; or</li> <li>c) erection of a building or outbuilding; or</li> <li>d) an area up to one metre in width for the purpose of erecting and maintaining a fence line; or</li> <li>e) a clearing permit has been issued or the clearing is exempt from requiring a clearing permit.</li> </ol> </li> <li>6. The removal of trees or substantial vegetation for any purpose other than the above exceptions shall require the consent of the local government. As a condition of granting</li> </ol>



			<p>consent, the local government may require tree planting in locations approved by the local government.</p> <ol style="list-style-type: none"> <li>7. The 10-metre-wide Landscape Buffer strip nominated along Crossman Road as shown on the Structure Plan is to be planted with locally indigenous vegetation species by the developer at the time of subdivision and maintained for two summer periods.</li> <li>8. Vegetation shown for retention on the Structure Plan is not permitted to be removed.</li> <li>9. A Vegetation Management Plan shall be prepared and implemented as a condition of subdivision approval to the satisfaction of the local government.</li> <li>10. A Bushfire Management Plan is to be prepared prior to subdivision being supported.</li> <li>11. No dwelling shall be constructed or approved for construction unless provided with an effluent disposal system approved by the local government and/or the Department of Health.</li> <li>12. An Urban Water Management Plan is to be prepared to the satisfaction of the Department of Water and Environmental Regulation prior to any subdivision approval of the subject land.</li> <li>13. The structure plan is to detail how the design requirements for buildings should be addressed to ensure that all buildings are compatible with and contribute to the desired amenity of the locality, including whether the preparation of any subsequent planning instruments is required.</li> <li>14. All fencing within the Special Use zone shall retain the rural character of the area and the use of asbestos, metal sheeting or wooden pickets shall be prohibited. The local government may impose fencing requirements as a condition of its approval to protect substantial vegetation or the river environs.</li> <li>15. With the intention of preventing overstocking, erosion or other practices detrimental to the amenity of the land, the land uses 'agriculture</li> </ol>
--	--	--	---



			<p>– intensive’, ‘animal establishment’ and ‘animal husbandry – intensive’ shall not be permitted. Stocking rates will be in line with those recommended by the Department of Primary Industries and Regional Development. Provision of an adequate water supply to the stock may also be required as a condition of approval.</p> <p>16. A Foreshore Management Plan addressing, but not restricted to, weed control, revegetation, fencing, stock control, pedestrian access and restrictions on vehicular access shall be prepared and implemented as a condition of subdivision approval.</p> <p>17. A dual use path between River Road and the subject land is to be provided, generally in the location depicted on the Structure Plan, to the satisfaction of the local government.</p> <p>18. All development to comply with the provisions set out in Table 5 which are applicable to the zones specified by any structure plan, and/or any other planning instrument prepared under this scheme to the satisfaction of the local government, including a local planning policy or design guideline which applies to the land.</p>
--	--	--	---

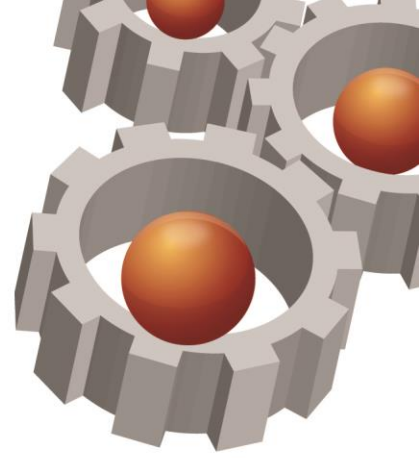
With respect to the above conditions of development, it is noted that following a meeting with the Department of Planning, Lands and Heritage and as part of subsequent liaisons, it has been agreed that the provision of an Urban Water Management Plan can be facilitated as a condition of subdivision approval.

Additionally, we refer to the references in the condition table above that highlight the provision of a structure plan. Similarly to the above, it is acknowledged that as part of discussions with the DPLH and Shire representatives, there is no requirement for an updated structure plan to be prepared.

#### WAPC Operational Policy 1.1 – Subdivision of Land

The Western Australian Planning Commission (WAPC) Operational Policy 1.1 (OP 1.1) is a state level policy document that provides general principles to guide the WAPC in determining applications for subdivision

The policy’s general objectives are to:



- *To control the subdivision of land, number, size and arrangement of lots within the framework of the relevant legislation, regulations and policy.*
- *To ensure the subdivision pattern is responsive to the characteristics of the site, including environmental features, sustainability principles and the local planning context.*
- *To create a site-responsive design through a street and lot layout that provides local amenity and safe and efficient modes of transport including cycling and walking.*
- *To facilitate development that achieves appropriate community standards of health, safety and amenity.*

The proposed subdivision of the subject site is considered to be conducive to these objectives, as it takes into account the relevant environmental features, whilst the utilisation of existing road networks in among similar surrounding development are considered efficient networks to facilitate active transport.

It is justified that the proposed subdivision will not prejudice the proper and orderly planning of the land, and further prescribed through consistency with the following legislation, regulations and policy:

- State Planning Policy No. 1 – State Planning Framework;
- Perth and Peel @ 3.5 Million; and
- The provisions of the relevant Local Planning Scheme as detailed above.

With consideration of the above, the proposed subdivision does not present any constraints to the subject site and appropriately satisfies the objectives and provisions of the WAPC's OP 1.1. Accordingly, support and approval of the proposed subdivision is warranted.

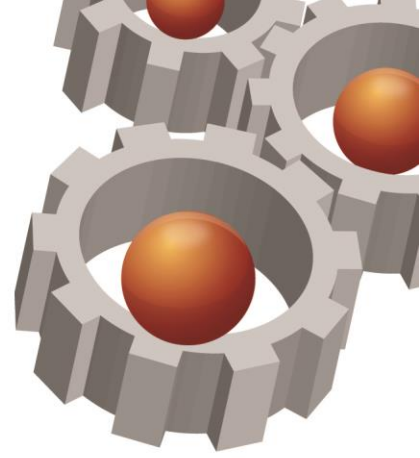
#### WAPC Development Control Policy 2.2 – Residential Subdivision

The Western Australian Planning Commission (WAPC) Development Control Policy 2.2 (DC 2.2) is a State level policy document providing the planning framework for the subdivision of residential land.

The policy's general objectives are to:

- *Establish a consistent and coordinated approach to the creation of residential lots throughout the State;*
- *To adopt criteria for residential lots which will ensure that each lot is provided with a suitable level of amenity, services and access; and,*
- *To facilitate the supply of residential lots of a wide range of sizes and shapes.*





Specifically, Clause 4.1.3 of DC 2.2 applies to subdivision proposals and provides a range of criteria that such proposals will be assessed against. The following section below summarises the proposal's compliance with the provisions of Clause 4.1.3 of DC 2.2:

- *Capable of development in accordance with the Codes assigned to it by local town planning schemes, together with any local variations that apply.*

As detailed above, the proposed subdivision is consistent with the applicable Scheme requirements and the Special Use zone conditions applicable.

- *Located within an area which is suitable for subdivision in terms of its physical characteristics, such as topography, soils, drainage, vegetation and natural features.*

The accompanying SSE has been prepared to demonstrate that the site is suitable for subdivision in terms of soils, drainage, and land capability. Through addressing the specific conditions associated with the Special Use zone in which the property is situated, it has been demonstrated that assigned the land is appropriate for residential development.

- *Located within a system of vehicle and pedestrian movement consistent with the principles of the Commission's policy on Residential Road Design (DC 2.6) in terms of the hierarchy of roads, matters of road safety and lot access and the provision of cycle ways and pedestrian walkways.*

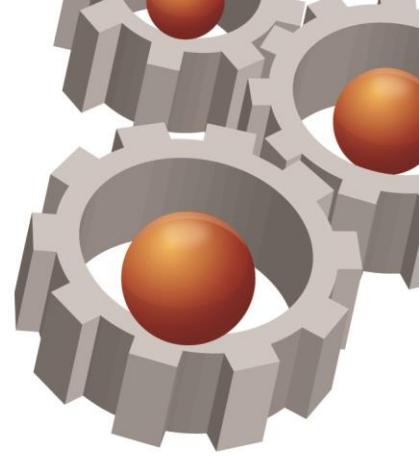
The proposed Green Title lots will all have direct frontage to a public road in a network consistent with what has been planned for through previous development and subdivision approvals. In this regard the system of vehicle and pedestrian movement throughout the subdivision is considered to be consistent with the Residential Road Design Policy.

- *Convenient to areas of passive and active open space.*

It is acknowledged that in accordance with the requirements of DC 2.2 and the associated DC 2.3 – Public Open Space in Residential Areas, the proposed subdivision provides an allocation of Public Open Space (POS) in the south-western corner of the subject site, totalling an area of 6.21ha.

- *Serviced by a suitable level of community services, schools, retail facilities, etc.*

The locality in which the proposed subdivision is located has been facilitated in accordance with the relevant planning provisions over the past two or so decades. It is also noted that the developer for this proposal has historically been responsible for a large majority of the development and planning in the suburb of Waikiki. In this regard, it is submitted that the subject site forms one of four remaining vacant portions of land, with the majority of the locality already significantly developed with



appropriate amenities such as the Waikiki Primary School and South Coast Baptist College, Community Recreation Centres and Commercial Retail Centres, among many other existing amenities.

#### State Planning Policy 3.7 – Planning in Bushfire Prone Areas

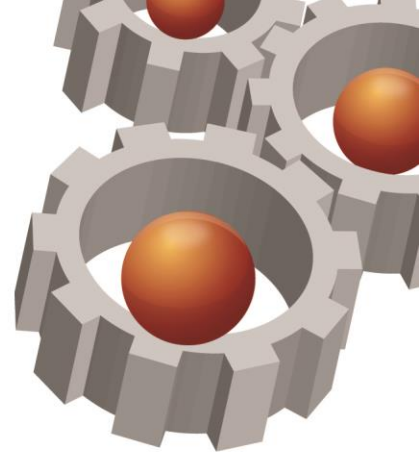
As the subject site is located in a bushfire prone area in accordance with State Planning Policy 3.7 and the Department of Fire and Emergency Services (DFES) declared bushfire prone mapping, a Bushfire Attack Level (BAL) contour map and Bushfire Management Plan (BMP) has been prepared to support the proposed subdivision application. It is noted that at time of lodgement, the comprehensive BMP report is awaiting finalisation and will be submitted shortly to support the application. In the absence of a comprehensive BMP, the BAL contour mapping and a short summary of the findings of the BMP have been prepared by the engaged bushfire practitioner and included within the appendices as **Attachment 3**.

The findings of the BMP demonstrate that the proposed building envelopes and other lots have a BAL-29 or lower rating. As such, the proposed subdivision complies with the objectives of State Planning Policy 3.7 as:

- 1) It avoids any increase in the threat of bushfire to people, property and infrastructure.**  
Development with a maximum BAL-29 rating it does not increase the threat of bushfire. The proposed subdivision design does not increase the bushfire threat as the proposed development areas will have a BAL-29 rating or less.
- 2) It reduces vulnerability to bushfire through the identification and consideration of bushfire risks in the design of the development and the decision-making process.**  
The bushfire hazard and risks have been identified and assessed in this report.
- 3) The design of the subdivision and the development takes into account bushfire protection requirements and includes specific bushfire protection measures.**  
The proposed development complies with the Bushfire Protection Criteria as contained in the Guidelines for Planning in bushfire Prone Areas (Version 1.3 Dec 2017).
- 4) Achieves an appropriate balance between bushfire risk management measures and biodiversity, conservation values, and environmental protection.**  
The clearing of remnant vegetation for the development is in accordance with the approved structure plan and the Shire's Bush Fire Notice.

Accordingly, the proposal poses no risk by way of bushfire hazard to the future residential lots and warrants favourable consideration and support from the WAPC.





### Government Sewerage Policy (2019)

The *Government Sewerage Policy* (DPLH 2019) establishes the State's position on the provision of sewerage services in the State through the planning and development of land. In instances where reticulated sewerage cannot be provided, it adopts a best practice approach to the provision of on-site sewage treatment and disposal, in accordance with AS1547 – *On-site domestic wastewater management* (Standards Australia and New Zealand 2012).

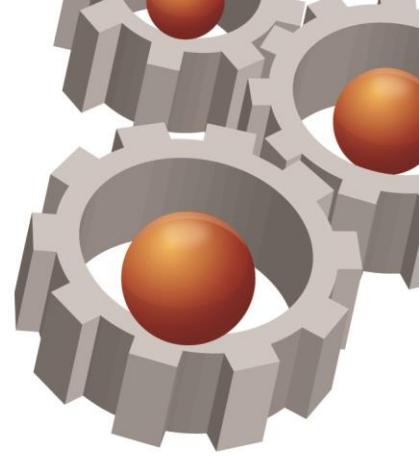
The objective of this SSE report is to assess and guide on-site wastewater disposal to ensure sustainable and effective on-site sewage management, thereby protecting public health and the environment. To support a development application, the SSE report includes:

- Estimating the capacity of the site to contain proposed development and sewage on-site;
- Designing a treatment/on-site sewage management system; and
- Identifying management and monitoring options and defining adequate on-site sewage management locations (DoH 2019a).

Perth Geotechnics was engaged to undertake a site and soil evaluation for on-site wastewater management for the proposed residential subdivision at the subject site.

The sewage management strategy for the site, as outlined in this SSE report, has been developed to be consistent with the approach and requirements detailed in the Government Sewerage Policy (DPLH 2019) and AS/NZS 1547 On-site domestic wastewater management (Standards Australia and New Zealand 2012). The approach for sewage management within the site includes:

- Using primary and secondary treatment systems with nutrient removal.
- Appropriate sizing of land disposal areas based on geotechnical studies and classification of the one soil-terrain unit.
- Ensuring sufficient space is available for treated sewage application within the site.
- Special design of the disposal system to reduce any risk of groundwater pollution as per AS1547.
- Setting the disposal point of the system at a minimum of 0.6m higher than the average groundwater level.
- Locating the sewage system such that it is not subject to inundation within a 10% AEP rainfall event.
- Providing the appropriate setbacks for systems outlined in **Section 2.11**, where applicable.
- Ensuring appropriate installation, monitoring and maintenance of systems is conducted. The above management responses demonstrate that the site is able to accommodate the onsite treatment and disposal of sewage within the site, and that this can be achieved in a way that mitigates potential risks to receiving environments or the public



## CONCLUSION

In light of the above, the proposed Green Title subdivision of the subject site is considered appropriate and justified on the basis that:

- The proposed residential subdivision is consistent with the intent of the 'Special Use' zone and the associated SU2 development conditions, as applicable under the provisions of the Shire of Boddington LPS3;
- The proposed residential density within the subdivision provides a varied mix of lot sizes which accord with the existing rural character of the Boddington area;
- The proposal is consistent with applicable state level planning framework and guiding policies; namely DC Policy 2.2 – Residential Subdivision and DC Policy 2.3 – Public Open Space in Residential Areas;
- The proposal represents the logical subdivision of a Greenfield site;
- The proposal demonstrates compliance with the provisions of State Planning Policy 3.7 – Planning in Bushfire Prone Areas; and
- The submitted Site and Soil Evaluation has demonstrated that the proposed lots are suitable for accommodating on-site wastewater disposal without risk to the environmental values that exist.

As the proposal is consistent with the planning principles applicable at the State and Local level, the proposed Green Title subdivision of the subject site warrants favourable consideration and approval.

Should you have any queries or require any clarification in regard to the matters raised, please do not hesitate to contact the undersigned on 9275-4433.

Yours faithfully,

---

**NEIL TEO**  
**DIRECTOR**

File Ref: 211209 1292 Subdivision Application Letter

DEPARTMENT OF PLANNING, LANDS  
AND HERITAGE

DATE  
20-Jan-2022

FILE  
161908



# **Bushfire Management Plan (Subdivision Application)**

## **Lots 21, 22 & 23 Crossman Road Ranford**

Ref 20-044  
Ver A  
December 2021



**LUSHFIRE & PLANNING**

3 Paterson Rd  
Pinjarra WA 6208  
0418 954 873  
ABN 74 232 678 543

## Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

### Bushfire Management Plan and Site Details

**Site Address / Plan Reference:** Lots 21, 22 & 23 Crossman Road

**Suburb:** Ranford **State:** WA **P/code:** 6390

**Local government area:** Boddington

**Description of the planning proposal:** Residential subdivision

**BMP Plan / Reference Number:** 21-044 **Version:** A **Date of Issue:** 28/12/2021

**Client / Business Name:** TAQWA Holdings Pty Ltd

### Reason for referral to DFES

**Yes No**

Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?

☐ ☒

Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the BPC elements)?

☐ ☒

Is the proposal any of the following special development types (see SPP 3.7 for definitions)?

Unavoidable development (in BAL-40 or BAL-FZ)

☐ ☒

Strategic planning proposal (including rezoning applications)

☐ ☒

Minor development (in BAL-40 or BAL-FZ)

☐ ☒

High risk land-use

☐ ☒

Vulnerable land-use

☐ ☒

If the development is a special development as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

**Note:** The decision maker (e.g. the local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

### BPAD Accredited Practitioner Details and Declaration

Name	Accreditation Level	Accreditation No.	Accreditation Expiry
Geoffrey Lush	Level 2	BPAD 27682	28/02/2022
Company	Contact No.		
Lush Fire & Planning	0418 954 873		

I declare that the information provided in this bushfire management plan is to the best of my knowledge true and correct.

Signature of Practitioner



Date

28/12/2021

## **Lots 21, 22 & 23 Crossman Road - Executive Summary**

---

This bushfire management plan is prepared for the proposed subdivision of Lots 21, 22 and 23 Crossman Road, Ranford. The site is located approximately 3kms north east of the Boddington town centre.

The site is adjacent to the Ranford townsite which is contiguous with the Boddington townsite. Crossman Road is a development corridor extending to Albany Highway which contains a large number of rural residential and rural small holding lots.

The subject land has a total area of 97.64 hectares with a frontage of approximately 1.4kms to Crossman Road. Fraser Road provides a second access point to the eastern boundary. The Hotham River extends along the northern boundary of the site for approximately 1.8kms.

The site is vacant apart from some sheds and is used for broad acre grazing. The land to the east and south east has been developed for rural residential purposes. On the southern side of Crossman Road are several large rural lots. To the west of the site there is a variety of lot sizes extending into the Ranford townsite.

There is extensive remnant vegetation along the river corridor which extends into portions of the site. There is also a drainage line extending along the eastern boundary from Crossman Road to the river which also has scattered remnant vegetation. Much of the site is cleared with isolated paddock trees. In the central portion of the site, there is a ridge which has approximately 7 hectares of Wandoo woodland.

The primary access to the site is from Crossman Road which is a local distributor road extending from the Boddington townsite to Albany Highway 8kms east of the site. Secondary access is from Fraser Road on the eastern boundary. This is a local subdivision road extending for 650m from Days Road. Days Road then connects south back to Crossman and north over the river to the Bannister - Marradong Road.

Portions of the site are designated as being bushfire prone and this reflects the above vegetated areas with the associated 100m buffer.

There is an approved structure plan for the site which:

- Shows 150 lots ranging size from 2,300sqm to 2.7 hectares;
- Public open space and a foreshore reserve;
- A community purposes site;
- A bridal path along the foreshore;
- Habitat trees to be retained;
- Building exclusion areas; and
- Proposed landscaping/revegetation areas.

The subject land is included in Special Use Zone No 2 under Local Planning Scheme No 3. The zone provisions applying to the site include:

- Subdivision to be in accordance with the structure plan;
- All lots being connected to a reticulated water supply; and
- Buildings are not to be located within 10 metres of the front lot boundary and 5 metres from the side boundaries.

The proposed subdivision will create 175 lots. This will consist of 135 lots with a minimum size of 2,000sqm and 40 lots with a minimum size of 4192sqm (average 1.03ha). The total POS is 6.83ha with a 4.28ha foreshore reserve and a 1.0ha community purpose site. The primary access will be from Crossman Road connecting to Fraser Road.

The subdivision plan has identified building envelopes for lots which exclude:

- The minimum boundary setbacks in the Scheme;
- The building exclusion areas shown on the structure plan; and
- Land with a BAL-40/FZ rating.

## Lots 21, 22 & 23 Crossman Road - Executive Summary

---

A large portion of the Wandoo woodland area will be cleared for the development as the lots in this area have a minimum size of 2,000sqm. Selected groups of trees in the building exclusion areas will be retained and have been classified as bushfire vegetation. In addition, other single trees will be retained where they can comply with the specifications for an asset protection zone in accordance with Schedule 1 of Appendix 4 of the Guidelines for Planning in bushfire Prone Areas (Version 1.3 Dec 2017).

A BAL Assessment / BAL Contour Plan has been prepared to show the expected BAL ratings for the completed development being the designated building envelopes and/or lot boundaries. All of the proposed building envelopes and/or lots will have a BAL-29 or lower rating. The assigned BAL rating may be further reduced depending upon the final location of the dwelling within the building envelope and/or lot.

Fifty (50) of the building envelopes and/or lots are not designated as being bushfire prone and potentially won't require either a BAL Assessment nor the imposition of the AS3959 construction standards. Despite this, it is still recommended that the dwellings be constructed in accordance with the assigned BAL rating.

The proposed subdivision complies with the objectives of State Planning Policy 3.7 as:

1. **It avoids any increase in the threat of bushfire to people, property and infrastructure.**  
The subdivision will be introducing additional people and assets into the area which can intensify the level of risk. Conversely, it will also result in more of the site being maintained as low threat vegetation, with a corresponding reduction in the bushfire risk. Development with a maximum BAL-29 rating is considered acceptable under SPP3.7 Planning in Bushfire Prone Areas as having a manageable level of risk. The proposed subdivision design does not increase the bushfire threat as the proposed:
  - Subdivision and development areas will have a BAL-29 rating or less; and
  - Management measures can be practically implemented and maintained in perpetuity.
2. **It reduces vulnerability to bushfire through the identification and consideration of bushfire risks in the design of the development and the decision-making process.**  
The bushfire hazard and risks have been identified and assessed in this report.
3. **The design of the subdivision and the development takes into account bushfire protection requirements and includes specific bushfire protection measures.**  
The proposed development complies with the Bushfire Protection Criteria as contained in the Guidelines for Planning in bushfire Prone Areas (Version 1.3 Dec 2017).
4. **Achieves an appropriate balance between bushfire risk management measures and biodiversity, conservation values, and environmental protection.**  
The clearing of remnant vegetation for the development is in accordance with the approved structure plan and the Shire's Bush Fire Notice.

**Lots 21, 22 & 23 Crossman Road****Document Control**


Street No	Lot No	Plan	Street Name		
	21, 22 & 23	404802	Crossman Road		
Locality	Ranford	State	WA	Postcode	6390
Local Government Area	Boddington				
Project Description	Residential, rural residential subdivision				
Prepared for	TAQWA Holdings Pty Ltd				

Ref No	Revision	Date	Purpose
21-044	A	28 December 2021	Preliminary

Name	Geoffrey Lush	Company	Lushfire & Planning
BPAD	Level 2 Practitioner	Accreditation No Expiry	27682 February 2022

**Disclaimer**

The measures contained in this report do not guarantee that a building will not be damaged in a bushfire. The ultimate level of protection will be dependent upon the design and construction of the dwelling and the level of fire preparedness and maintenance under taken by the landowner. The severity of a bushfire will depend upon the vegetation fuel loadings; the prevailing weather conditions and the implementation of appropriate fire management measures. All information and recommendations made in this report are made in good faith based on information and accepted methodology used at that time. All plans are subject to survey and are not to be used for calculations. Notwithstanding anything contained therein, Lushfire & Planning will not, except as the law may require, be liable for any loss claim, damage, loss or injury to any property and any person caused by fire or by errors or omissions in this report.



Geoffrey Lush  
28 December 2021  
geoffrey@lushfire.com.au





**Lots 21, 22 & 23 Crossman Road****CONTENTS**

1.0	Proposal Details .....	2
1.1	Introduction .....	2
1.2	Existing Conditions .....	2
1.3	Bushfire Prone Land .....	6
1.4	Town Planning .....	6
1.5	Bush Fire Notice .....	9
1.6	Proposed Development .....	9
2.0	Environmental Considerations .....	12
3.0	Bushfire Assessment Results .....	12
3.1	Assessment Inputs - Vegetation Classification .....	12
3.2	Assessment Outputs - BAL Contour Map .....	26
4.0	Identification of Bushfire Hazard Issues .....	34
5.0	Assessment Against the Bushfire Protection Criteria .....	35
5.1	BPC Elements .....	35
5.1.1	Element 1 Location .....	35
5.1.2	Element 2 Siting and Design of Development .....	35
5.1.3	Element 3 Vehicular Access .....	36
5.1.4	Element 4 Water .....	39
5.2	Additional Management Measures .....	40
5.2.1	Individual Water Supply .....	40
5.2.2	Purchaser Advice .....	40
5.2.3	Staging .....	40
5.2.4	Bushfire Survival Plan .....	40
6.0	Responsibilities for Implementation and Management of the Bushfire Measures .....	41

**FIGURES**

Figure 1	Location .....	3
Figure 2	Existing Conditions .....	4
Figure 3	Bushfire Prone Land .....	7
Figure 4	Structure Plan .....	8
Figure 5	Proposed Subdivision .....	10
Figure 6	Clearing and Landscaping .....	11
Figure 7	Vegetation Classification .....	13
Figure 8	Photograph Locations .....	14
Figure 9	Modified Vegetation Classification .....	27
Figure 10	BAL Contour Map .....	28
Figure 11	Spatial Measures .....	44

**TABLES**

Table 1	Land Details .....	2
Table 2	Vegetation Summary .....	12
Table 3	BAL Setbacks .....	29
Table 4	Vehicular Access Technical Requirements .....	38
Table 5	Implementation .....	41



## **Lots 21, 22 & 23 Crossman Road**

### **1.0 Proposal Details**

#### **1.1 Introduction**

This bushfire management plan is prepared for the proposed subdivision of Lots 21, 22 & 23 Crossman Road, Radford.

The site is located approximately 3kms north east of the Boddington town centre as shown in Figure 1. The property details are documented in Table 1.

The aim of this Report is to demonstrate that the proposed subdivision will comply with State Planning Policy SPP3.7 Planning in Bushfire Prone Areas; and the associated Guidelines for Planning in Bushfire Prone Areas (Version 1.3 December 2017). It documents how the hazard level will be reduced and maintained for the life of the development.

*Table 1 Land Details*

No	Lot	Plan	Vol	Folio	Registered Proprietor	Area(ha)
	21	404802	2876	398	M & A Holding Group Pty Ltd	38.9894
	22	404802	2876	399	Oz Division Holdings Pty Ltd	34.4486
	23	404802	2876	400	Taqwa Holdings Pty Ltd	24.2207

#### **1.2 Existing Conditions**

The existing site conditions are shown in Figure 2.

The subject land has a total area of 97.64 hectares with a frontage of approximately 1.4kms to Crossman Road. Fraser Road provides a second access point to the eastern boundary. The Hotham River extends along the northern boundary of the site for approximately 1.8kms.

The site is vacant apart from some sheds and is used for broad acre grazing. The land to the east and south east has been developed for rural residential purposes. On the southern side of Crossman Road are several large rural lots. To the west of the site there is a variety of lot sizes extending into the Ranford townsite.

There are three main landforms on the site being:

- The river corridor including an associated embankment in the north western portion of the site;
- The river floodplain and gently sloping land with deeper soils and an elevation of between 210 and 220m AHD; and
- The central ridge rising to approximately 233m AHD with gravelly thin soils.

The existing vegetation on the site reflects the above landforms with:

- The river corridor predominantly containing Melaleuca / Paperbark and some Eucalypts (Photo A);
- Valley low slopes gently sloping land containing scattered Marri trees (Photo B); and
- The central ridge containing Wandoo / White Gum (Photo C).

The primary access to the site is from Crossman Road which is a local distributor road extending from the Boddington townsite to Albany Highway 8kms east of the site. Secondary access is from Fraser Road on the eastern boundary. This is a local subdivision road extending for 650m from Days Road. Days Road then connects south back to Crossman and north over the river to the Bannister - Marradong Road.





FIGURE 1  
LOCATION AND CONTEXT

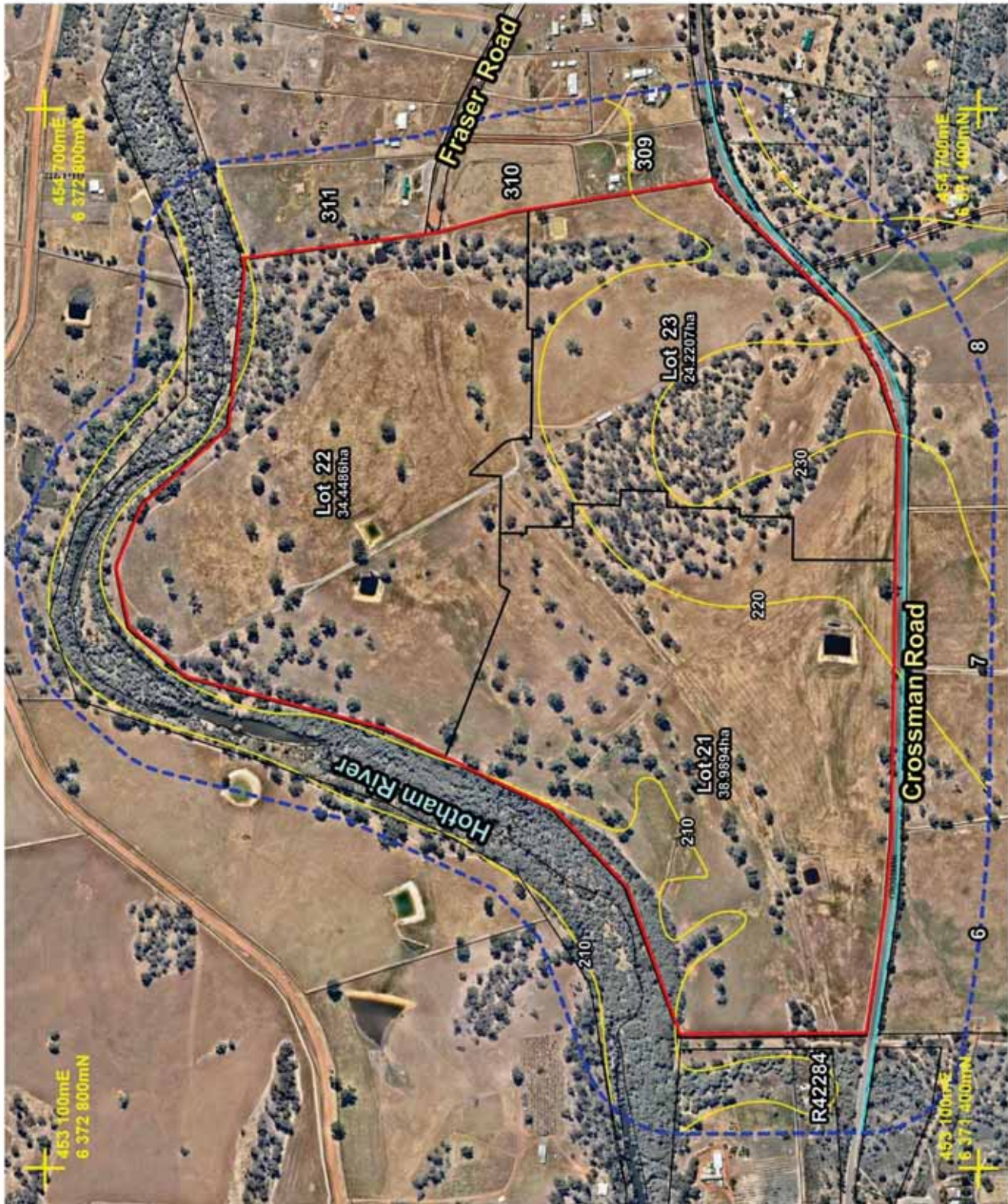
SUBJECT LAND



Job No 21-044  
Rev A Description Preliminary

Date 15/10/2021





# LEGEND

- SUBJECT LAND
- 150m ASSESSMENT BUFFER
- CONTOURS
- WATER MAIN
- GEO REFERENCE



FIGURE 2  
EXISTING CONDITIONS



Job No 21-044  
Rev Description  
A Preliminary

Date  
15/10/2021

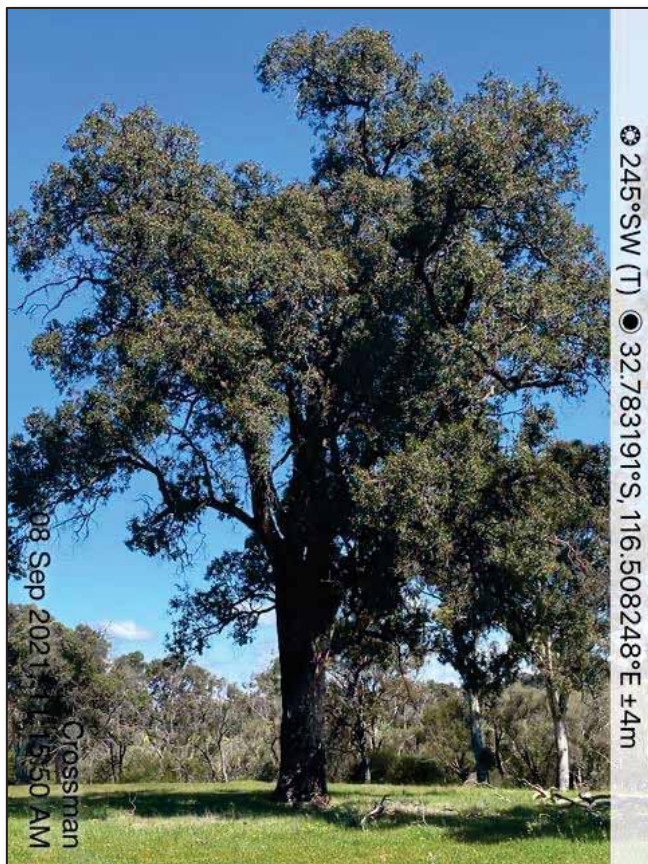


**Lots 21, 22 & 23 Crossman Road**

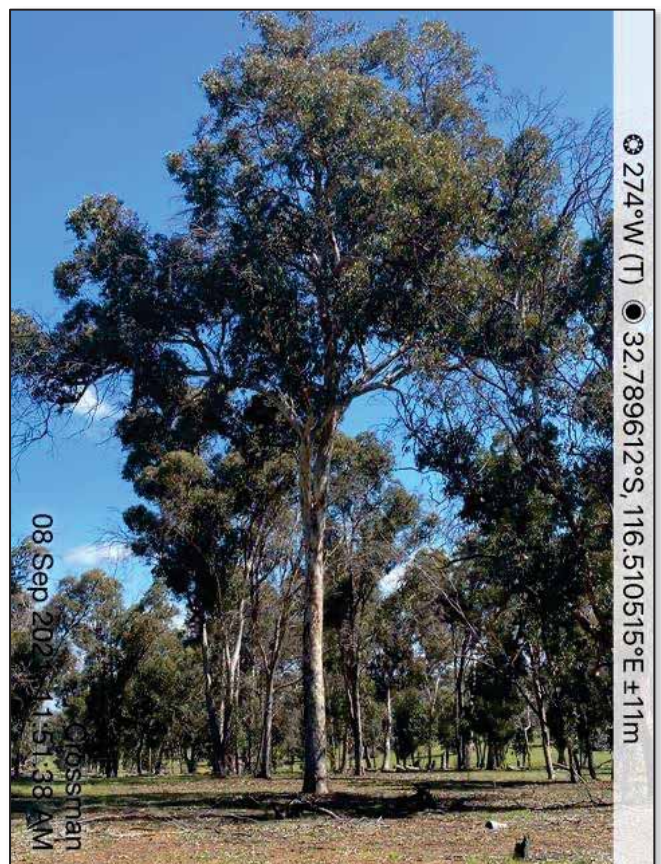
*Photo A River corridor vegetation*



*Photo B Isolated Paddock Marri*



*Photo C Wandoo*



## **Lots 21, 22 & 23 Crossman Road**

---

### **1.3 Bushfire Prone Land**

Portions of the subject are designated as being bushfire prone land as shown in Figure 3. The designation of bushfire prone areas triggers:

- The application of Australian Standard AS3959 Construction of Buildings in Bushfire Prone Areas under the Building Code of Australia;
- The provisions of the Planning and Development (Local Planning Schemes) Regulations 2015; and
- The application of State Planning Policy SPP3.7 Planning in Bushfire Prone Areas.

State Planning Policy SPP3.7 Planning in Bushfire Prone Areas requires that any subdivision application must be accompanied by a bushfire management plan which includes:

- a) a Bushfire Attack Level (BAL) Assessment or a BAL Contour Map to show the expected BAL ratings for the developed site. The BAL Contour Map shows the proposed BAL ratings based upon any clearing or landscaping;
- b) the identification of any bushfire hazard issues arising from the BAL Contour Map or the BAL assessment; and
- c) an assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance within the boundary of the development site.

### **1.4 Town Planning**

The subject land is included in Special Use Zone No 2 under Local Planning Scheme No 3. The zone provisions applying to the site include:

- Subdivision to be in accordance with the structure plan;
- All lots being connected to a reticulated water supply; and
- Buildings are not to be located within 10 metres of the front lot boundary and 5 metres from the side boundaries.

There is an approved structure plan for the site (Figure 4) which:

- a) Shows 150 lots ranging size from 2,300sqm to 2.7 hectares;
- b) Public open space and a foreshore reserve;
- c) A community purposes site;
- d) A bridal path along the foreshore;
- e) Habitat trees to be retained;
- f) Building exclusion areas; and
- g) Proposed landscaping/revegetation areas.



# LEGEND

SUBJECT LAND

150m ASSESSMENT AREA

BUSHFIRE PRONE LAND (2021)

Includes bushfire prone vegetation and a 100m buffer.

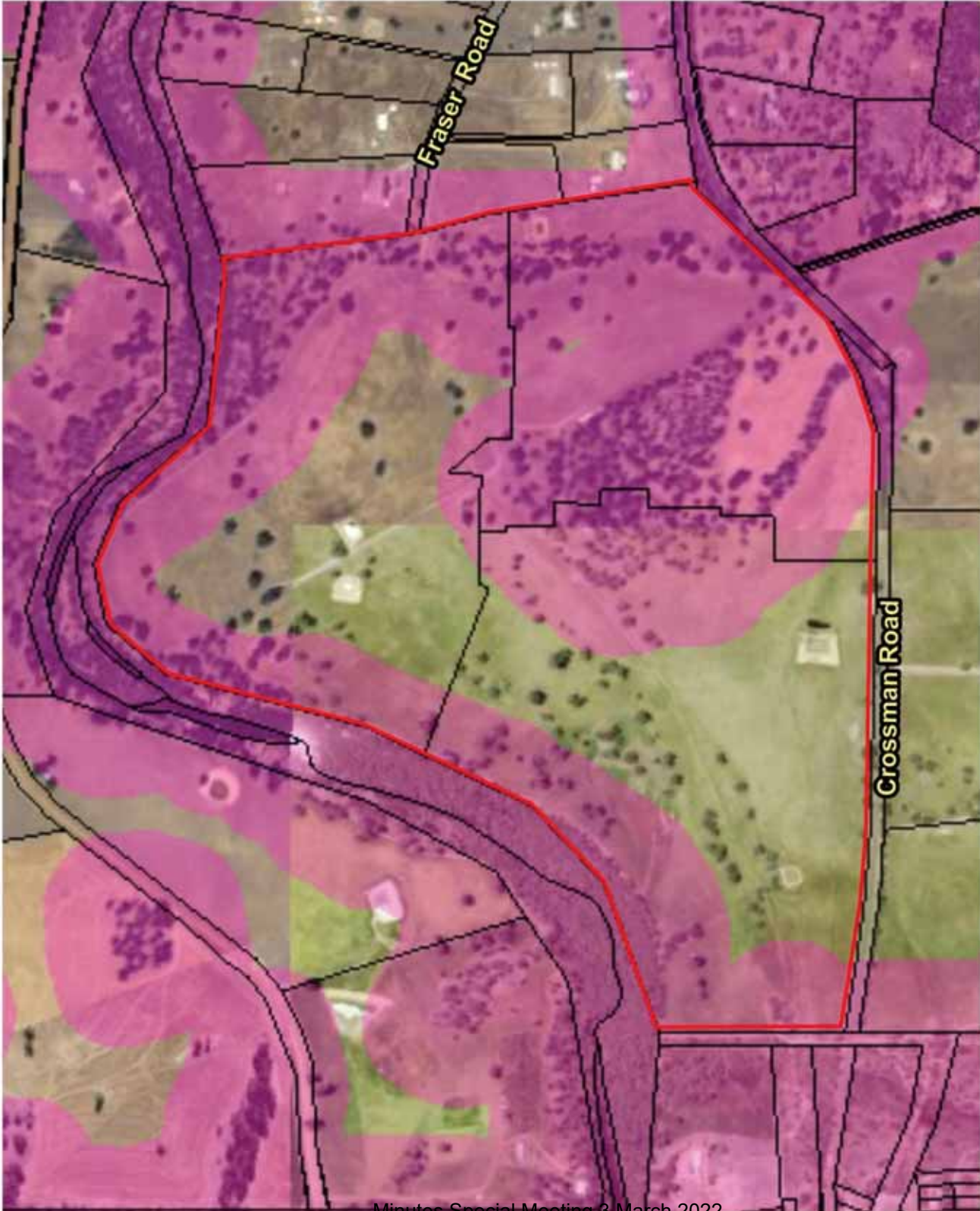


FIGURE 3  
BUSHFIRE PRONE LAND



Job No 21-044  
Rev A  
Description Preliminary

Date  
15/10/2021





FIGURE 4  
STRUCTURE PLAN

## **Lots 21, 22 & 23 Crossman Road**

---

### **1.5 Bush Fire Notice**

The Shire's 2020 - 2021 Bush Fire Notice requires the following measures:

A) In the Boddington and Ranford townsites that:

- All town lots under 10,000 square metres in area and all fuel depots within the Shire are required to be cleared of all debris and flammable material to a height not more than 50mm.
- Lots 10,000 square metres and over are to have a minimum 2.5metre wide and 4.0 metre vertical clearance Fire Access Track installed immediately inside all external boundaries. An area 20metres wide cleared of all flammable material shall be established immediately around the perimeter of all buildings and fuel storage areas.

B) Hobby Farms of 20 hectares or less:

- A Fire Access Track not less than 2.5 metres wide and have a 4.0 metre vertical clearance must be established along, inside and as close as practically possible to all external boundaries of each property (i.e. cleared/part cleared or uncleared land) and where the boundary is adjacent to or adjoins a used gazetted road but can deviate up to 250 metres around natural rock formations, deep gullies and the like, without submitting an exemption request.
- All lot/property holders provide for a Fire Access Track around the entire perimeter of their property.
- An area 20 metres wide cleared of all flammable material shall be established immediately around the perimeter of all homesteads, buildings, haystacks and fuel storage areas. A 2.5 metre diameter low fuel area cleared of flammable material around all "green electrical domes" where underground power is provided to a lot, perimeter of all homesteads, buildings, haystacks and fuel storage areas.
- Building Protection Zone of an area at least 20 metres wide cleared of all flammable material shall be established immediately around the perimeter of all homesteads, buildings, haystacks and fuel storage areas. A 2.5m diameter low fuel area cleared of flammable material around all "green electrical domes" where underground power is provided to a lot.

### **1.6 Proposed Development**

The proposed subdivision will create 175 lots as shown in Figure 5. This will consist of 135 lots with a minimum size of 2,000sqm and 40 lots with a minimum size of 4,192sqm (average 1.03ha). The total POS is 6.83ha with a 4.28ha foreshore reserve and a 1.0ha community purpose site. The primary access will be from Crossman Road connecting to Fraser Road.

The subdivision plan has identified building envelopes for lots which exclude:

- The minimum boundary setbacks in the Scheme;
- The building exclusion areas shown on the structure plan; and
- Land with a BAL-40/FZ rating.

A large portion of the Wandoo woodland area will be cleared for the development as the lots in this area have a minimum size of 2,000sqm. Selected groups of trees in the building exclusion areas will be retained and have been classified as bushfire vegetation. In addition, other single trees will be retained where they can comply with the specifications for an asset protection zone in accordance with Schedule 1 of Appendix 4 of the Guidelines for Planning in bushfire Prone Areas (Version 1.3 Dec 2017).



**LEGEND**

SUBJECT LAND

PROPOSED LOTS

**BUILDING ENVELOPES**  
(Other lots have minimum setbacks of 10m from front and rear boundaries and 5m from side boundaries)

**BUILDING EXCLUSION AREA****NOTE:**

The building envelopes exclude:

- Minimum boundary setbacks prescribed in the Scheme;
- Building exclusion areas shown on the structure plan; and
- Land with a BAL-40/FZ rating.



	Yield	Min. lot size	Max. lot size	Average lot size
Large Lifestyle Lots	40	4192m <sup>2</sup>	1.86ha	1.03ha
Conventional Lots	135	2000m <sup>2</sup>	4627m <sup>2</sup>	2562m <sup>2</sup>
<b>TOTAL</b>	<b>175</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>TOTAL POS</b>				
<b>FORESHORE RESERVE</b>				<b>6.83ha</b>
<b>COMMUNITY PURPOSE SITE</b>				<b>4.28ha</b>
				<b>1.0ha</b>

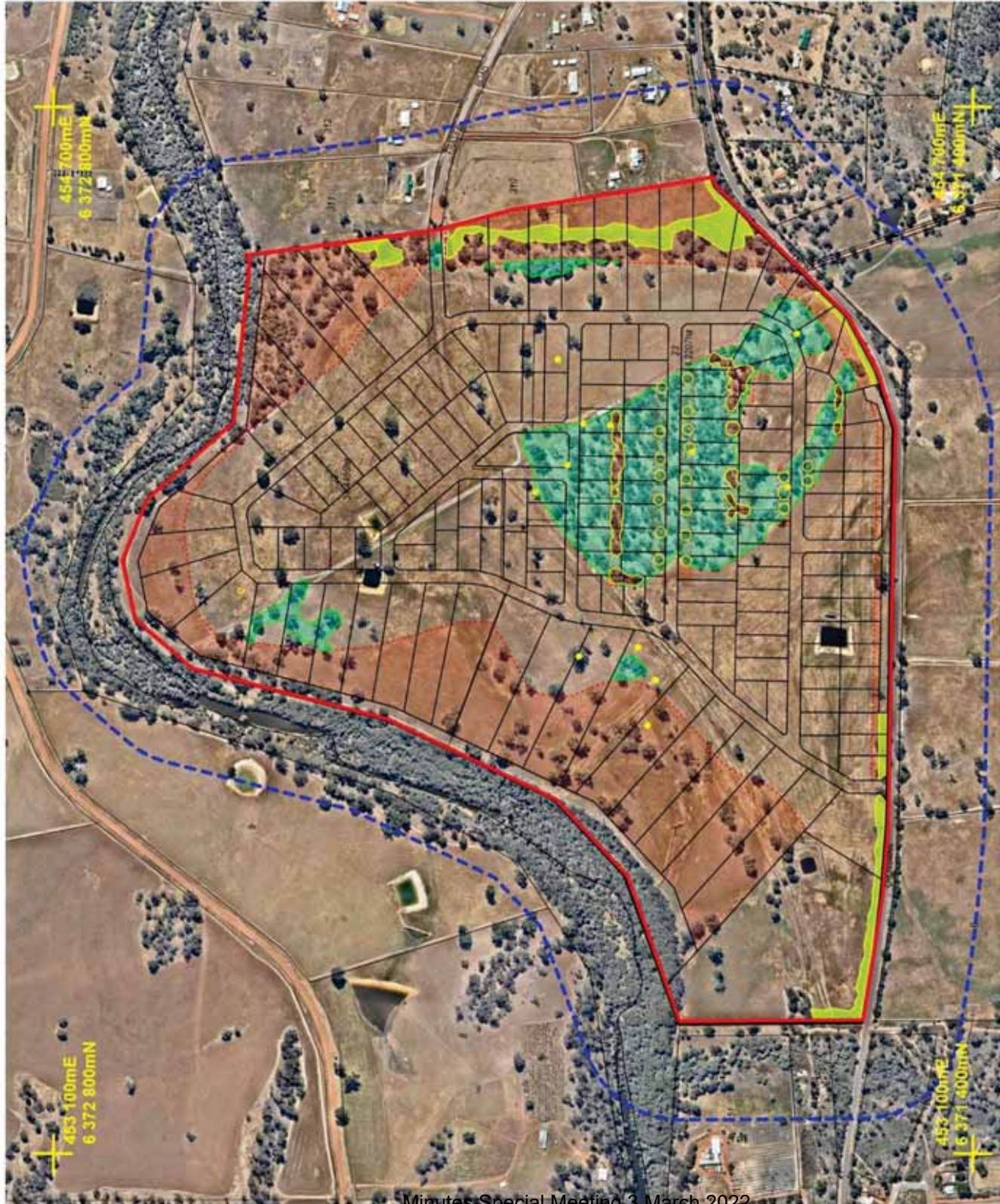
**FIGURE 5**  
**PROPOSED SUBDIVISION**



Job No 21-044  
Rev Description  
A Preliminary

Date  
15/10/2021





# LEGEND

- SUBJECT LAND
- VEGETATION ASSESSMENT AREA (150m from the external boundary of the subject land)
- GEO REFERENCE
- PROPOSED LOTS
- BUILDING EXCLUSION AREA
- CLEARING (Not including grassland)
- HABITAT TREES
- REVEGETATION
- RETAINED TREES (In accordance with the Asset Protection Zone specifications)
- RETAINED TREE GROUP (Class B Woodland)



Job No 21-044  
Rev Description Preliminary  
A



FIGURE 6  
VEGETATION CLEARING



## Lots 21, 22 & 23 Crossman Road

### 2.0 Environmental Considerations

State Planning Policy 3.7 (SPP3.7) policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values. The primary environmental features relating to the site are the Hotham River corridor and the items shown in the local structure plan being:

- Habitat trees to be retained;
- Building exclusion areas; and
- Proposed landscaping/revegetation areas.

Portions of the site will be cleared for the proposed development as shown in Figure 6. This is predominantly the Wandoo woodland area where it is proposed to have 2,000sqm lots and the clearing will be required for the construction of the subdivision and dwellings.

Some additional clearing may be required along the river foreshore for the proposed trail and fire service access route.

### 3.0 Bushfire Assessment Results

#### 3.1 Assessment Inputs - Vegetation Classification

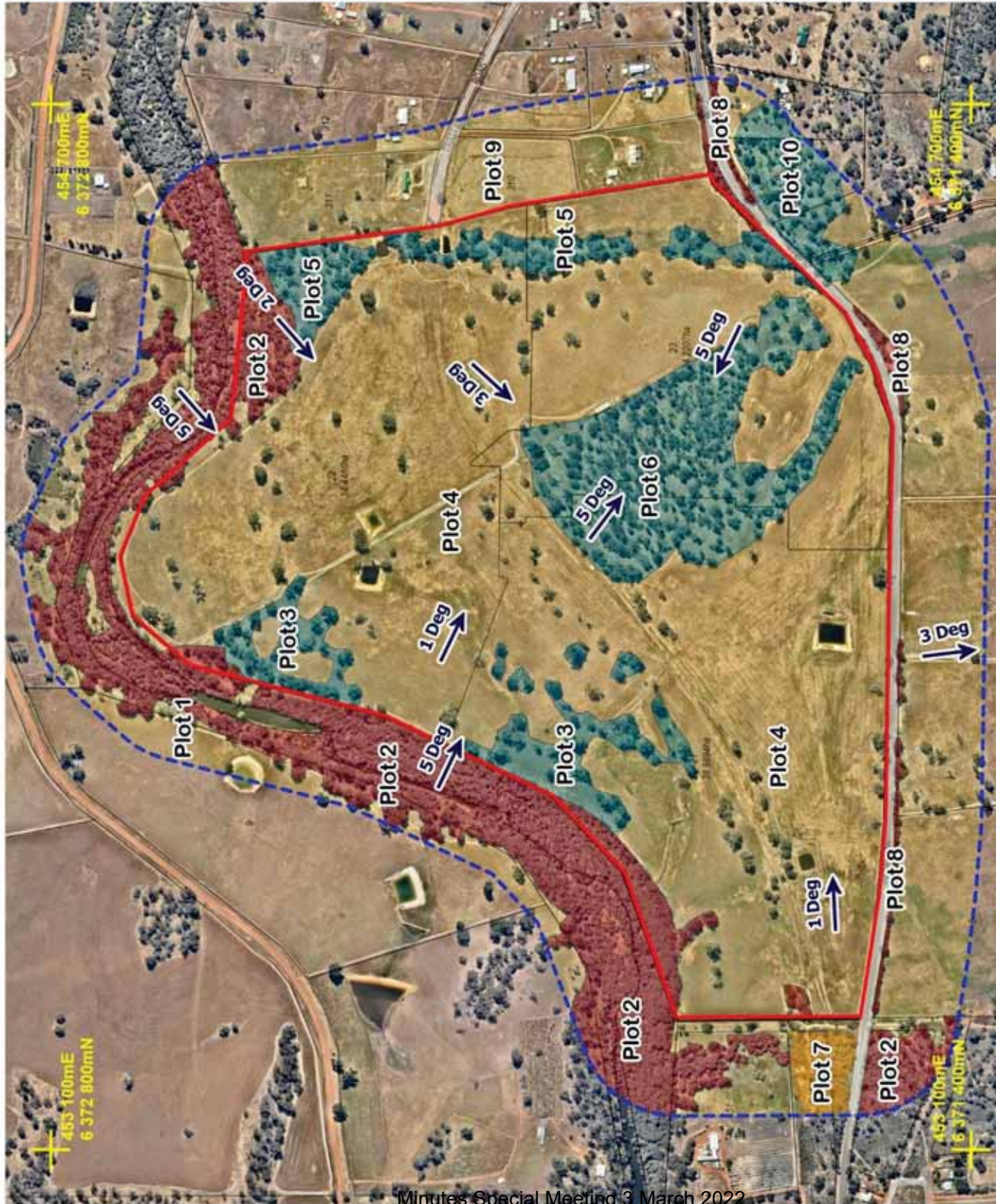
All vegetation within 150m of the site / proposed development was classified in accordance with:

- Clause 2.2.3 of Australian Standard AS3959 Construction of Buildings in Bushfire Prone Areas;
- The Visual Guide for Bushfire Risk Assessment in Western Australia; and
- Applicable Fire Protection Australia BPAD Practice Notes.

The vegetation plots are shown in Figure 7 and described in Table 2. The location of the vegetation photos is shown in Figure 8.

*Table 2 Vegetation Summary*

Plot	Vegetation Class	Description
1	Class G Grassland	Broad acre grassland / pasture on adjoining farming properties.
2	Class A - Forest	River corridor and foreshore vegetation predominantly Melaleuca and Eucalypts.
3	Class B Woodland	Paddock trees over pasture, typically Marri / Jarrah.
4	Class G Grassland	Broad acre grassland / pasture within the subject land.
5	Class B Woodland	Eucalypts along internal the internal drainage line over grassland.
6	Class B Woodland	Wandoo / White Gums on gravelly ridge area over grassland or bare ground.
7	Class D Scrub	Melaleuca scrub in low lying area adjacent to the river.
8	Class A - Forest	Road side verge vegetation. Marri / Jarrah with other species over shrubs.
9	Class G Grassland	Unmanaged grassland within rural residential lots.
10	Class B Woodland	Eucalypts over grassland and gardens within rural residential lots on the southern side of Crossman Road being and extension of Plot 5.



# LEGEND

SUBJECT LAND	VEGETATION	ASSESSMENT AREA (150m from the external boundary of the subject land)	GEO REFERENCE	VEGETATION PLOTS	UPSLOPE	VEGETATION CLASS
—	—	—	+	—	—	A FOREST
—	—	—	—	—	—	B WOODLAND
—	—	—	—	—	—	D SCRUB
—	—	—	—	—	—	G GRASSLAND
—	—	—	—	—	—	EXCLUDED CI 2.2.3.2
—	—	—	—	—	—	(F) MANAGED

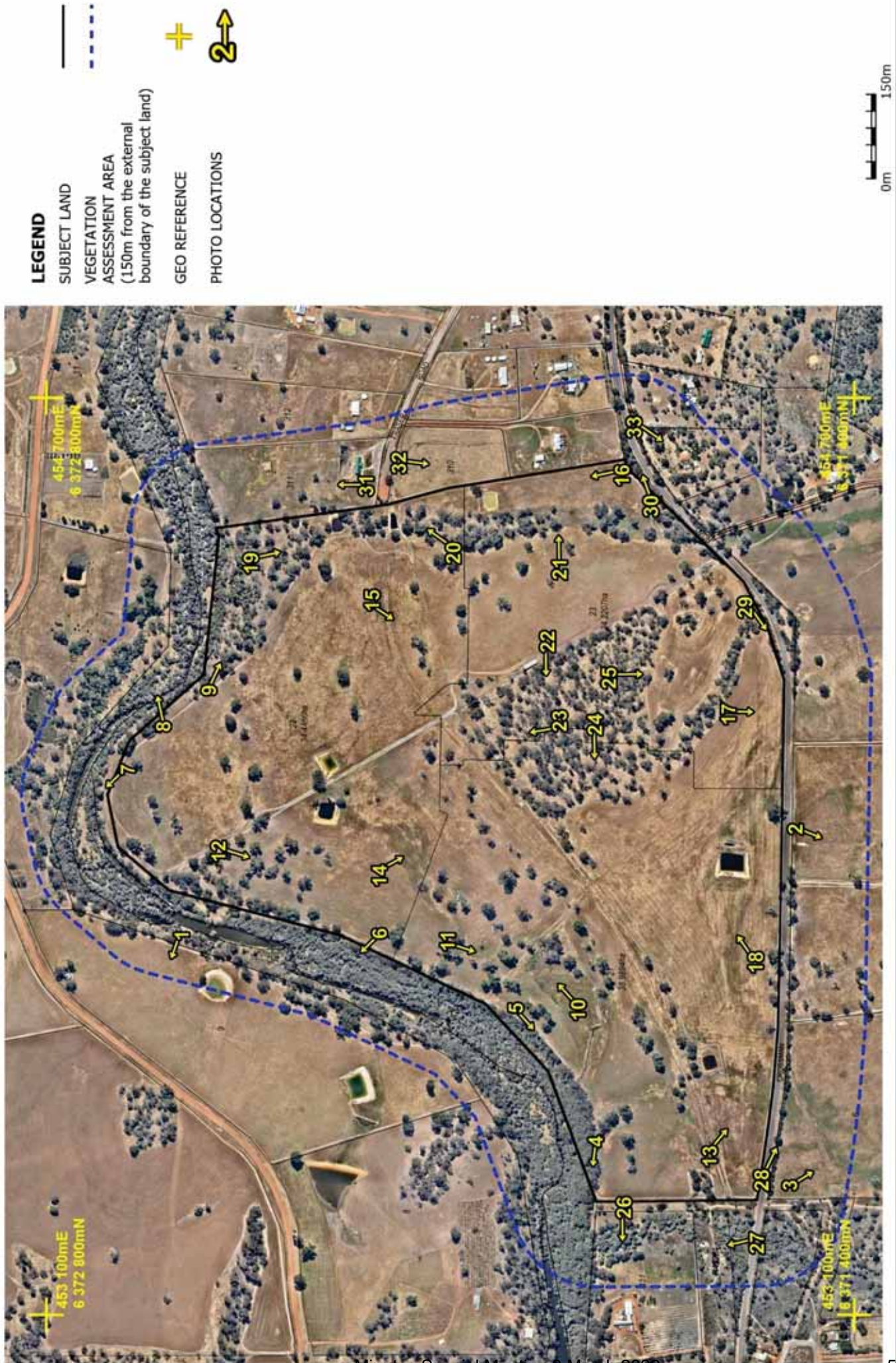


Job No 21-044  
Rev A  
Description Preliminary  
Date 15/10/2021



FIGURE 7  
VEGETATION CLASSIFICATION





**FIGURE 8**  
**PHOTOGRAPH LOCATIONS**



Job No 21-044  
Rev Description  
A Preliminary

Date  
15/10/2021



**Lots 21, 22 & 23 Crossman Road****Photo No 1      Plot No 1****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture on  
adjoining farming properties.

**Photo No 2      Plot No 1****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture on  
adjoining farming properties.

**Photo No 3      Plot No 1****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture on  
adjoining farming properties.



**Lots 21, 22 & 23 Crossman Road****Photo No 4      Plot No 2****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

River corridor and foreshore vegetation predominantly Melaleuca and Eucalypts to 15m variable foliage coverage 40 - 60% over juvenile plants and dead material. Very heavy near surface fuel loads.

**Photo No 5      Plot No 2****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

River corridor and foreshore vegetation predominantly Melaleuca and Eucalypts to 15m variable foliage coverage 40 - 60% over juvenile plants and dead material. Very heavy near surface fuel loads.

**Photo No 6      Plot No 2****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

River corridor and foreshore vegetation predominantly Melaleuca and Eucalypts to 15m variable foliage coverage 40 - 60% over juvenile plants and dead material. Very heavy near surface fuel loads.





**Lots 21, 22 & 23 Crossman Road****Photo No 7      Plot No 2****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

River corridor and foreshore vegetation predominantly Melaleuca and Eucalypts to 15m variable foliage coverage 40 - 60% over juvenile plants and dead material. Very heavy near surface fuel loads.

**Photo No 8      Plot No 2****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

River corridor and foreshore vegetation predominantly Melaleuca and Eucalypts to 15m variable foliage coverage 40 - 60% over juvenile plants and dead material. Very heavy near surface fuel loads. Revegetation area shown.

**Photo No 9      Plot No 2****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

Eucalypts adjacent to river corridors to 18m with 40% foliage coverage.





**Lots 21, 22 & 23 Crossman Road****Photo No 10      Plot No 3****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Paddock trees over pasture, typically Marri / Jarrah to 25m with less than 30% foliage coverage and low surface fuel loads.

**Photo No 11      Plot No 3****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Paddock trees over pasture, typically Marri / Jarrah to 25m with less than 30% foliage coverage and low surface fuel loads.

**Photo No 12      Plot No 3****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Paddock trees over pasture, typically Marri / Jarrah to 25m with less than 30% foliage coverage and low surface fuel loads.



**Lots 21, 22 & 23 Crossman Road****Photo No 13      Plot No 4****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture  
within the subject land.

**Photo No 14      Plot No 4****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture  
within the subject land.

**Photo No 15      Plot No 4****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture  
within the subject land.





**Lots 21, 22 & 23 Crossman Road****Photo No 16      Plot No 4****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture  
within the subject land.

**Photo No 17      Plot No 4****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture  
within the subject land.

**Photo No 18      Plot No 4****Vegetation Classification**

Class G Grassland – Sown pasture  
G-26

**Description**

Broad acre grassland / pasture  
within the subject land.



**Lots 21, 22 & 23 Crossman Road****Photo No 19      Plot No 5****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Dispersed Eucalypts along internal the internal drainage line with less than 30% foliage coverage over grassland.

**Photo No 20      Plot No 5****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Dispersed Eucalypts along internal the internal drainage line with less than 30% foliage coverage over grassland.

**Photo No 21      Plot No 5****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Dispersed Eucalypts along internal the internal drainage line with less than 30% foliage coverage over grassland.





**Lots 21, 22 & 23 Crossman Road****Photo No 22      Plot No 6****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Wandoo / White Gums on gravelly ridge area over grassland or bare ground Overall foliage coverage less than 30% with moderate to low surface fuels.

**Photo No 23      Plot No 6****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Wandoo / White Gums on gravelly ridge area over grassland or bare ground Overall foliage coverage less than 30% with moderate to low surface fuels.

**Photo No 24      Plot No 6****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Wandoo / White Gums on gravelly ridge area over grassland or bare ground Overall foliage coverage less than 30% with moderate to low surface fuels.





**Lots 21, 22 & 23 Crossman Road****Photo No 25      Plot No 6****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Wandoo / White Gums on gravelly ridge area over grassland or bare ground. Overall foliage coverage less than 30% with moderate to low surface fuels.

**Photo No 26      Plot No 7****Vegetation Classification**

Class D Scrub - Closed scrub D-13

**Description**

Melaleuca scrub to 6m with scattered gums in low lying area adjacent to the river. Variable foliage coverage over grass with typical dead material on lower limbs with very high near surface fuel loads.

**Photo No 27      Plot No 7****Vegetation Classification**

Class D Scrub - Closed scrub D-13

**Description**

Melaleuca scrub to 6m with scattered gums in low lying area adjacent to the river. Variable foliage coverage over grass with typical dead material on lower limbs with very high near surface fuel loads.



**Lots 21, 22 & 23 Crossman Road****Photo No 28      Plot No 8****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

Road side verge vegetation to 25m.  
Marri, Jarrah, White Gum with other  
species over shrubs.

**Photo No 29      Plot No 8****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

Road side verge vegetation to 25m.  
Marri, Jarrah, White Gum with other  
species over shrubs.

**Photo No 30      Plot No 8****Vegetation Classification**

Class A Forest - Open forest A-03

**Description**

Road side verge vegetation to 25m.  
Marri, Jarrah, White Gum with other  
species over shrubs.





**Lots 21, 22 & 23 Crossman Road****Photo No 31 Plot No 9****Vegetation Classification**

Class G Grassland – Sown pasture G-26

**Description**

Unmanaged grassland within rural residential lots.

**Photo No 32 Plot No 9****Vegetation Classification**

Class G Grassland – Sown pasture G-26

**Description**

Unmanaged grassland within rural residential lots.

**Photo No 33 Plot No 10****Vegetation Classification**

Class B Woodland - Woodland B-05

**Description**

Eucalypts over grassland and gardens within rural residential lots on the southern side of Crossman Road being and extension of Plot 5.



## **Lots 21, 22 & 23 Crossman Road**

---

### **3.2 Assessment Outputs - BAL Contour Map**

A BAL Contour Map is a plan of the subject lot/s illustrating the potential radiant heat impacts and associated indicative BAL ratings in reference to any classified vegetation remaining within 100 metres of the assessment area after the development is completed. They may be subject to change arising from alterations to site conditions, amendments to AS3959, practice notes, or methodology. Individual BAL Assessments may vary depending upon the characteristics of the vegetation when the BAL Assessment is undertaken.

The modified vegetation plots for the developed site are shown in Figure 9 and this relates to the subject land being cleared for the construction of the subdivision as shown in Figure 6. This will result in:

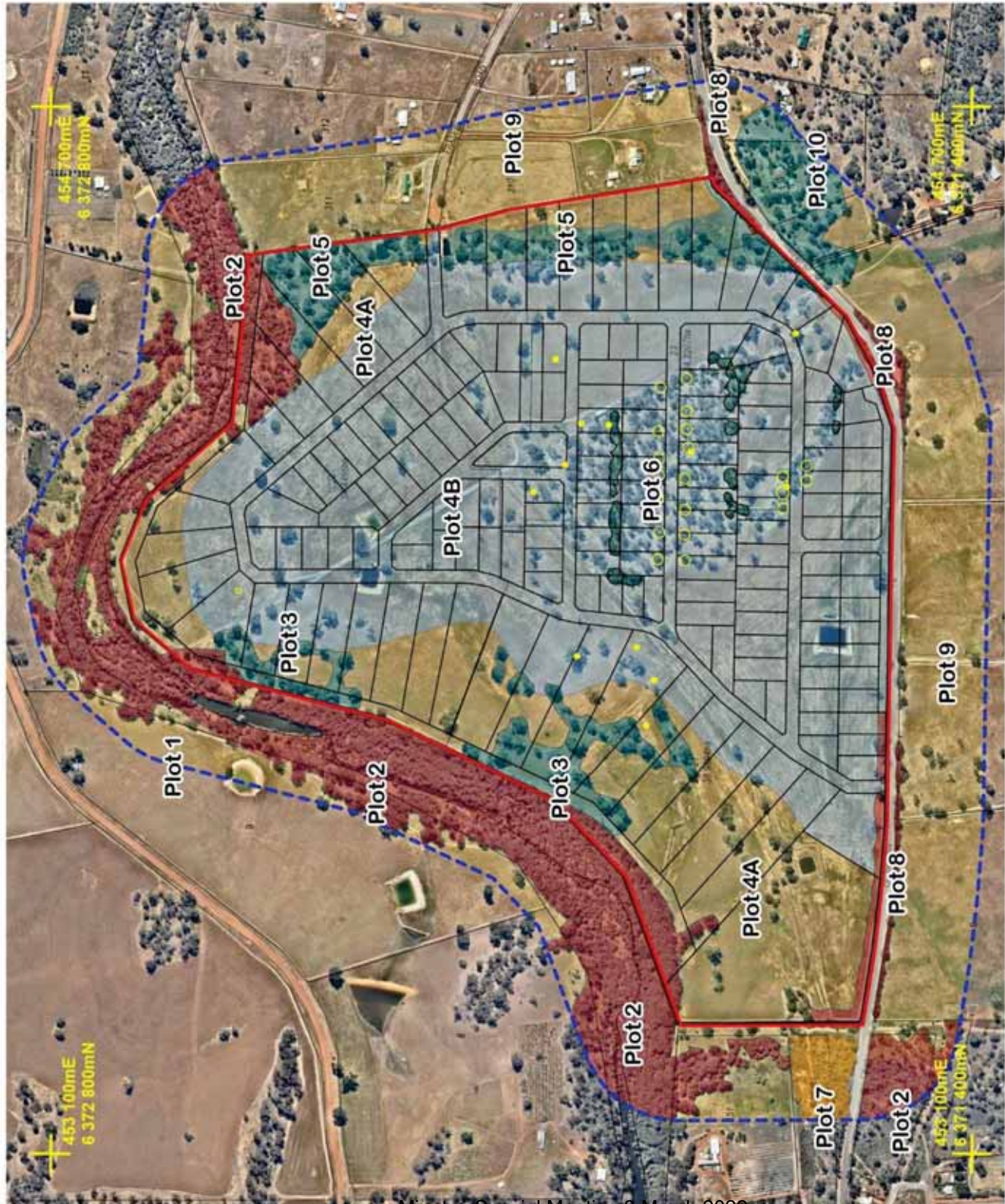
- Plot 3 being reduced in size with some minor clearing to reflect the boundary of the building exclusion area.
- Plot 4 being substantially reduced in size with its boundary reflecting the building exclusion area;
- Plot 5 being reduced in size with one area of clearing to reflect the boundary of the building exclusion area. There is also some additional revegetation being included.
- Plot 6 being substantially reduced in size to incorporate the proposed building envelopes and BAL-29 setbacks while retaining selected areas within the building exclusion zone; and
- Plot 8 being increased in size to incorporate the proposed landscaping areas on the structure plan.

The BAL Contour Map is shown in Figure 10 and the setbacks to the lots are documented in Table 3.

All of the proposed building envelopes and/or lots have a BAL-29 or lower rating. The assigned BAL rating may be reduced depending upon the final location of the dwelling within the building envelope and/or lot.

The BAL Contour Map also shows the boundary of land designated as being bushfire prone. A number of the building envelopes and/or lots are not designated as being bushfire prone and potentially won't require either a BAL Assessment nor the imposition of the AS3959 construction standards. Despite this, it is still recommended that the dwellings be constructed in accordance with the assigned BAL rating.





# LEGEND

SUBJECT LAND  
VEGETATION  
ASSESSMENT AREA  
(150m from the  
external boundary  
of the subject land)

GEO REFERENCE  
PROPOSED LOTS  
UPSLOPE

VEGETATION CLASS  
A FOREST  
B WOODLAND  
D SCRUB  
G GRASSLAND  
AREA TO BE MODIFIED TO  
LOW THREAT STATE  
HABITAT TREES  
EXCLUDED 2.2.3.2(f)  
(Trees retained in accordance  
with the Asset Protection Zone  
specifications)

Location Details: Lots 21, 22 & 23  
Crossman Rd, Ranford  
Assessment Date: 08/09/2021  
Prepared by: G Lush  
Accreditation Level: Level 2  
Accreditation Number: BPAD 27682  
Accreditation Expiry Date: February 2022  
Date of Aerial Photo: January 2018

0m 150m

FIGURE 9  
MODIFIED VEGETATION CLASSIFICATION



Job No 21-044  
Rev Description Preliminary  
Date 15/10/2021



# LEGEND

- SUBJECT LAND
- VEGETATION
- ASSESSMENT AREA  
(150m from the external  
boundary of the subject land)
- BAL CONTOUR  
ASSESSMENT AREA  
(100m from the external  
boundary of the subject land)
- BUILDING ENVELOPES
- BUSHFIRE PRONE LAND
- UPSLOPE
- VEGETATION PLOTS
- GEO REFERENCE
- INDICATIVE BUSHFIRE ATTACK LEVELS
- BAL - FZ
- BAL - 40
- BAL - 29
- BAL - 19
- BAL - 12.5
- BAL - Low

Location Details: Lots 21, 22 & 23  
 Crossman Rd, Ranford  
 Assessment Date: 08/09/2021  
 Prepared by: G Lush  
 Accreditation Level: Level 2  
 Accreditation Number: BPAD 27682  
 Accreditation Expiry Date: February 2022  
 Date of Aerial Photo: January 2018

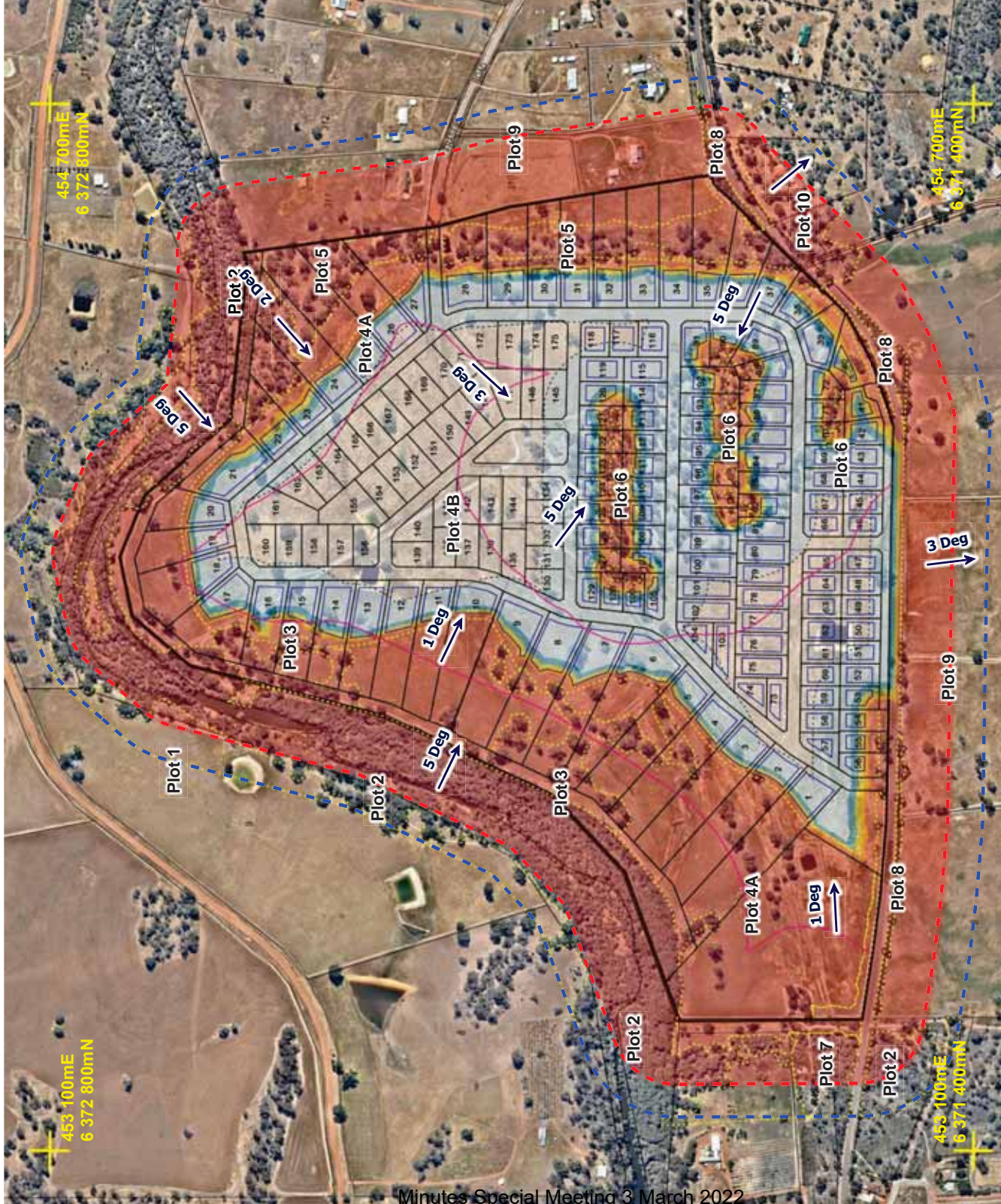


FIGURE 10  
BAL CONTOUR MAP

The BAL Contours shown on this plan are indicative and reflect the anticipated ratings for the completed development, based upon the assumptions referenced in the report. They should not be used for BAL Assessments and may be subject to change arising from alterations to the site conditions, AS3959, the Bushfire Guidelines, practice notes, or methodology.



Job No 21-044  
 Rev Description  
 A Preliminary



**Lots 21, 22 & 23 Crossman Road***Table 3 BAL Setbacks*

<b>Lot</b>	<b>Veg Plot (1)</b>	<b>Vegetation Classification</b>	<b>Slope</b>	<b>Building Envelope / Lot Boundary (2)</b>	<b>Assigned BAL Rating (3)</b>	<b>Designated Bushfire Prone Land (3)</b>
1	4A	Class G Grassland	>0-5	9m	BAL – 29	No
2	4A	Class G Grassland	>0-5	9m	BAL – 29	No
3	4A	Class G Grassland	>0-5	9m	BAL – 29	No
4	4A	Class G Grassland	>0-5	9m	BAL – 29	No
5	3	Class B Woodland	>0-5	14m	BAL – 29	No
6	3	Class B Woodland	>0-5	14m	BAL – 29	
7	3	Class B Woodland	>0-5	14m	BAL – 29	
8	3	Class B Woodland	>0-5	14m	BAL – 29	No
9	3	Class B Woodland	>0-5	14m	BAL – 29	No
10	4A	Class G Grassland	>0-5	9m	BAL – 29	No
11	4A	Class G Grassland	>0-5	9m	BAL – 29	No
12	4A	Class G Grassland	>0-5	9m	BAL – 29	No
13	3	Class B Woodland	>0-5	14m	BAL – 29	
14	3	Class B Woodland	>0-5	14m	BAL – 29	
15	3	Class B Woodland	>0-5	14m	BAL – 29	
16	3	Class B Woodland	>0-5	14m	BAL – 29	
17	3	Class B Woodland	>0-5	14m	BAL – 29	
18	4A	Class G Grassland	>0-5	9m	BAL – 29	
19	4A	Class G Grassland	>0-5	9m	BAL – 29	
20	4A	Class G Grassland	>0-5	9m	BAL – 29	
21	2	Class A - Forest	>0-5	27m	BAL – 29	
22	2	Class A - Forest	>0-5	27m	BAL – 29	
23	2	Class A - Forest	>0-5	27m	BAL – 29	
24	4A	Class G Grassland	>0-5	9m	BAL – 29	
25	4A	Class G Grassland	>0-5	9m	BAL – 29	
26	4A	Class G Grassland	>0-5	9m	BAL – 29	
27	4A	Class G Grassland	>0-5	9m	BAL – 29	
28	5	Class B Woodland	>0-5	14m	BAL – 29	
29	5	Class B Woodland	>0-5	14m	BAL – 29	
30	5	Class B Woodland	>0-5	14m	BAL – 29	
31	5	Class B Woodland	>0-5	14m	BAL – 29	
32	5	Class B Woodland	>0-5	14m	BAL – 29	
33	5	Class B Woodland	>0-5	14m	BAL – 29	
34	5	Class B Woodland	>0-5	14m	BAL – 29	
35	5	Class B Woodland	>0-5	14m	BAL – 29	
36	5	Class B Woodland	>0-5	14m	BAL – 29	

**Lots 21, 22 & 23 Crossman Road**

<b>Lot</b>	<b>Veg Plot (1)</b>	<b>Vegetation Classification</b>	<b>Slope</b>	<b>Building Envelope / Lot Boundary (2)</b>	<b>Assigned BAL Rating (3)</b>	<b>Designated Bushfire Prone Land (3)</b>
37	5	Class B Woodland	Upslope	19m	BAL – 29	
38	5	Class B Woodland	Upslope	15m	BAL – 29	
39	8	Class A - Forest	Upslope	27m	BAL – 29	
40	8	Class A - Forest	Upslope	21m	BAL – 29	
41	8	Class A - Forest	Upslope	21m	BAL – 29	
42	8	Class A - Forest	Upslope	21m	BAL – 29	
43	8	Class A - Forest	Upslope	50m	BAL – 12.5	
44	9	Class G Grassland	Upslope	44m	BAL – 12.5	
45	9	Class G Grassland	Upslope	44m	BAL – 12.5	
46	9	Class G Grassland	Upslope	44m	BAL – 12.5	
47	9	Class G Grassland	Upslope	44m	BAL – 12.5	No
48	9	Class G Grassland	Upslope	44m	BAL – 12.5	No
49	9	Class G Grassland	Upslope	44m	BAL – 12.5	No
50	9	Class G Grassland	Upslope	44m	BAL – 12.5	No
51	9	Class G Grassland	Upslope	44m	BAL – 12.5	No
52	8	Class A - Forest	Upslope	42m	BAL – 12.5	No
53	8	Class A - Forest	Upslope	21m	BAL – 29	No
54	8	Class A - Forest	Upslope	21m	BAL – 29	No
55	8	Class A - Forest	Upslope	21m	BAL – 29	No
56	8	Class A - Forest	Upslope	21m	BAL – 29	No
57	8	Class A - Forest	Upslope	70m	BAL – 12.5	No
58	8	Class A - Forest	Upslope	70m	BAL – 12.5	No
59	8	Class A - Forest	Upslope	75m	BAL – 12.5	No
60	8	Class A - Forest	Upslope	80m	BAL – 12.5	No
61	8	Class A - Forest	Upslope	103m	BAL – LOW	No
62	9	Class G Grassland	Upslope	102m	BAL – LOW	No
63	9	Class G Grassland	Upslope	102m	BAL – LOW	No
64	9	Class G Grassland	Upslope	102m	BAL – LOW	
65	9	Class G Grassland	Upslope	102m	BAL – LOW	
66	6	Class B Woodland	Upslope	92m	BAL – 12.5	
67	6	Class B Woodland	Upslope	92m	BAL – 12.5	
68	6	Class B Woodland	>0-5	62m	BAL – 12.5	
69	6	Class B Woodland	>0-5	27m	BAL – 12.5	
70	6	Class B Woodland	>0-5	17m	BAL – 29	
71	6	Class B Woodland	>0-5	17m	BAL – 29	
72	6	Class B Woodland	>0-5	17m	BAL – 29	
73	4A	Class G Grassland	>0-5	102m	BAL – LOW	No



**Lots 21, 22 & 23 Crossman Road**

<b>Lot</b>	<b>Veg Plot (1)</b>	<b>Vegetation Classification</b>	<b>Slope</b>	<b>Building Envelope / Lot Boundary (2)</b>	<b>Assigned BAL Rating (3)</b>	<b>Designated Bushfire Prone Land (3)</b>
74	4A	Class G Grassland	>0-5	90m	BAL – LOW	No
75	4A	Class G Grassland	>0-5	>100m	BAL – LOW	No
76	4A	Class G Grassland	>0-5	>100m	BAL – LOW	No
77	4A	Class G Grassland	>0-5	>100m	BAL – LOW	
78	4A	Class G Grassland	>0-5	>100m	BAL – LOW	
79	6	Class B Woodland	Upslope	80m	BAL – 12.5	
80	6	Class B Woodland	Upslope	47m	BAL – 12.5	
81	6	Class B Woodland	Upslope	14m	BAL – 29	
82	6	Class B Woodland	Upslope	14m	BAL – 29	
83	6	Class B Woodland	Upslope	14m	BAL – 29	
84	6	Class B Woodland	Upslope	14m	BAL – 29	
85	6	Class B Woodland	Upslope	14m	BAL – 29	
86	6	Class B Woodland	Upslope	14m	BAL – 29	
87	6	Class B Woodland	Upslope	14m	BAL – 29	
88	6	Class B Woodland	Upslope	14m	BAL – 29	
89	6	Class B Woodland	Upslope	14m	BAL – 29	
90	6	Class B Woodland	Upslope	14m	BAL – 29	
91	6	Class B Woodland	>0-5	17m	BAL – 29	
92	6	Class B Woodland	>0-5	17m	BAL – 29	
93	6	Class B Woodland	>0-5	17m	BAL – 29	
94	6	Class B Woodland	>0-5	17m	BAL – 29	
95	6	Class B Woodland	>0-5	17m	BAL – 29	
96	6	Class B Woodland	>0-5	17m	BAL – 29	
97	6	Class B Woodland	>0-5	17m	BAL – 29	
98	6	Class B Woodland	>0-5	17m	BAL – 29	
99	6	Class B Woodland	Upslope	30m	BAL – 12.5	
100	6	Class B Woodland	Upslope	63m	BAL – 12.5	
101	6	Class B Woodland	Upslope	60m	BAL – 12.5	
102	6	Class B Woodland	Upslope	70m	BAL – 12.5	
103	3	Class B Woodland	>0-5	95m	BAL – 12.5	
104	3	Class B Woodland	>0-5	90m	BAL – 12.5	
105	6	Class B Woodland	Upslope	14m	BAL – 29	
106	6	Class B Woodland	Upslope	14m	BAL – 29	
107	6	Class B Woodland	>0-5	17m	BAL – 29	
108	6	Class B Woodland	>0-5	17m	BAL – 29	
109	6	Class B Woodland	>0-5	17m	BAL – 29	
110	6	Class B Woodland	>0-5	17m	BAL – 29	

**Lots 21, 22 & 23 Crossman Road**

<b>Lot</b>	<b>Veg Plot (1)</b>	<b>Vegetation Classification</b>	<b>Slope</b>	<b>Building Envelope / Lot Boundary (2)</b>	<b>Assigned BAL Rating (3)</b>	<b>Designated Bushfire Prone Land (3)</b>
111	6	Class B Woodland	>0-5	17m	BAL – 29	
112	6	Class B Woodland	>0-5	17m	BAL – 29	
113	6	Class B Woodland	>0-5	17m	BAL – 29	
114	6	Class B Woodland	>0-5	19m	BAL – 29	
115	6	Class B Woodland	Upslope	52m	BAL – 12.5	
116	6	Class B Woodland	Upslope	71m	BAL – 12.5	
117	6	Class B Woodland	Upslope	88m	BAL – 12.5	
118	6	Class B Woodland	Upslope	88m	BAL – 12.5	
119	6	Class B Woodland	Upslope	45m	BAL – 12.5	
120	6	Class B Woodland	Upslope	14m	BAL – 29	
121	6	Class B Woodland	Upslope	14m	BAL – 29	
122	6	Class B Woodland	Upslope	14m	BAL – 29	
123	6	Class B Woodland	Upslope	14m	BAL – 29	
124	6	Class B Woodland	Upslope	14m	BAL – 29	
125	6	Class B Woodland	Upslope	14m	BAL – 29	
126	6	Class B Woodland	Upslope	14m	BAL – 29	
127	6	Class B Woodland	Upslope	14m	BAL – 29	
128	6	Class B Woodland	Upslope	14m	BAL – 29	
129	6	Class B Woodland	Upslope	14m	BAL – 29	
130	6	Class B Woodland	Upslope	66m	BAL – 12.5	
131	6	Class B Woodland	Upslope	66m	BAL – 12.5	
132	6	Class B Woodland	Upslope	66m	BAL – 12.5	
133	6	Class B Woodland	Upslope	66m	BAL – 12.5	
134	6	Class B Woodland	Upslope	66m	BAL – 12.5	
135	3	Class B Woodland	>0-5	92m	BAL – 12.5	
136	4A	Class G Grassland	>0-5	>100m	BAL – LOW	
137	4A	Class G Grassland	>0-5	>100m	BAL – LOW	No
138	4A	Class G Grassland	>0-5	>100m	BAL – LOW	No
139	4A	Class G Grassland	>0-5	>100m	BAL – LOW	No
140	4A	Class G Grassland	>0-5	>100m	BAL – LOW	No
141	4A	Class G Grassland	>0-5	>100m	BAL – LOW	No
142	4A	Class G Grassland	>0-5	>100m	BAL – LOW	
143	4A	Class G Grassland	>0-5	>100m	BAL – LOW	
144	4A	Class G Grassland	>0-5	>100m	BAL – LOW	
145	6	Class B Woodland	Upslope	66m	BAL – 12.5	
146	5	Class B Woodland	>0-5	>100m	BAL – LOW	
147	5	Class B Woodland	>0-5	>100m	BAL – LOW	

**Lots 21, 22 & 23 Crossman Road**

Lot	Veg Plot (1)	Vegetation Classification	Slope	Building Envelope / Lot Boundary (2)	Assigned BAL Rating (3)	Designated Bushfire Prone Land (3)
148	5	Class B Woodland	>0-5	>100m	BAL – LOW	
149	5	Class B Woodland	>0-5	>100m	BAL – LOW	
150	5	Class B Woodland	>0-5	>100m	BAL – LOW	
151	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
152	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
153	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
154	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
155	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
156	3	Class B Woodland	>0-5	>100m	BAL – LOW	No
157	3	Class B Woodland	>0-5	>100m	BAL – LOW	No
158	3	Class B Woodland	>0-5	96m	BAL – 12.5	No
159	3	Class B Woodland	>0-5	96m	BAL – 12.5	No
160	3	Class B Woodland	>0-5	96m	BAL – 12.5	No
161	2	Class A - Forest	>0-5	90m	BAL – 12.5	
162	2	Class A - Forest	>0-5	86m	BAL – 12.5	
163	2	Class A - Forest	>0-5	86m	BAL – 12.5	
164	2	Class A - Forest	>0-5	89m	BAL – 12.5	
165	2	Class A - Forest	>0-5	89m	BAL – 12.5	
166	2	Class A - Forest	>0-5	96m	BAL – 12.5	
167	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
168	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
169	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
170	5	Class B Woodland	>0-5	>100m	BAL – LOW	No
171	5	Class B Woodland	>0-5	98m	BAL – 12.5	
172	5	Class B Woodland	>0-5	90m	BAL – 12.5	
173	5	Class B Woodland	>0-5	90m	BAL – 12.5	
174	5	Class B Woodland	>0-5	96m	BAL – 12.5	
175	6	Class B Woodland	Upslope	92m	BAL – 12.5	

**Notes**

(1)	The selected vegetation plot is the plot with the highest BAL rating.
(2)	The separation distance is measured to the nearest point on the defined building envelope boundary or lot boundary as designated. For the lots shown in <b>grey</b> , the BAL setback has been measured to the lot boundary.
(3)	The assigned BAL rating is the highest rating for the building envelope or lot boundary. This may be reduced depending upon where the dwelling is located. The lots with no building envelope shown are still subject to the development setbacks in the Scheme.
(4)	Identifies building envelopes and/or lots which are not designated as being bushfire prone.



## 4.0 Identification of Bushfire Hazard Issues

The context of the subject land to the surrounding district is shown in Figure 1.

Bushfires occur regularly within the district and the proposed subdivision and development will introduce substantial values (property and people) which must be protected from the risk posed by the potential bushfire hazard. The bushfire risk is recognised in the Local Emergency Arrangements as potentially have catastrophic consequences for the community but only in rare or exceptional circumstances.

The bushfire hazard primarily relates to the vegetation on the site and in the surrounding area, the type and extent (area) of vegetation and its characteristics. The primary bushfire hazard is the Hotham River corridor and associated vegetation. This extends along the northern boundary of the site for 1.8kms and is up to 100m wide. The immediately surrounding land is predominantly cleared land being either broad acre grazing land or existing rural residential development. This typically has a moderate bushfire hazard level, with patches of local vegetation with an extreme bushfire hazard level.

There are large separate parcels of remnant vegetation within the district, up to 5kms from the site.

The consideration of the bushfire hazard issues also relates to the type of bushfire event being:

- A large scale "landscape" fire which extends for over a kilometre and is likely to occur over lengthy period which could be several days; or
- A local or neighbourhood fire with a relatively smaller fire run, noting that the models used to quantify bushfire behaviour in Australian Standard AS3959 are based on observations of fire behaviour burning in contiguous vegetation over distances that exceed 100m.

It is potentially possible for either a large scale "landscape" fire or a local neighbourhood fire to threaten the site from any direction. However, there is district access in multiple directions from the site to the east, west and north which will allow for safe egress by residents.

The bushfire hazard will also be addressed by the proposed management measures outlined in the following sections.

**Lots 21, 22 & 23 Crossman Road****5.0 Assessment Against the Bushfire Protection Criteria****5.1 BPC Elements**

The proposed mitigation measures are referenced below.

**5.1.1 Element 1 Location**

<b>Intent:</b> To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.	
<b>Acceptable Solution</b>	<b>Compliance</b>
<b><u>A1.1 Development location</u></b> The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL-29 or below.	The primary bushland hazard is on the northern side of the property being the Hotham River. This is a linear corridor of vegetation approximately 100m wide. All the proposed building envelopes / lots have a BAL rating of BAL - 29 or below.

**5.1.2 Element 2 Siting and Design of Development**

<b>Intent:</b> To ensure that the siting and design of development minimises the level of bushfire impact.	
<b>Acceptable Solution</b>	<b>Compliance</b>
<b><u>A2.1 Asset Protection Zone</u></b> Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements: <ul style="list-style-type: none"> <li>• Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m<sup>2</sup> (BAL-29) in all circumstances.</li> <li>• Location: the APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity.</li> <li>• Management: the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones'.</li> </ul>	The minimum development setbacks in the Scheme are generally smaller than the required BAL-29 setbacks. The larger (4,000sqm plus) sized lots can potentially contain the APZ within their boundaries. The smaller (2,00sqm) lots are unlikely to be able contain the APZ within their boundaries and this will be shared with adjacent properties. <ul style="list-style-type: none"> <li>• To ensure that there is an appropriate development setback and provision of the APZ: The building envelopes for these lots have been modified; and</li> <li>• These lots will be cleared as part of the subdivision construction.</li> </ul>

## **Lots 21, 22 & 23 Crossman Road**

### 5.1.3 Element 3 Vehicular Access

<b>Intent:</b> To ensure that the vehicular access serving a subdivision/development is available and safe during a bushfire event.	
<b>Acceptable Solution</b>	<b>Compliance</b>
<u>A3.1 Two access routes</u> Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations and are available to all residents/the public at all times and under all weather conditions.	Crossman Road provides access in two directions connecting to major regional roads as shown in Figure 1. Fraser Road also provides an additional access from the north eastern portion of the site connecting into Days Road, which provide access to the north.
<u>A3.2 Public road</u> A public road is to meet the requirements in Table 6, Column 1.	The vehicular access technical requirements (BPC Table 6) are shown in Table 4 at the end of this section.  The proposed subdivision roads are to be designed in accordance with Institute of Public Works Engineering Australia WA Division Inc. (2009) Local Government Subdivisional Guidelines.
<u>A3.3 Cul-de-sac or dead-end road</u> A cul-de-sac and/or a dead end road should be avoided in bushfire prone areas. Where no alternative exists (i.e. the lot layout already exists and/or will need to be demonstrated by the proponent), the following requirements are to be achieved: <ul style="list-style-type: none"> <li>• Requirements in Table 6, Column 2;</li> <li>• Maximum length: 200 metres (if public emergency access is provided between cul-de-sac heads maximum length can be increased to 600 metres provided no more than eight lots are serviced and the emergency access way is no more than 600 metres); and</li> <li>• Turn-around area requirements, including a minimum 17.5 metre diameter head.</li> </ul>	Not applicable as there is no proposed cul-de-sac.



**Lots 21, 22 & 23 Crossman Road**

Acceptable Solution	Compliance
<p><u>A3.4 Battle-axe</u></p> <p>Battle-axe access leg should be avoided in bushfire prone areas. Where no alternative exists, (this will need to be demonstrated by the proponent) all of the following requirements are to be achieved:</p> <ul style="list-style-type: none"> <li>• Requirements in Table 6, Column 3;</li> <li>• Maximum length: 600 metres; and</li> <li>• Minimum width: six metres.</li> </ul>	<p>Not applicable as there is no proposed battle axe lot.</p>
<p><u>A3.5 Private driveway longer than 50 metres</u></p> <p>A private driveway is to meet all of the following requirements:</p> <ul style="list-style-type: none"> <li>• Requirements in Table 6, Column 3;</li> <li>• Required where a house site is more than 50 metres from a public road;</li> <li>• Passing bays: every 200 metres with a minimum length of 20 metres and a minimum width of two metres (i.e. the combined width of the passing bay and constructed private driveway to be a minimum six metres);</li> <li>• Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres) and within 50 metres of a house; and</li> <li>• Any bridges or culverts are able to support a minimum weight capacity of 15 tonnes.</li> <li>• All-weather surface (i.e. compacted gravel, limestone or sealed).</li> </ul>	<p>Not applicable as all the building envelopes and minimum front boundary setbacks in the Scheme are less than 50m. Some of the larger lots could potentially have driveways longer than 50m and these will need to comply the driveway specifications.</p>
<p><u>A3.6 Emergency access way</u></p> <p>An access way that does not provide through access to a public road is to be avoided in bushfire prone areas. Where no alternative exists (this will need to be demonstrated by the proponent), an emergency access way is to be provided as an alternative link to a public road during emergencies. An emergency access way is to meet all of the following requirements:</p> <ul style="list-style-type: none"> <li>• Requirements in Table 6, Column 4;</li> <li>• No further than 600 metres from a public road;</li> <li>• Provided as right of way or public access easement in gross to ensure accessibility to the public and fire services during an emergency; and</li> <li>• Must be signposted.</li> </ul>	<p>Not applicable as there is no emergency access way.</p>

**Lots 21, 22 & 23 Crossman Road**

Acceptable Solution	Compliance
<p><u>A3.7 Fire service access routes (perimeter roads)</u></p> <p>Fire service access routes are to be established to provide access within and around the edge of the subdivision and related development to provide direct access to bushfire prone areas for fire fighters and link between public road networks for firefighting purposes. Fire service access routes are to meet the following requirements:</p> <ul style="list-style-type: none"> <li>• Requirements Table 6, Column 5;</li> <li>• Provided as right of ways or public access easements in gross to ensure accessibility to the public and fire services during an emergency</li> <li>• Surface: all-weather (i.e. compacted gravel, limestone or sealed)</li> <li>• Dead end roads are not permitted;</li> <li>• Turn-around areas designed to accommodate type 3.4 appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres);</li> <li>• No further than 600 metres from a public road;</li> </ul> <p><u>A3.8 Firebreak width</u></p> <p>Lots greater than 0.5 hectares must have an internal perimeter firebreak of a minimum width of three metres or to the level as prescribed in the local firebreak notice issued by the local government.</p>	<p>A FSAR is to be provided around the northern boundary separating the development from the river corridor. This is shown on the structure plan as a trail.</p> <p>While the FSAR will be located within the proposed foreshore reserve, there will be a number connections through the proposed lots back to the subdivision road. These will be created as easements on the plan of subdivision.</p> <p>The FSAR will be provided in accordance with the stated specifications including the provision of gates and signage.</p> <p>The lots will be maintained in accordance with the Shire's Bush Fire Notice.</p>

Table 4 Vehicular Access Technical Requirements

Technical Requirements	1 Public Road	2 Cul-de- sac	3 Private Driveway	4 Emergency Access way	5 Fire service Access routes
Minimum trafficable surface (m)	6*	6*	4	6*	6*
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 metres	1:10	1:10	1:10	1:10	1:10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves min inner radius (m)	8.5	8.5	8.5	8.5	8.5
*Refer to E3.2 Public roads: Trafficable surface					

**Lots 21, 22 & 23 Crossman Road****5.1.4 Element 4 Water**

<b>Intent:</b> To ensure that water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire.	
<b>Acceptable Solution</b>	<b>Compliance</b>
<u>A4.1 Reticulated areas</u> The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services.	Yes, the subdivision will be provided with reticulated water with associated fire hydrants, as required by the provisions of Special Use Zone No 2.
<u>A4.2 Non-reticulated areas</u> Water tanks for fire fighting purposes with a hydrant or standpipe are provided and meet the following requirements: <ul style="list-style-type: none"> <li>• Volume: minimum 50,000 litres per tank;</li> <li>• Ratio of tanks to lots: minimum one tank per 25 lots (or part thereof);</li> <li>• Tank location: no more than two kilometres to the further most house site within the residential development to allow a 2.4 fire appliance to achieve a 20 minute turnaround time at legal road speeds;</li> </ul>	Not applicable
<u>A4.3 Individual lots within non-reticulated areas</u> Single lots above 500 square metres need a dedicated static water supply on the lot that has the effective capacity of 10,000 litres.	Not applicable



## **Lots 21, 22 & 23 Crossman Road**

---

### **5.2 Additional Management Measures**

#### **5.2.1 Individual Water Supply**

The provision of and maintenance of reliable water supplies is essential in fire control and a suitable water supply must be readily available and accessible to Fire Appliances at all times.

While the lots will be connected to a reticulated water supply and hydrants, fire protection will be improved by having an additional water supply for each dwelling. This will also assist landowners in being able to provide protection, especially from spot fires. This is more relevant on lots **greater than 4,000sqm** which are likely to have hazard vegetation outside of the dwelling asset protection zone.

The water supply should be a minimum of 10,000L as follows:

- a) A 50mm male camlock couplings with full flow valves;
- b) The fittings positioned at the base of the tank so that the total tank capacity is available for firefighting purposes at any time;
- c) An adequate hard standing access must also be provided adjacent to such connection/s and must be readily identifiable; and
- d) A nonelectric firefighting pump (normally 5.5hp) with sufficient hose to protect the dwelling and the surrounding low fuel zone.

The tank should not form part of any domestic potable water supply.

#### **5.2.2 Purchaser Advice**

All prospective purchasers must be made aware of the fire management issues, measures and responsibilities associated with the development and subdivision. This can be a notification placed upon the Certificate of Title of all lots advising landowners of this Bushfire Management Plan and BAL requirements.

#### **5.2.3 Staging**

The development of the estate may have staged construction. In the event that the subdivision is staged then it is necessary to ensure that appropriate interim measures are provided. These may include:

- Ensuring that there are two access routes for each stage. This may require the provision of interim access or an emergency access way;
- Creation of additional low fuel zones to ensure that the intended BAL ratings can be applied; or
- The provision of boundary firebreaks especially on any balance lot.

For any proposed stage of the subdivision a statement and plan of the proposed interim fire management measures will be submitted and approved by the local government.

#### **5.2.4 Bushfire Survival Plan**

Before the start of the fire season landowners need to decide what to do in the event of a bushfire including:

- Property preparation and maintenance;
- Knowing the bushfire warning levels and triggers for when to leave;
- Knowing where to go; and
- Knowing which way to go.

This can be accomplished by the preparation of a Bushfire Survival Plan and Preparedness-Toolkit is available online at:

- ❖ <https://mybushfireplan.wa.gov.au/> or can be downloaded from;
- ❖ <https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES-Fire-Chat-Bushfire-Preparedness-Toolkit.pdf>

**Lots 21, 22 & 23 Crossman Road**

## 6.0 Responsibilities for Implementation and Management of the Bushfire Measures

The management of the risk posed by bushfires is a shared responsibility between landowners, government and industry. These responsibilities are documented in Table 5 and shown spatially in Figure 11.

The management measures listed below should not be construed to assure total bushfire protection and do not guarantee that a building will not be damaged in a bushfire. The severity of a bushfire will depend upon the vegetation fuel loadings; the prevailing weather conditions and the implementation of appropriate fire management measures.

*Table 5 Implementation*

No	MANAGEMENT ACTION
<b>1.0 Developer Prior to Issue of Titles - Subdivision</b>	
1.1	Compliance with the applicable measures in this Bushfire Management Plan relating to the subdivision construction including those outlined in Section 5.0, Figure 11 Spatial Measures and any vegetation modifications required to achieve the proposed BAL ratings.
1.2	A restrictive covenant, or other approved mechanism, to be implemented to ensure that no habitable buildings are constructed in the portions of the proposed lots that have been assessed as BAL- 40 or BAL-Flame Zone.
1.3	Clearing of vegetation as shown in Figure 6 to ensure that the assigned BAL ratings are provided.
1.4	Construction of the subdivision roads to standards outlined in the BMP to ensure safe access and egress.
1.5	Construction of the Fire Service Access Route (FSAR) in accordance with the standards: <ul style="list-style-type: none"> <li>• 6m trafficable surface;</li> <li>• 6m horizontal clearance to vegetation;</li> <li>• 4.5m vertical clearance to vegetation;</li> <li>• Minimum weight capacity of 15 tonnes;</li> <li>• Minimum 8.5m inner radius for curves;</li> <li>• All-weather surface (i.e. compacted gravel, limestone or sealed);</li> <li>• Provision of gates being a minimum width of 3.6m at all boundary crossings;</li> <li>• Provision of turn-around areas designed to accommodate type 3.4 appliances (17.5m diameter) as shown on Figure 11;</li> <li>• Provision of signage stating "For Emergency Access Only" where the FSAR connects to public roads.</li> </ul>
1.6	Where the Fire Service Access Route (FSAR) is located on the proposed lots, it shall be provided as right of way or public access easement.
1.7	Provision of boundary firebreaks in accordance with the Shire's Bush Fire Notice during the prescribed fire season.
1.8	Preparing a notification be included on the certificate of titles for lots having a BAL-12.5 rating or higher advising that the land is bushfire prone and subject to a Bushfire Management Plan.
1.9	For any proposed stage of the subdivision a statement and plan of the proposed interim fire management measures is to be submitted and approved by the Shire as an adjunct to Figure 11.
1.10	Provision of a reticulated water supply and hydrants to service all lots.

**Lots 21, 22 & 23 Crossman Road**

<b>2.0 Developer Prior to Sale of Lots - Purchase</b>	
2.1	Providing prospective purchasers with a summary of this BMP.
2.2	<p>Establish the Asset Protection Zone (APZ) in accordance with the specifications in Schedule 1 Appendix 4 of the Guidelines for Planning in Bushfire Prone Areas as follows:</p> <ol style="list-style-type: none"> <li>1) Fences: within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.</li> <li>2) Objects: within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.</li> <li>3) Fine Fuel load: combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.</li> <li>4) Trees (&gt; 5 metres in height): trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.</li> <li>5) Shrubs (0.5 metres to 5 metres in height): should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m<sup>2</sup> in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.</li> <li>6) Ground covers (&lt;0.5 metres in height): can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.</li> <li>7) Grass: should be managed to maintain a height of 100 millimetres or less.</li> </ol>
<b>3.0 Landowner Prior to Occupancy - Development Application</b>	
3.1	Ensuring that any application for a building permit for a dwelling on bushfire prone land is to include an individual BAL assessment to confirm that sufficient land has been cleared to provide for BAL-29 setbacks.
3.2	<p>Where any driveway is proposed to be more than 50m in length it is comply with the following:</p> <ul style="list-style-type: none"> <li>• A minimum 4m trafficable surface (0.5m shoulders);</li> <li>• Minimum 6m horizontal clearance to vegetation;</li> <li>• Minimum 4.5m vertical clearance to vegetation;</li> <li>• Have an all-weather surface (i.e. compacted gravel, limestone or sealed); and</li> <li>• Provide a 17.5m diameter turning circle adjacent to the dwelling.</li> </ul>
3.3	<p>On all lots greater than 4,000sqm each dwelling shall be provided with a static water supply tank having a minimum capacity of 10,000L specifically for firefighting with:</p> <ol style="list-style-type: none"> <li>a) A 50mm male camlock coupling with full flow valves;</li> <li>b) The fittings positioned at the base of the tank so that the total tank capacity is available for firefighting purposes at any time;</li> <li>c) An adequate hard standing access must also be provided adjacent to such connection/s and must be readily identifiable; and</li> <li>d) A nonelectric firefighting pump (normally 5.5hp) with sufficient hose to protect the dwelling and the surrounding low fuel zone.</li> </ol>



**Lots 21, 22 & 23 Crossman Road**

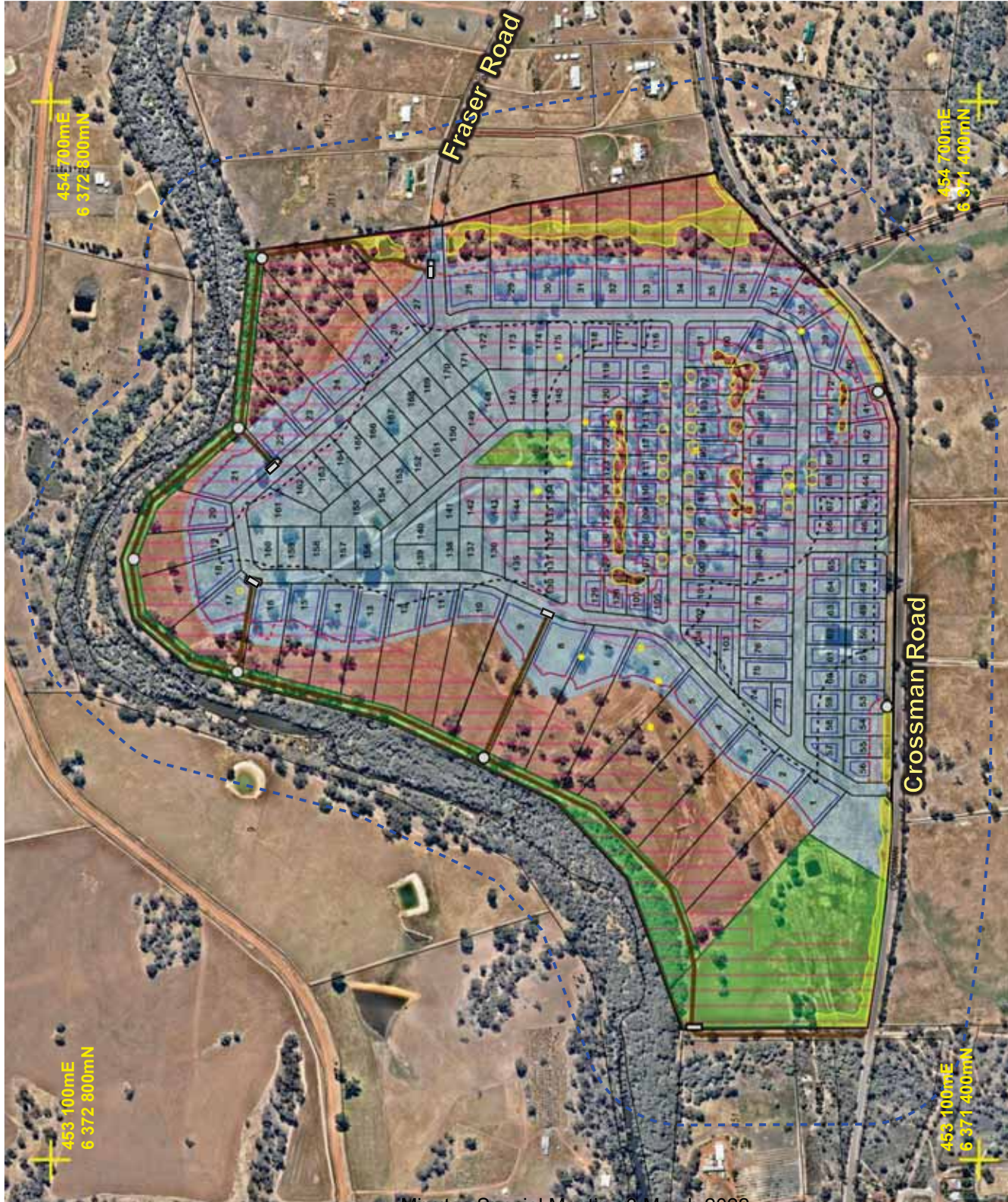
---

<b>4.0 Landowner - Ongoing</b>	
4.1	To be aware that they live in a bushfire prone environment and need to take the initiative in learning about, preparing for and responding to bushfires.
4.2	Prepare a bushfire survival plan and review this annually prior to the fire season.
4.3	Undertaking regular maintenance of their property in preparation for the annual fire season.
4.4	Providing a 20m asset protection zone around the dwelling in accordance with Item 2.2 above.
4.5	Ensuring that all fire mitigation measures shall be completed by the date prescribed in Shire's Bush Fire Notice.
<b>5.0 Local Government - Ongoing</b>	
5.1	Ensuring Building Permit Applications and Development Applications are compliant with the building and land use planning provisions.
5.2	Enforce compliance with its annual Bush Fire Notice.

# LEGEND

- SUBJECT LAND
- GEO REFERENCE
- 150m BUFFER
- BUILDING ENVELOPES
- BUILDING EXCLUSION AREA
- DESIGNATED BUSHFIRE PRONE LAND (2021)
- LOW THREAT VEGETATION (In accordance with the Asset Protection Zone specifications)
- PUBLIC OPEN SPACE
- HABITAT TREES
- REVEGETATION / LANDSCAPING
- RETAINED TREES (In accordance with the Asset Protection Zone specifications)
- RETAINED TREE GROUP (Class B Woodland)
- BAL - 29 SETBACK
- BAL - Low SETBACK
- FIRE SERVICE ACCESS ROUTE (6m trafficable surface)
- TURNING CIRCLE 17.5m diameter
- FSAR GATE & SIGN "Emergency Access Only"

Attachment 8.1.1C







**Perth Geotechnics**

ABN: 78 532 814 778

PO Box 165, Gosnells WA 6990

P: 08 6396 2675, M: 0430 130 677

E: [info@perthgeotechnics.com.au](mailto:info@perthgeotechnics.com.au)

[www.perthgeotechnics.com.au](http://www.perthgeotechnics.com.au)

## Report

### Site and Soil Evaluation for Onsite Wastewater Management Lots 21, 22 and 23 Crossman Road, Ranford WA

#### Client:

TAQWA Holdings Pty Ltd

C/o Dynamic Planning and Developments

Reference:SSE123621PG\_Rev0

Date: 10 December 2021





**Perth Geotechnics**

ABN: 78 532 814 778  
 PO Box 165, Gosnells WA 6990  
 P: 08 6396 2675, M: 0430 130 677  
 E: info@perthgeotechnics.com.au  
 www.perthgeotechnics.com.au

## Quality Information

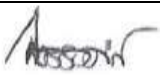
Document Report - Site and Soil Evaluation for Onsite Wastewater Management  
 Lots 21, 22 and 23 Crossman Road, Ranford WA

Project Ref SSE123621PG\_Rev0

Date 10 December 2021

Prepared for TAQWA Holdings Pty Ltd

### Revision History

Rev.	Date	Details	Prepared by	Reviewed by	
0	10/12/2021	Final Issue	RK	Dr Md Salequzzaman (Environmental Scientists)	
				Authorised	
				Name/Position	Signature
				Mohammad Amzad Hossain Sr Geotechnical Engineer	

## TABLE OF CONTENTS

1.0	INTRODUCTION .....	5
1.1	Project Background .....	5
1.2	Planning Context .....	5
1.3	Proposed Development .....	6
1.4	Objective of this Report .....	7
2.0	SITE ASSESSMENT .....	7
2.1	Site Setting .....	7
2.2	Climate .....	7
2.3	Topography .....	7
2.4	Landforms, Soils (Geology) and Land Capability .....	8
2.4.1	Dwellingup Subsystem, DW .....	8
2.4.2	Michibin Subsystem, MN .....	9
2.4.3	Williams Subsystem, WL .....	9
2.5	Acid sulfate soils .....	9
2.6	Groundwater .....	9
2.7	Sewage Sensitive Areas .....	10
2.8	Public Drinking Water Source Areas .....	11
2.9	Flood Potential .....	11
2.10	Bush Forever and Wetlands .....	12
2.11	Horizontal and Vertical Setback Distances .....	12
2.12	Available Land Application Area (LAA) .....	13
3.0	SOIL ASSESSMENT .....	13
3.1	General .....	13
3.2	Inferred Ground Conditions, i.e., Soil Layers .....	15
3.2.1	Soil Layers at Area A - The Hillock Zone .....	15
3.2.2	Soil Layers at Area B - The Hotham River floodplain .....	15
3.3	Groundwater Level from Investigation .....	15
3.4	Inferred Soil Properties .....	15
3.5	Soil Characteristics from Laboratory and Field Test Data .....	16
3.6	Soil's Texture, Categories and Permeability .....	18
3.7	Concluding Remarks .....	19
4.0	SEWAGE MANAGEMENT .....	19
4.1	Expected Sewage Volume .....	19
4.2	Appropriate Treatment Technology & Onsite Sewage Management Systems .....	19
4.2.1	Area A - Primary Treatment Systems Including Trench / Drip Application .....	19
4.2.2	Area B - Secondary Treatment Systems .....	20
4.3	Land Application Area (LAA) Requirements .....	20
4.4	Capability of Land to Accommodate Sewage Application .....	21
4.5	Cumulative Impacts .....	21
4.6	Monitoring and Maintenance .....	22
4.7	Conclusions .....	22
5.0	REFERENCES .....	23

## LIST OF FIGURES

**Figure 1.** Site Location Map (Source: Google Maps)

**Figure 2.** Extract of Shire of Boddington's Local Planning Scheme3 (Ref. Growth Plan Fig 19)

**Figure 3.** Extract of Site Geology Map (Ref. Pinjarra 1:250,000 Map)

**Figure 4.** Broad Scale Soil Landscape Mapping (Ref. Land Assessment Report, 2009)

**Figure 5.** Plan of Groundwater Monitoring Wells (MWs), Ref. Report Perth Geotechnics (2021)

**Figure 6.** Floodplain Mapping for the Site (Ref. Boddington Shire Floodplain Maps)

## TABLES

---

- Table 1.** Proposed Lot size and Other Spaces  
**Table 2.** Groundwater (GW) Levels and Depth  
**Table 3.** Horizontal Setback Distances  
**Table 4.** Vertical Setback Distances  
**Table 5.** Summary of Borehole Soil Profile  
**Table 6.** Groundwater Depth Summary  
**Table 7.** Inferred Geotechnical Parameters for Generalised Subsoil Model  
**Table 8.** Summary of Laboratory Test Results  
**Table 9.** Summary of Field Permeability Test Results  
**Table 10.** Summary of Chemical Test Results  
**Table 11.** Soil's Texture, Categories and Permeability for "Area A & B"  
**Table 12.** Land Application Area Requirements for Secondary System for 'Area A & B'

## APPENDICES

---

- Appendix A:** Site Subdivision Plan, Investigation Plan, Land Unit Mapping  
**Appendix B:** Geotechnical Site Investigation BH Logs & Permeability Test Report  
**Appendix C:** Geotechnical Laboratory Test Certificates  
**Appendix D:** Chemical Laboratory Test Certificates  
**Appendix E:** Site Photograph



## 1.0 INTRODUCTION

### 1.1 Project Background

Perth Geotechnics (PG) was engaged by Mr. Cody Meyer from Dynamic Planning and Developments on behalf of TAQWA Holdings Pty Ltd to undertake a site and soil evaluation for on-site wastewater management for the proposed residential subdivision at Lots 21, 22 and 23 Crossman Road, Ranford WA (the site).

The size of the site area is approximately 97.65 ha. The site is proposed to be divided into 175 sub-lots as a residential subdivision. Public Open Space (POS) of 6.83 ha, community purpose site of 1 ha and foreshore reserve of 4.28 ha are included within the total site area. Average size of lot varying between 2,562 m<sup>2</sup> and 1.03 ha.

The site location map is presented in Figure 1.

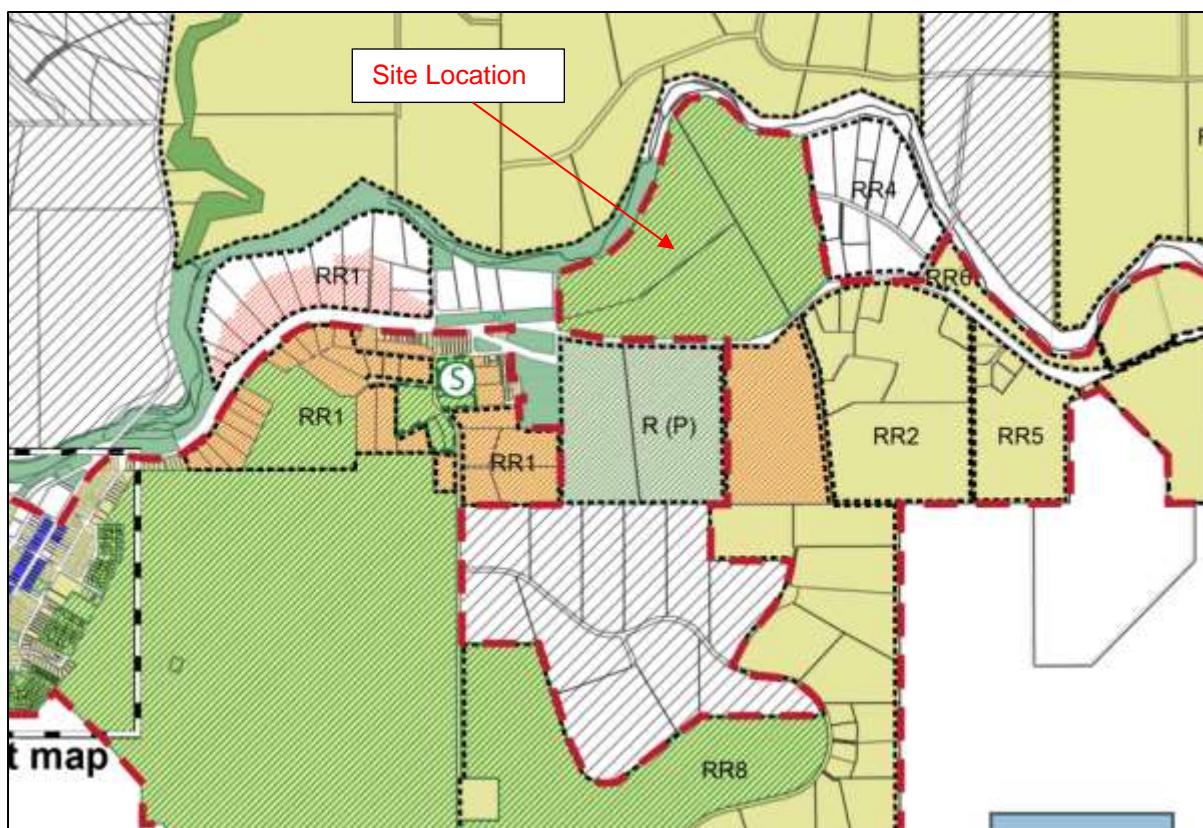


**Figure 1.** Site Location Map (Source: Google Maps)

### 1.2 Planning Context

The site is currently zoned as 'Rural Residential Area 8 (RR8)' under the Shire of Boddington Local Planning Scheme 3 (Ref. Growth Plan Fig 19). The RR8 is described to be comprised of proposed and marketed residential subdivisions, development and rezoning.

Extract of the local growth planning scheme map is shown in Figure 2.



**Figure 2.** Extract of Shire of Boddington's Local Planning Scheme3 (Ref. Growth Plan Fig 19)

### 1.3 Proposed Development

The site is proposed to be subdivided into 175 sub-lots as a residential subdivision. The lots will be developed in 9 stages. Public Open Space (POS) of 6.83 ha, community purpose site of 1 ha and foreshore reserve of 4.28 ha are proposed within the site. Table 1 shows the other allocated areas and lot sizes.

**Table 1.** Proposed Lot size and Other Spaces

Lot Description	Number	Minimum Lot Size	Maximum Lot Size	Average Lot Size
Large Lifestyle Lots	40	4,192 m <sup>2</sup>	1.86 ha	1.03 ha
Conventional Lots	135	2,000 m <sup>2</sup>	4,627 m <sup>2</sup>	2,562 m <sup>2</sup>
Public Open Space (POS)				6.83 ha
Community Purpose Site				1 ha
Foreshore Reserve				4.28 ha

The subdivided lots are proposed to be developed with residential building, garden, farm, drains, driveway, access road and internal roads. The proposed development layout is included in **Appendix A**.

Reticulated sewage will not be available within the site and thus provision for the disposal of wastewater will need to be considered and accommodated on-site, consistent with the requirements of the *Government Sewerage Policy* (DPLH 2019), *AS/NZS 1547 On-site domestic wastewater management* (AS 1547) (Standards Australia and Standards New Zealand 2012) and other relevant guidelines.

#### 1.4 **Objective of this Report**

The *Government Sewerage Policy* (DPLH 2019) requires that developments that will not be connected to reticulated sewer are required to prepare a site and soil evaluation (SSE) in accordance with AS 1547 (Standards Australia and New Zealand 2012). This report is intended to satisfy this requirement.

The objective of this SSE report is to assess and guide on-site wastewater disposal to ensure sustainable and effective on-site sewage management, thereby protecting public health and the environment.

To support a development application, the SSE report includes:

- Estimating the capacity of the site to contain proposed development and sewage on-site
- Designing a treatment/on-site sewage management system, and
- Identifying management and monitoring options and defining adequate on-site sewage management locations (DoH 2019a).

## 2.0 **SITE ASSESSMENT**

### 2.1 **Site Setting**

The site comprises partly a floodplain of Hotham River and the remaining area as grassland or farmland. The site is located at approximately 135 km south, south-east of the Perth City centre and 100 km east of Mandurah City.

The site is bounded by Hotham River to the north, Crossman Road to the south and similar type floodplain, farmland & grassland to the east and west sides.

Scattered grownup trees, long grass, a number of ponds, unsealed paths were observed during the site inspection on October 2021.

A hillock was observed at the south-eastern part of the site. The hillock crest had the highest level and the northern boundary of the site along the Hotham River had the lowest level.

The site photograph was taken during the field investigation are shown in **Appendix E**.

### 2.2 **Climate**

The closest Bureau of Meteorology (BoM) weather station to the site which records rainfall and temperature data is located in Wandering (Station No. 010917), situated approximately 30 km north-east of the site. Based on weather data collected from 1998 to 2021 at this weather station, the local area experiences an average of 505 mm of annual rainfall, mean annual maximum temperature of 23.8°C and a mean annual minimum temperature of 8.6°C (BoM 2021).

### 2.3 **Topography**

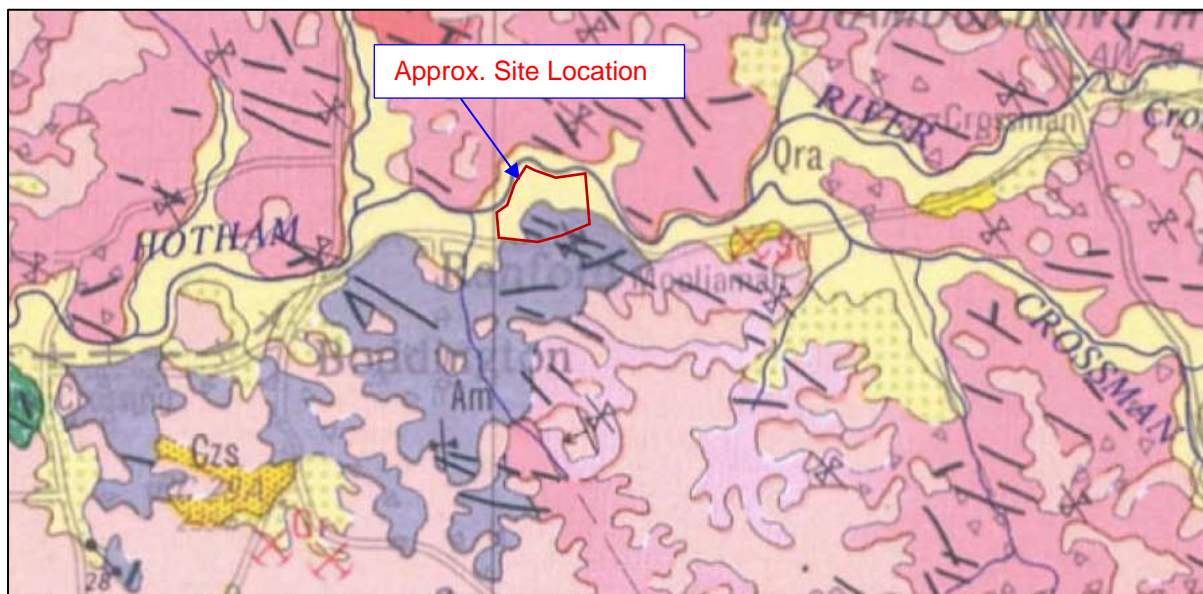
Regional topographic contours show that the site is gently undulating landforms associated with the local geology. Existing site surface elevations range from approximately 236 metres Australian height datum (m AHD) at the hill crest in the north-west hillock portion of the site to approximately 210 m AHD along the bank of Hotham River, northern floodplain strip of the site. Topographic contours over the site and within the vicinity are shown in the Site Plan in **Appendix A**.



## 2.4 Landforms, Soils (Geology) and Land Capability

A review of Environmental Geological Western Australia survey Map of Pinjarra 1:250,000, Sheet SI 50-2 and part of SI 50-1 revealed that the site is underlain by Alluvium (Qra), Migmatite Rock (Am) and Granite Rock (Age). Details of the geological units are given below.

- Qra – Quaternary Recent Deposit- Alluvium – clay, sand and loam mainly alongside of the Hotham River flood plain.
- Am – Archaean aged Migmatite Rock – banded and nebulitic, often strongly contorted, rocks are usually banded gneissic (banded) and felsic, metamorphic.
- Age - Archaean aged Granitic Rock – even-grained, fine to coarse grained granodiorite, adamellite and granite



**Figure 3.** Extract of Site Geology Map (Ref. Pinjarra 1:250,000 Map)

Land capability assessment study for the site was undertaken by Land Assessment Report (2009). The study presented the following landform.

Landforms and soils in the vicinity of project site are representative of the central portion of the Hotham River catchment where valley incision of the Darling Plateau has occurred within an area of predominantly granitic geology (Quindanning System – Michibin Subsystem, MN) and lateritic residuals (Dwellingup Subsystem, DW) to create a broad valley floor (Williams Subsystem, WL) as originally described and mapped by CSIRO (McArthur et al 1977) and then enhanced by Department of Agriculture (2005).

The relevant portion of the broad soil-landscape mapping is shown in **Figure 4**. Land Assessment Pty Ltd (1997) interpreted the specific capability assessments for rural-residential land use (buildings and on-site effluent disposal) on a proportional basis as follows;

### 2.4.1 Dwellingup Subsystem, DW

DW comprises lower to upper slopes and hillcrests. Duplex sandy gravels and loamy gravels with minor areas of shallow gravels, deep sandy gravels, yellow deep sands and yellow and pale deep sands, often gravelly. Assessed capability:

- 40 % 'Fair' capability (yellow sandy gravels on gentle slopes)
- 15 % 'Fair – Low' capability (yellow sandy soils in heads of valleys)
- 45 % 'Low' capability (lateritic duricrust areas).

### 2.4.2 Michibin Subsystem, MN

Generally moderate irregular valley slopes on colluvium over granite, gneiss and sometimes dolerite in the Eastern Darling Range, Murray River Catchment (includes Hotham River). Brown deep loamy duplexes, yellow/brown deep sandy duplexes, grey deep sandy duplexes, red shallow loams and gravels. Assessed capability:

- 30 % 'High' capability (Red / yellow 'earths and red / brown duplex soils on slopes)
- 20 % 'Fair – High' capability (Yellow duplex soils on lower slopes)
- 40% 'Fair' capability (Variable soils with some rock outcrop)
- 5 % 'Low' capability (Areas of extensive rock outcrop).

### 2.4.3 Williams Subsystem, WL

Valley floor subtended by the steep slopes of the Michibin unit; yellow duplex soils and a lower sandy terrace. Assessed capability:

- 10 % 'High' capability (Yellow duplex soils on lower slopes flanking valley floor)
- 60 % 'Fair' capability (Yellow duplex soils on terraces)
- 30% 'Very low' capability (Variable loamy soils on lower terraces).



**Figure 4.** Broad Scale Soil Landscape Mapping (Ref. Land Assessment Report, 2009)

The capability assessment results for rural-residential development of the subject land are shown by colour coded mapping and associated comments in Table 4 of that report. **Appendix A** of this report included the colour coded land capability mapping as an overlay to the proposed plan of subdivision.

### 2.5 Acid sulfate soils

National Acid sulfate soil (ASS) risk mapping prepared by the Geoscience Australia (online mapping database) indicates that no ASS data is available for the site.

### 2.6 Groundwater

National Groundwater Resource mapping prepared by the Geoscience Australia (online mapping database) indicates that no groundwater data is available for the site.

However, groundwater monitoring and investigation for the site was undertaken by Perth Geotechnics (2021). A total of 5 groundwater Monitoring Wells (MW1 to MW5) were

Reference: SSE123621PG\_Rev0

Client: TAQWA Holdings Pty Ltd

Project: Site and Soil Evaluation for Onsite Wastewater Management

Site: Lots 21, 22 and 23 Crossman Road, Ranford WA



constructed across the site on 7 October 2021 and subsequent monitoring of groundwater levels was undertaken by Perth Geotechnics on 20 October 2021. **Figure 5** and the **Table 2** shows the plan of the MWs and groundwater depth and approximate levels.



**Figure 5.** Plan of Groundwater Monitoring Wells (MWs), Ref. Report Perth Geotechnics (2021)

**Table 2.** Groundwater (GW) Levels and Depth

MW No.	GW Depth (m, bgl)	Approximate Ground Surface Level (m AHD)	Groundwater Level (m AHD)
MW1	3.0	214	211.0
MW2	0.9	213	212.1
MW3	5.3	215	209.7
MW4	1.6	218	216.4
MW5	Not Encountered within 6.5m well depth	233	<226.5

Variable groundwater levels indicate that the water is held as a perched water within or above the Clayey Sand or Sandy Clayey layer, which is considered to be the Hotham River alluvium.

## 2.7 Sewage Sensitive Areas

In Site Plan Drawing, No. 123621\_Rev0 in **Appendix A**, two types of subsoil profiles have been identified, namely:

- **Area A** (Hillock, Green Line Bounded Zone) which is underlain by Subsoil Profile 1 that comprises Clayey Sandy Gravel/Gravelly Clay. This profile belongs to the 'Dwellingup



Subsystem (DW, Ref. Figure 5)'. In this area groundwater was not encountered with 2 m depth of investigation.

- **Area B** (Hotham River Floodplain) which is underlain by Subsoil Profile 2 that comprises Sand overlies Sandy Clay/Clayey Sand. This profile belongs to the 'Williams Subsystem, (WL, Ref. Figure 5)'.

Sewage sensitive areas are proclaimed under the *Government Sewerage Policy* (DPLH 2019) to protect groundwater and surface water systems. A review of the *Government Sewerage Policy* dataset (DPLH 2021) indicates the "**Area B**" of the site is identified as a sewage sensitive area. This is due to the following causes:

- The whole site is bounded by Hotham River and situated on its floodplain and catchment.
- The subsoil profile is sand overlying clay loam or clayey sand.
- The 'Area B' has shallow groundwater/perched water.
- The groundwater gradient is unknown or seasonably variable.

## 2.8 Public Drinking Water Source Areas

Publicly available Public Drinking Water Source Area (PDWSA) mapping indicates that the site is not located within or adjacent to any declared PDWSA (DWER 2021d). The nearest PDWSA is the Samson Brook Dam, Waroona Dam and South Dandalup Dam.

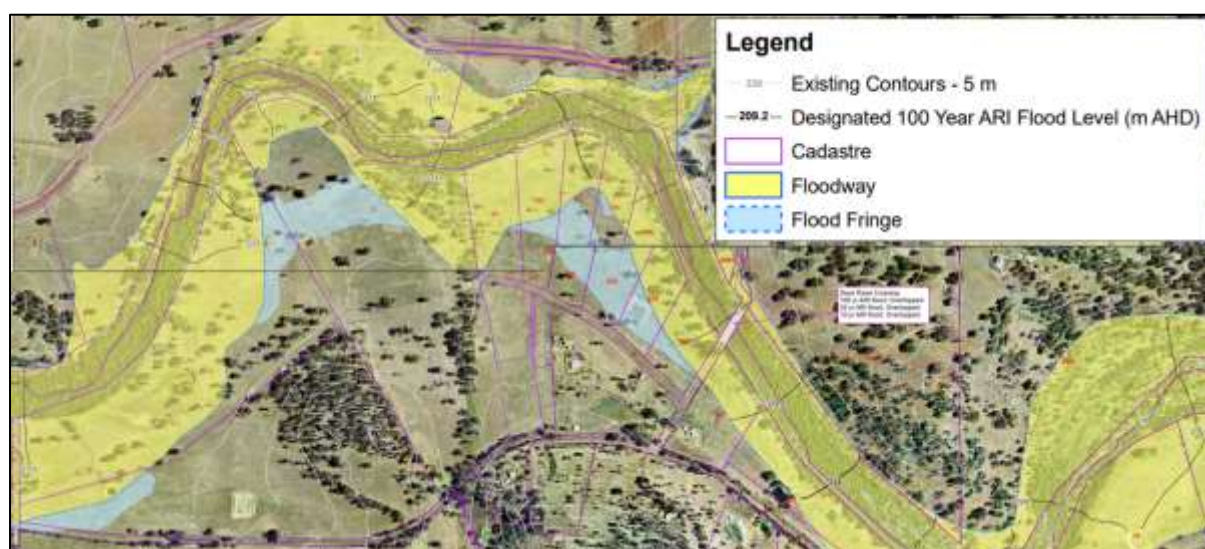
These dams and their catchment boundaries are located approximately 45 km west, north-west of the site.

## 2.9 Flood Potential

**Figure 6** shows the flood mapping plan of Shire of Boddington, undertaken by SKM for the site. Floodway and flood fringe zone are indicated with yellow and blue colours.

The 1 in 100 (1%) annual exceedance probability (AEP) flood is typically recommended as the defined flood event (DFE) for land use planning and development controls in Western Australia. 100 year ARI flood level was indicated as between 212.8 m AHD and 214.4 m AHD.

As can be seen from the **Figure 6**, significant part of the proposed development site is located within the defined flood event (DFE) floodplain. However, a minimum building floor level of 0.50 m above the adjacent DFE flood level is recommended.



**Figure 6.** Floodplain Mapping for the Site (Ref. Boddington Shire Floodplain Maps)

## 2.10 Bush Forever and Wetlands

No records of Bush Forever and Wetlands sites found within the site.

## 2.11 Horizontal and Vertical Setback Distances

The siting plan of on-site wastewater system, setbacks will be determined based on site subsoil profiles. In Site Plan Drawing, No. 123621\_Rev0 in **Appendix A**, two types of subsoil profiles have been identified, namely:

- **Area A** (Hillock, Green Line Bounded Zone) which is underlain by Subsoil Profile 1 that comprises Clayey Sandy Gravel/Gravelly Clay. This profile belongs to the 'Dwellingup Subsystem (DW, Ref. Figure 5)'.
- **Area B** (Hotham River Floodplain) which is underlain by Subsoil Profile 2 that comprises Sand overlies Sandy Clay/Clayey Sand. This profile belongs to the 'Williams Subsystem, (WL, Ref. Figure 5)'.

The horizontal distance to relevant features (e.g., property boundaries, watercourses, wetlands and other water bodies, buildings) from both proposed Aerobic Treatment Units (ATU) and Land Application Area (LAA) is shown in below **Table 3**. Vertical setback from PDWSA and sensitive water resource areas is shown in **Table 4**.

**Table 3.** Horizontal Setback Distances

Site Feature	Horizontal Setback (m)
Treatment tanks to buildings, property boundaries, driveways, paths and other tanks	1.2
Trenches, beds and soak wells to boundary, building, tanks and other land application systems	1.8
Trenches, beds and soak wells to trafficable areas	1.2
Any land application system to wells, stream, private bores or underground source of water intended for human consumption	30
Trenches, beds and soak wells to subsoil drainage or open drainage channel (a separation of 100 m is required if there is discharge into a waterway or significant wetland without treatment of the discharge, see Section 5.2.2 of the Government Sewerage Policy 2019 (GSP))	6.0
Spray Irrigation:	
• Boundaries, buildings, driveways etc	1.8
• Sub-soil and open drain	6.0
• Swimming pool	3.0
• Treatment tanks	1.2

Site Feature	Horizontal Setback (m)
Subsurface Dripper:	
• Boundaries, buildings, treatment tanks, driveways etc	0.5
• Sub-soil and open drain	3.0
• Swimming pool	2.0
• Garden bore	10.0
On-site wastewater system to water resources (for more details refer to Section 5.2.2 of the GSP)	100
<b>On-site wastewater system must not be located within any area subject to inundation and/or flooding in a 10 per cent Annual Exceedance Probability (AEP) rainfall event.</b>	

Note: GSP= Government Sewerage Policy 2019.

**Table 4.** Vertical Setback Distances

Site Feature	Vertical Setback Distance(m)
Discharge point of the on-site wastewater system to the highest known groundwater level:	
• PDWSA	2.0
• Sensitive water resource areas	1.5
• All other areas -	
○ Sands	1.5
○ Gravels	1.0
○ Loams and heavy soils	0.6
Hardpan or bedrock (depends on quality of treated wastewater and type of LAS)	0.6-1.5

### 2.12 Available Land Application Area (LAA)

The size of the land application area was determined in accordance with the conversion factors prescribed in Table 2 and AS/NZS 1547 On-site domestic wastewater management as follows:

- Hydraulic load (L/day) = occupancy rate (persons) x design loading rate (L/person/day)
- Land application area (m<sup>2</sup>) = hydraulic load (L/day) x conversion factor (ref. Table 2 of GSP2019).

Corresponding Hydraulic Loading and LAA for the adopted dwelling types is presented in Sections 4.1 and 4.3.

## 3.0 SOIL ASSESSMENT

### 3.1 General

Perth Geotechnics (PG) undertook a geotechnical site investigation on 20 October 2021. The geotechnical site investigation comprised the following:

- Site walkover survey.
- Excavation of 30 Boreholes (BH1 to BH30) across the whole site by using an 8-tonne excavator equipped with a mechanical auger. BHs were drilled up to the target depth of 2 m from the ground surface.
- Logging of the each BH's soil profile as per AS1726.
- Collecting soil samples for laboratory testing.



- Conducting 15 Field Permeability Tests (FPT1 to FPT15) across the whole site by Guelph permeameter.

Test location plan is included in **Appendix A**. Detail BH logs, Field Permeability Tests reports are included in **Appendix B**.

Summary of the borehole soil profiles are given in **Table 5**.

**Table 5.** Summary of Borehole Soil Profile

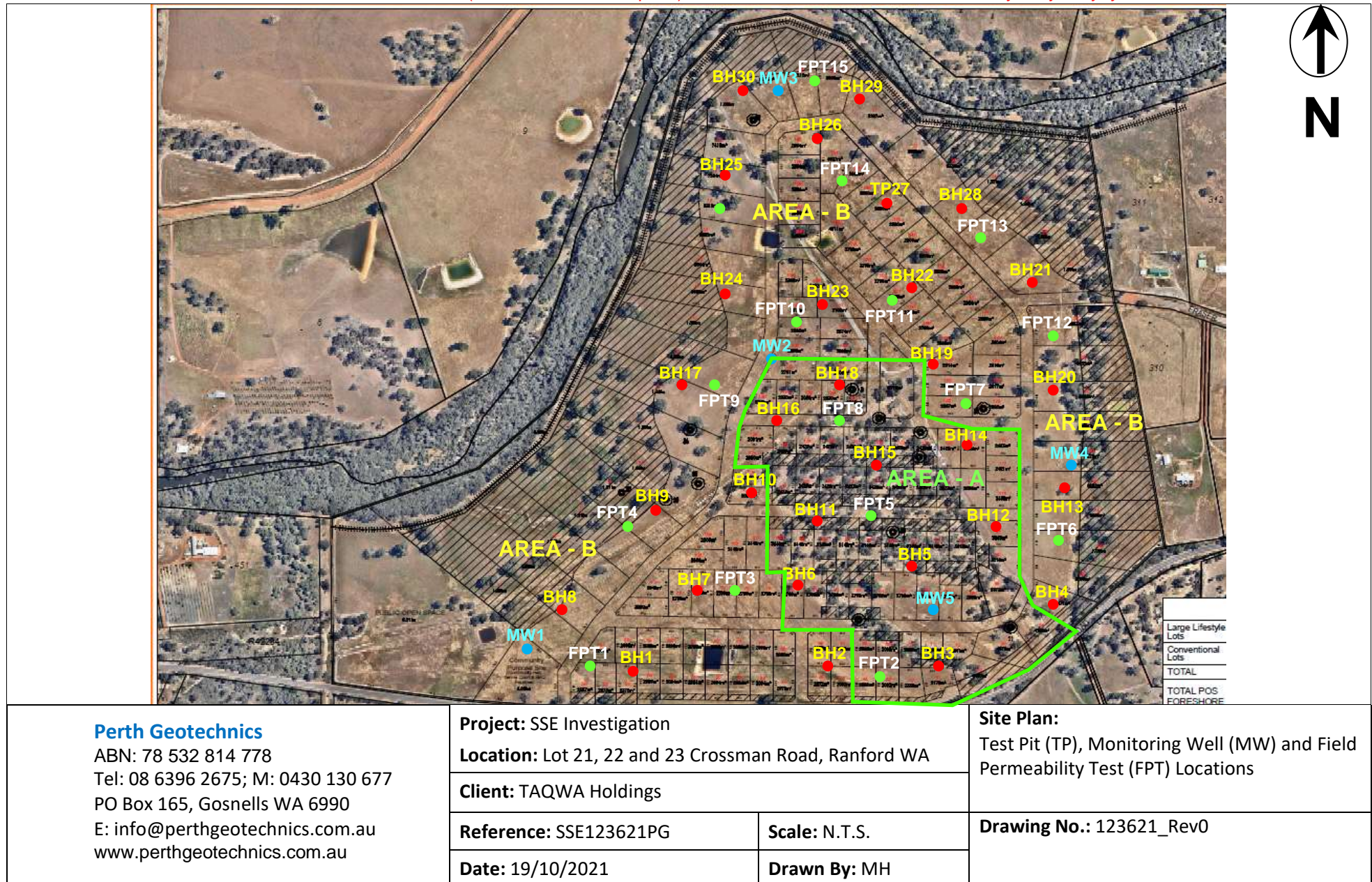
BH No.	Coordinates (GDA 94)		Depth (m) - Soil Profile		GW Depth (m)	Hole Depth (m)
	Easting	Northing	Layer 1 (top)	Layer 2		
01	453755	6371595	0.0-1.2 = Sand	1.2-2 = Gravelly Sandy Clay	0.7	2.0
02	454015	6371584	0.0-0.6 = Sand	0.6-2.0 = Sandy Clay	0.6	2.0
03	45 318	6371587	-	0.0-1.3 = Sandy Clay	NE	1.3
04	454443	6 371729	0.0-0.15 = Sand	0.15-2 = Gravelly Clayey Sand	0.15	2.0
05	454 245	6 371 774	0.0-1 = Sandy Clay	1.0-2 = Gravelly Clayey Sand	NE	1.9
06	454 004	6 371 765	0.0-1.2=Clayey Sandy Gravel	1.2-2=Sandy Clayey Gravel	NE	2.0
07	453 838	6 371 736	0.0-1.5=Clayey Sandy Gravel	1.5-2=Gravelly Clayey Sand	NE	2.0
08	453 632	6 371 704	0.0-0.4=Sand	0.4-2.0=Sandy Clay	0.4	2.0
09	453 820	6 371 918	0.0-0.5=Sand	0.5-2.0=Sandy Clay/Gravelly Clayey Sand	0.4	2.0
10	454 016	6 372 077	0.0-0.8=Sand	0.8-2= Gravelly Clayey Sand	0.8	2.0
11	454 135	6 371 773	0.0-0.3=Clayey Sand	0.3-2= Gravelly Sandy Clay	NE	2.0
12	454 337	6 371 790	0.0-0.3=Gravelly Clayey Sand	0.3-2= Sandy Clay	NE	2.0
13	454 465	6 371 875	0.0-0.5=Sand	0.5-2= Clayey Sand/Gravelly Sandy Clay	0.5	2.0
14	454 293	6 371 927	0.0-1.5=Sand/ Sandy Gravel	1.5-2= Gravelly Clayey Sand	NE	2.0
15	454 213	6 371 822	-	0.0-2 = Gravelly Sandy Clay	NE	2.0
16	454 111	6 371 859	0.0-0.35 = Sand/ Sandy Gravel	0.35-2= Gravelly Clayey Sand	NE	2.0
17	453 898	6 372 037	0.0-1.2 = Sand	1.2-2 = Gravelly Clayey Sand	0.9	2.0
18	454 144	6 372 066	0.0-0.6=Sand/ Sandy Gravel	0.6-1.5 = Clayey Sandy Gravel	NE	1.5
19	454 202	6 372 003	0.0-0.8=Sand/ Sandy Gravel	0.8-2.0 = Clayey Sandy Gravel /Gravelly Clayey Sand	NE	2.0
20	454 426	6 372 054	0.0-0.8=Sand	0.8-2= Clayey Sand / Sandy Clay	0.5	2.0
21	454 406	6 372 264	0.0-0.1=Sand	0.1-2= Gravelly Clayey Sand	NE	2.0
22	454 251	6 372 087	0.0-1.2=Sand/ Sandy Gravel	1.2-2 = Gravelly Clayey Sand	NE	2.0
23	454 097	6 372 130	0.0-0.5=Sand	0.5-2.0= Gravelly Clayey Sand/ Sandy Clay	0.5	2.0
24	453 914	6 372 247	0.0-0.4=Sand	0.4-2.0=Sandy Clay	0.4	2.0
25	453 926	6 372 418	0.0-0.6=Sand	0.6-2.0= Clayey Sand	NE	2.0
26	454 057	6 372 485	0.0-0.6=Sand	0.6-2.0=Clayey Sand /Sandy Clay	0.5	2.0
27	454 191	6 372 384	0.0-0.8=Sand	0.8-2.0= Clayey Sand	0.5	2.0
28	454 350	6 372 363	0.0-0.15=Sand	0.15-2.0= Clayey Sand	NE	2.0
29	454 092	6 372 543	0.0-0.8=Sand	0.8-2.0= Clayey Sand	NE	2.0
30	453 944	6 372 565	0.0-0.7=Sand	0.7-2.0= Clayey Sand	NE	2.0

**Note:** GW = Groundwater, NE = Not Encountered

**Soil Profile Legend:**

Area A (Hillock, Green Line Bounded): Subsoil Profile 1 - Clayey Sandy Gravel/Gravel

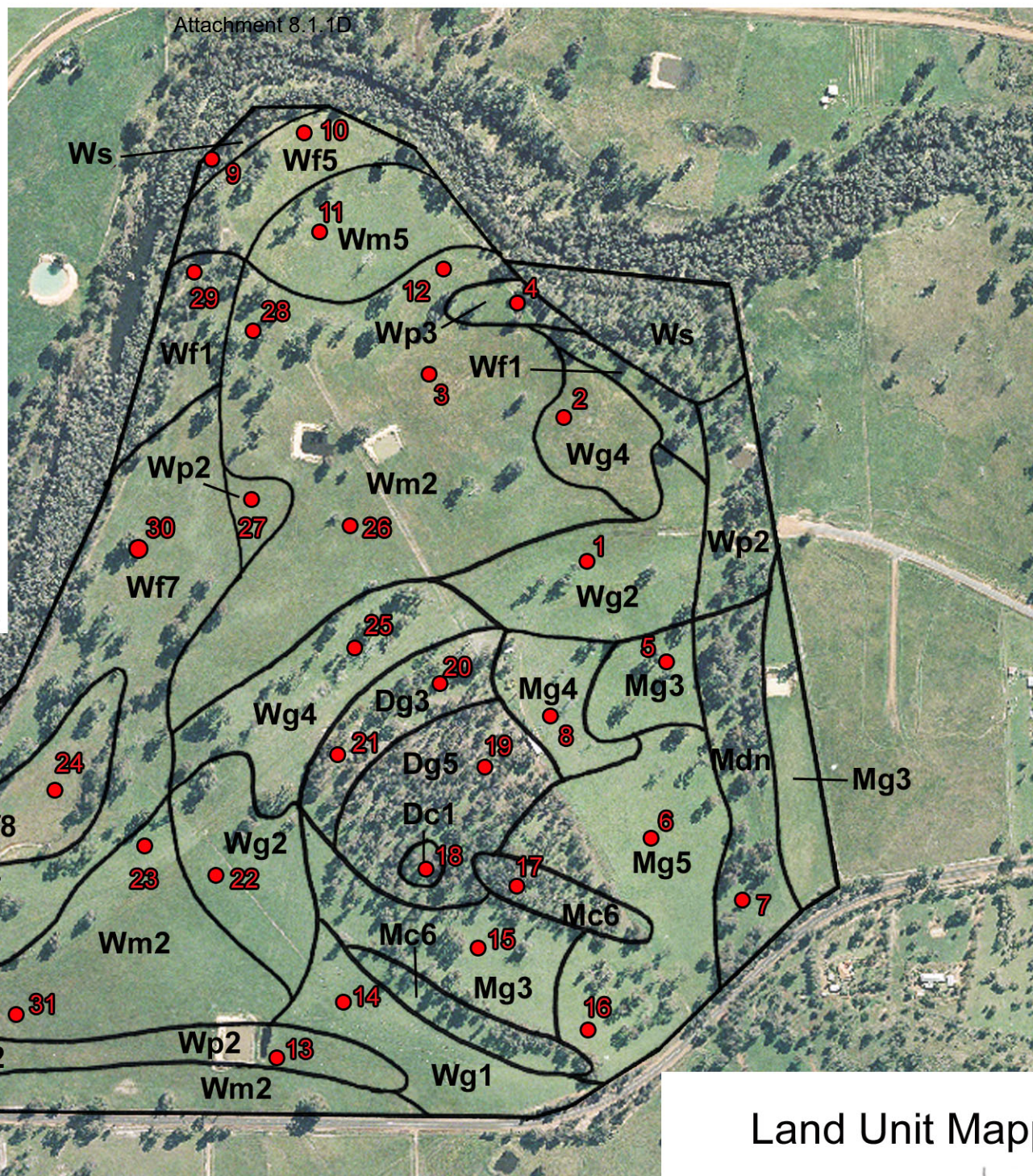
Area B (Hotham River Floodplain): Subsoil Profile 2 - Sand overlies Sandy Clay/Clayey Sand





# LEGEND

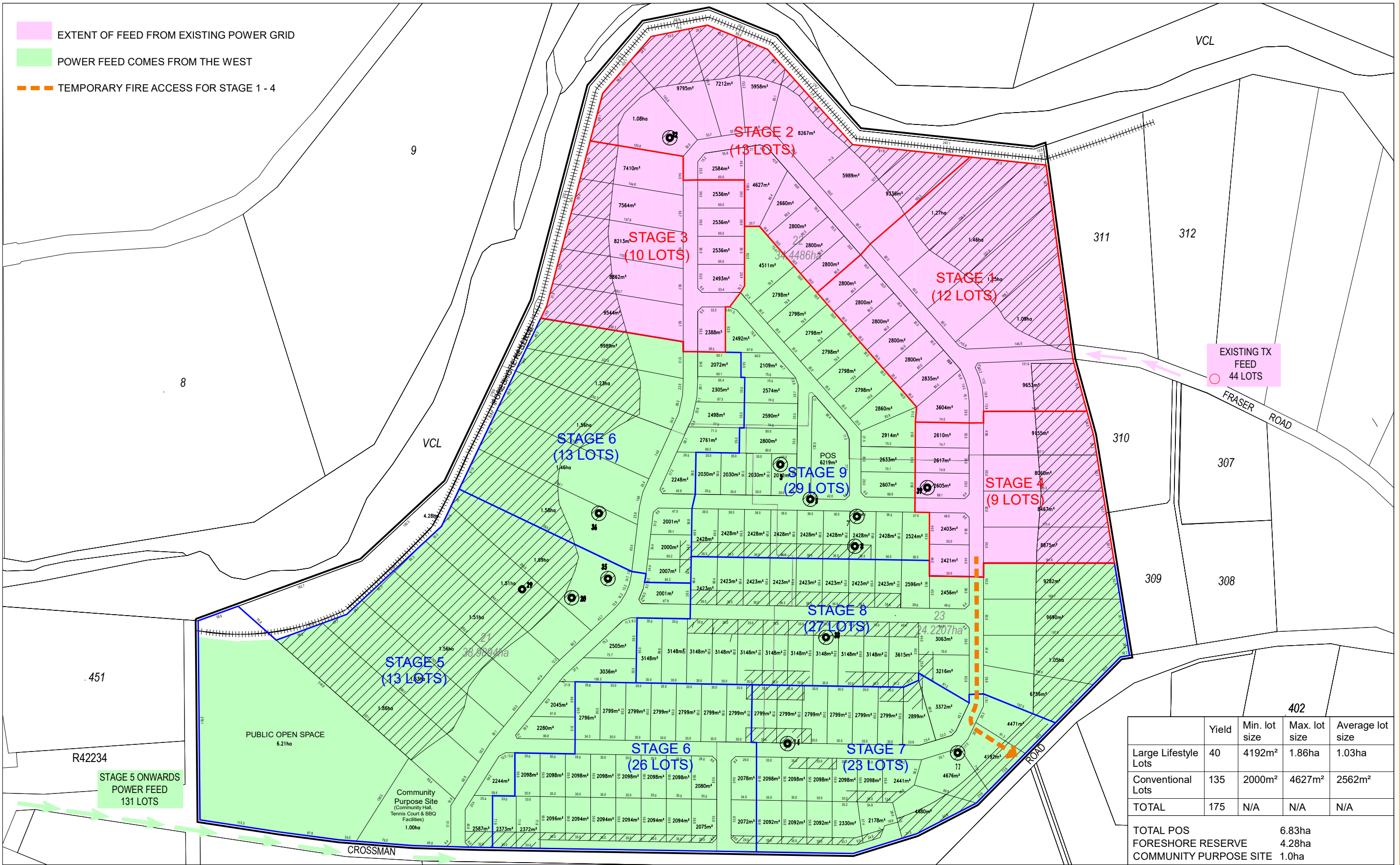
LANDFORM		SOILS	
<b>D Dwellingup – upland lateritic residuals</b>			
Dc	Crests (< 3 % gradient)	1	Shallow gravels; common laterite
Dg	Gentle slopes (3 – 10%)	3	Deep sandy gravel
		5	Loamy gravels or Duplex sandy gravel
<b>M Michibin – hill-slopes with soils formed by weathering of fresh rock (migmatite)</b>			
Mc	Crests and rocky ridges	3	Yellow brown deep sandy duplex.
Mg	Gentle slopes (3 – 10%)	4	Yellow deep sands (often gravelly)
Mdn	Drainage pathways - non-incised	5	Loamy gravels
		6	Shallow loams with common rock
<b>W Williams – broad valley floor with soils formed from colluvium and alluvium</b>			
Wg	Very gentle to gentle slopes (<5% gradient).	1	Yellow brown deep sandy duplex.
Wm	Moderately well drained flats	2	Grey deep sandy duplex.
Wp	Poorly to imperfectly drained flats	3	Grey shallow sandy duplex.
Wf	Floodplain (designated floodway)	4	Pale deep sand
Ws	Slopes and terraces adjacent to river.	5	Yellow deep sand
		6	Brown deep loamy duplex
		7	Yellow brown shallow loamy duplex
		8	Semi wet soil (shallow loamy duplex, or grey clay).



## Land Unit Mapping







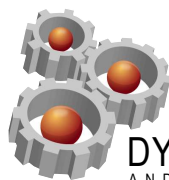
# STAGING PLAN

LOTS 21, 22 & 23 CROSSMAN ROAD  
RANFORD

COPYRIGHT RESERVED BASE PLAN COURTESY OF LANDGATE



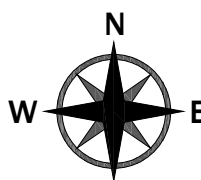
SCALE: 1:150 @ A3  
DATE: 4th OCTOBER 2021  
FILE: 1292\_04.10.2021.dwg  
DRAW: - SB  
CHECKED: -



**DYNAMIC PLANNING**  
AND DEVELOPMENTS

DISCLAIMER: This document is and remains the property of Dynamic Planning and Developments and may not be copied in whole or in part without the written consent of Dynamic Planning and Developments. All areas, distances and angles are approximate only and are subject to survey.

e: admin@dynamicplanning.net.au  
t: (08) 9275 4433  
f: (08) 9275 4455  
SUITE 15, 29 COLLIER ROAD  
MORLEY WA 6062  
ABN: 99 169 411 705



No.	Description of land	Special use	Conditions
			<p>7. The removal of trees or substantial vegetation for any purpose other than the above exceptions shall require the consent of the local government. As a condition of granting consent, the local government may require tree planting in locations approved by the local government.</p> <p>8. All development to comply with the provisions set out in Table 5 which are applicable to the zones specified by any structure plan, and/or any other planning instrument prepared under this scheme to the satisfaction of the local government, including a local planning policy or design guideline which applies to the land.</p>
SU2	Lots 21, 22 and 23 Crossman Road, Ranford	Structure plan area for Subdivision and Development in accordance with the Residential zone, Rural Residential zone, Public Purpose reserve and Public Open Space reserve.	<p>1. Subdivision should generally be in accordance with a Structure Plan approved by the Western Australian Planning Commission.</p> <p>2. Connection to reticulated water is required for all lots.</p> <p>3. No more than one dwelling will be permitted on each lot.</p> <p>4. Where depicted on the Structure Plan, all buildings are to be located outside of the designated building exclusion zones and not within 10 metres of the front lot boundary and 5 metres from side boundaries.</p> <p>5. In the interest of landscape and soil preservation, no trees or substantial vegetation shall be removed or felled except where:</p> <ul style="list-style-type: none"> <li>(a) trees are dead, diseased or dangerous; or</li> <li>(b) access to a building site or for bush fire management is required and approved; or</li> <li>(c) erection of a building or outbuilding; or</li> <li>(d) an area up to one metre in width for the purpose of</li> </ul>

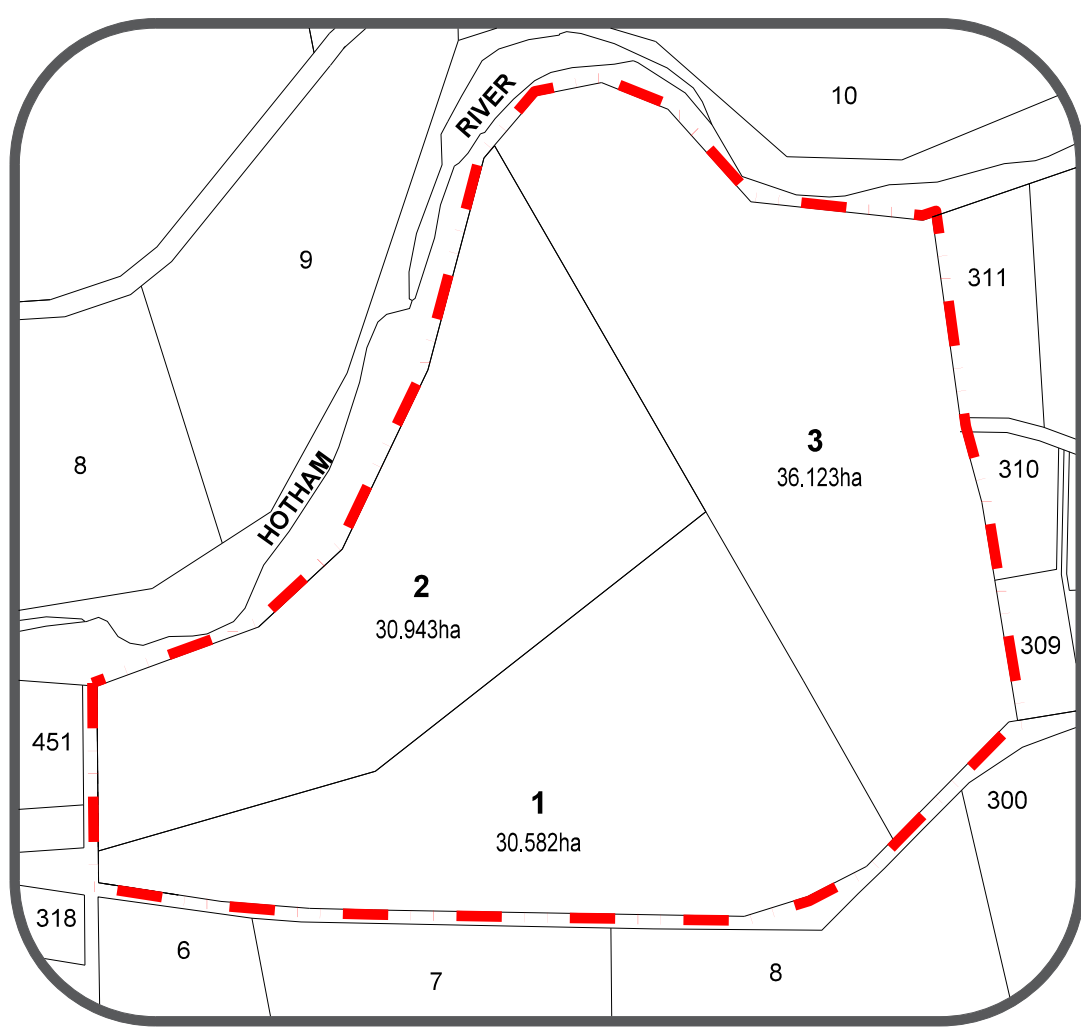
No.	Description of land	Special use	Conditions
			<p>erecting and maintaining a fence line; or</p> <p>(e) a clearing permit has been issued or the clearing is exempt from requiring a clearing permit.</p> <p>6. The removal of trees or substantial vegetation for any purpose other than the above exceptions shall require the consent of the local government. As a condition of granting consent, the local government may require tree planting in locations approved by the local government.</p> <p>7. The 10 metre wide Landscape Buffer strip nominated along Crossman Road as shown on the Structure Plan is to be planted with locally indigenous vegetation species by the developer at the time of subdivision and maintained for two summer periods.</p> <p>8. Vegetation shown for retention on the Structure Plan is not permitted to be removed.</p> <p>9. A Vegetation Management Plan shall be prepared and implemented as a condition of subdivision approval to the satisfaction of the local government.</p> <p>10. A Bushfire Management Plan is to be prepared prior to subdivision being supported.</p> <p>11. No dwelling shall be constructed or approved for construction unless provided with an effluent disposal system approved by the local government and/or the Department of Health.</p> <p>12. An Urban Water Management Plan is to be prepared to the satisfaction of the Department of Water and Environmental Regulation prior to any subdivision approval of the subject land.</p>



No.	Description of land	Special use	Conditions
			<p>13. The structure plan is to detail how the design requirements for buildings should be addressed to ensure that all buildings are compatible with and contribute to the desired amenity of the locality, including whether the preparation of any subsequent planning instruments is required.</p> <p>14. All fencing within the Special Use zone shall retain the rural character of the area and the use of asbestos, metal sheeting or wooden pickets shall be prohibited. The local government may impose fencing requirements as a condition of its approval to protect substantial vegetation or the river environs.</p> <p>15. With the intention of preventing overstocking, erosion or other practices detrimental to the amenity of the land, the land uses 'agriculture – intensive', 'animal establishment' and 'animal husbandry – intensive' shall not be permitted. Stocking rates will be in line with those recommended by the Department of Primary Industries and Regional Development. Provision of an adequate water supply to the stock may also be required as a condition of approval.</p> <p>16. A Foreshore Management Plan addressing, but not restricted to, weed control, revegetation, fencing, stock control, pedestrian access and restrictions on vehicular access shall be prepared and implemented as a condition of subdivision approval.</p> <p>17. A dual use path between River Road and the subject land is to be provided, generally in the location depicted on the Structure Plan, to the satisfaction of the local government.</p>

No.	Description of land	Special use	Conditions
			18. All development to comply with the provisions set out in Table 5 which are applicable to the zones specified by any structure plan, and/or any other planning instrument prepared under this scheme to the satisfaction of the local government, including a local planning policy or design guideline which applies to the land.
SU3	Part Lot 2 Gold Mine Road, Boddington	<p>Mining Camp.</p> <p>The following uses are 'D' uses:</p> <ul style="list-style-type: none"> <li>• Workforce accommodation</li> <li>• Ancillary uses.</li> </ul>	Any new development, other than for outbuildings, and all changes of use require development approval.
SU4	<p>Lot 2, 10 and 11 on Plan 2767; Lot 68 on Deposited Plan 36563; and Lot 123 on Diagram 10744,</p> <p>Albany Highway, Bannister</p>	<p>Agri-Industry Precinct.</p> <p>The following uses are 'D' uses:</p> <ul style="list-style-type: none"> <li>• Abattoir</li> <li>• Agriculture-intensive</li> <li>• Animal husbandry intensive</li> <li>• Commercial vehicle parking</li> <li>• Fuel depot</li> <li>• Industry</li> <li>• Industry-extractive</li> <li>• Industry-primary production</li> <li>• Industry-rural</li> <li>• Mining operations</li> <li>• Renewable energy facility</li> <li>• Resource recovery centre</li> <li>• Roadhouse</li> <li>• Service station</li> <li>• Tree farm</li> <li>• Telecommunications infrastructure</li> <li>• Transport depot</li> <li>• Warehouse/storage</li> <li>• Waste disposal facility</li> <li>• Waste storage facility.</li> </ul> <p>The following uses are 'P' uses:</p> <ul style="list-style-type: none"> <li>• Agriculture-extensive.</li> </ul> <p>The following are 'I' uses:</p>	<p>1. All new development is to be provided with an appropriate means of legal and practical vehicular access to the satisfaction of the local government.</p> <p>2. Land uses which propose:</p> <p>(a) the composting of organic wastes through a process of pasteurization and microbiological transformation under aerobic and thermophilic conditions into compost, mulch or manure, including animal and liquid organic wastes, but not any liquid wastes classed as Listed Waste, Radioactive Waste or Hazardous Waste; and/or</p> <p>(b) the disposal and/or storage for later recovery and off-site reprocessing of residues or waste generated by or resulting from mining operations,</p> <p>are deemed, where applicable, to fall under the following definitions:</p> <ul style="list-style-type: none"> <li>• Resource recovery centre;</li> <li>• Waste disposal facility; and</li> <li>• Waste storage facility.</li> </ul>



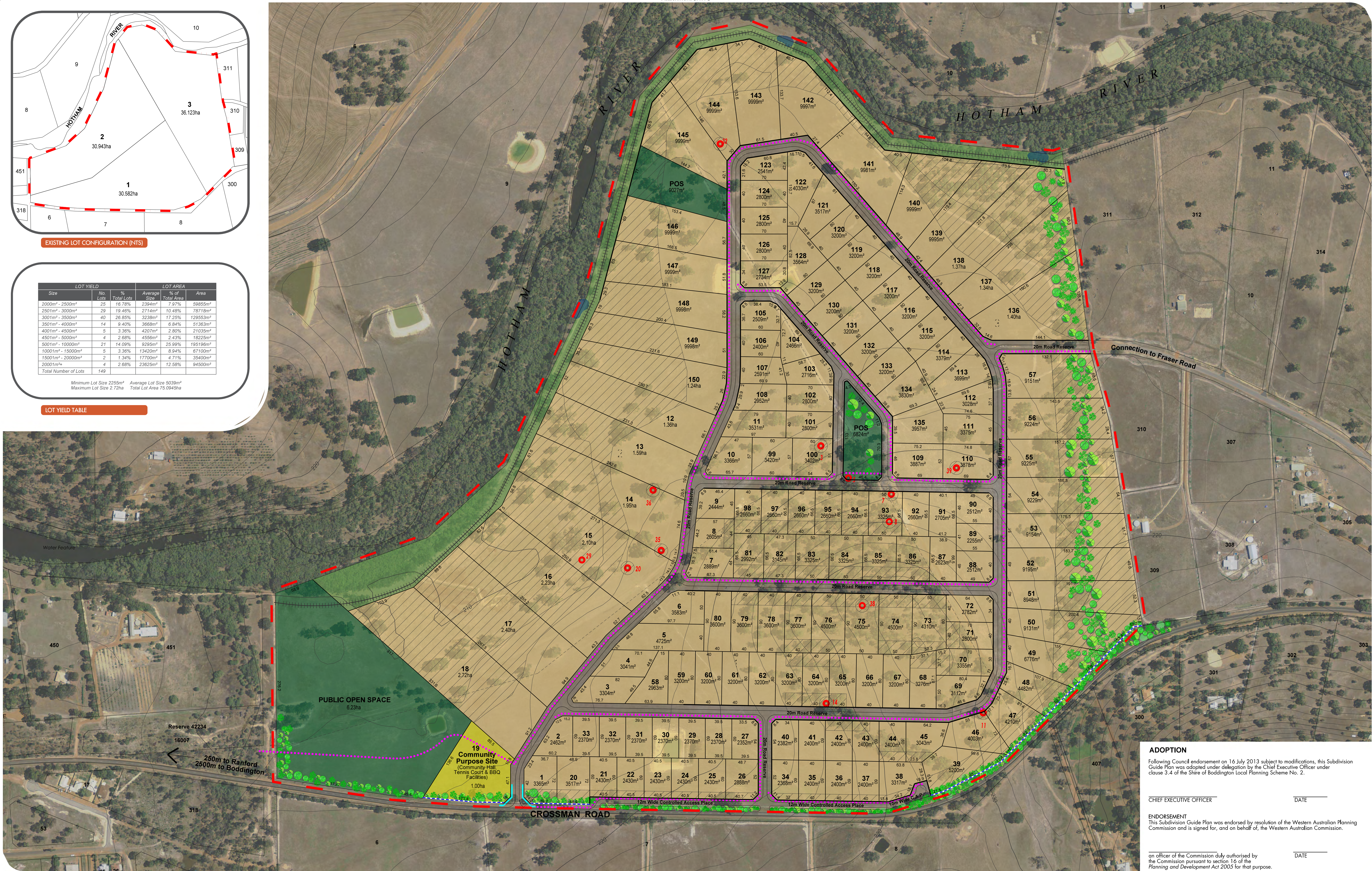


EXISTING LOT CONFIGURATION (INTS)

LOT YIELD				LOT AREA			
Size	No. Lots	% Total Lots	Average Size	% of Total Area	Area		
2000m <sup>2</sup> - 2500m <sup>2</sup>	25	16.78%	2394m <sup>2</sup>	7.97%	99855m <sup>2</sup>		
2501m <sup>2</sup> - 3000m <sup>2</sup>	29	19.46%	2714m <sup>2</sup>	10.48%	78718m <sup>2</sup>		
3001m <sup>2</sup> - 3500m <sup>2</sup>	40	26.86%	3238m <sup>2</sup>	17.25%	129553m <sup>2</sup>		
3501m <sup>2</sup> - 4000m <sup>2</sup>	14	9.40%	3688m <sup>2</sup>	6.84%	51363m <sup>2</sup>		
4001m <sup>2</sup> - 4500m <sup>2</sup>	5	3.36%	4207m <sup>2</sup>	2.80%	21035m <sup>2</sup>		
4501m <sup>2</sup> - 5000m <sup>2</sup>	4	2.68%	4556m <sup>2</sup>	2.43%	18225m <sup>2</sup>		
5001m <sup>2</sup> - 10000m <sup>2</sup>	21	14.09%	9295m <sup>2</sup>	25.99%	195196m <sup>2</sup>		
10001m <sup>2</sup> - 15000m <sup>2</sup>	5	3.36%	13420m <sup>2</sup>	8.94%	67100m <sup>2</sup>		
15001m <sup>2</sup> - 20000m <sup>2</sup>	2	1.34%	17700m <sup>2</sup>	4.71%	35400m <sup>2</sup>		
20001m <sup>2</sup> +	4	2.68%	23625m <sup>2</sup>	12.58%	94500m <sup>2</sup>		
Total Number of Lots				149			

Minimum Lot Size 2255m<sup>2</sup> Average Lot Size 5039m<sup>2</sup>  
Maximum Lot Size 2.72ha Total Lot Area 75.0945ha

LOT YIELD TABLE



ADOPTION

Following Council endorsement on 16 July 2013 subject to modifications, this Subdivision Guide Plan was adopted under delegation by the Chief Executive Officer under clause 3.4 of the Shire of Boddington Local Planning Scheme No. 2.

CHIEF EXECUTIVE OFFICER

DATE

ENDORSEMENT

This Subdivision Guide Plan was endorsed by resolution of the Western Australian Planning Commission and is signed for, and on behalf of, the Western Australian Commission.

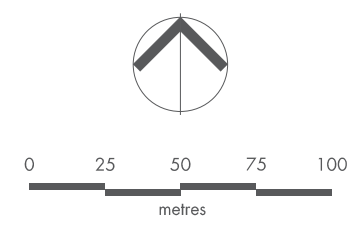
an officer of the Commission duly authorised by the Commission pursuant to section 16 of the Planning and Development Act 2005 for that purpose.

DATE

(the spatial group)  
planning + design

LEIGHTON  
landscape architecture + urban design

Client: Argill Pty Ltd  
Plan No: SGP RevG  
Revision: G  
Date: 16 AUGUST 2013  
Drawn: BDL  
Scale: 1:2,500(A1); 1:5,000 (A3)



NOTES

- All areas and dimensions are subject to survey, engineering and detailed design and may change without notice, subject to gaining necessary approvals from the Shire of Boddington and/or the Western Australian Planning Commission.
- Carriageways are diagrammatic only. The provisions of the Shire of Boddington Local Planning Scheme apply to this Subdivision Guide Plan.
- Dual use paths/footpaths within the subject site are to be provided by the developer as outlined in the endorsed Subdivision Guide Plan.
- Buildings are to be located outside of the designated Building Exclusion Areas and not within 10 metres of lot boundaries.
- A detailed plan outlining the dimensions of the Building Exclusion Zone shall be prepared by the proponent, to be reflected as a condition of subdivision approval.
- The width of the foreshore reserve expansion area is indicative only, and shall be confirmed at the subdivision stage.
- On site effluent disposal systems shall be provided to the satisfaction of the Shire and the Department of Health. Alternative treatment units may be required for lots adjacent to watercourses or where geotechnical investigations reveal limitations for conventional on site effluent disposal systems.

LEGEND  
--- Subject Land  
--- Residential & Rural Residential Lots  
--- Public Open Space  
--- Community Purpose Site

Additional Foreshore Reserve to be added (see Note 6)  
Building Exclusion Zone (see Notes 4 & 5)  
Dual Use Path  
Landscape Buffer / Revegetation  
2m Contours with 10m Labels

Indicative 5m wide Track  
Restricted Vehicle Access  
Landscaped Drainage Swale  
Trees with Hollows to be retained in accordance with a 'Trees with Hollows Management Plan'  
Estate Entry

Lots 1 - 3 Crossman Road, Ranford | SUBDIVISION GUIDE PLAN: MODIFICATION 2