

ATTACHMENTS

Ordinary Council Meeting

Wednesday, 24 August 2022

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Dams

Introduction

This is a Local Planning Policy prepared under Schedule 2 of the Planning and Development (Local Planning Schemes) Regulations 2015. This Policy may be cited as Local Planning Policy 25 – Dams an LPP.

Council receives numerous development applications for the construction of dams within the Shire. Concerns regarding environmental, hydrological and landscape impacts associated with dams, particularly those within defined creek lines, identified a need for a policy to properly assess the significance of potential impacts. The assessment of dams is also particularly important as water resources become scarcer.

This policy is designed with intention of providing guidance on the acceptable development of dams within Toodyay.

Objective

The objective of this policy is to provide guidance to Councillors, Shire staff and applicants with regard to proposals for the construction of dams. This policy applies to all applications for the construction of dams excluding those constructed for the purpose of urban drainage management. The policy will also:

- (a) ensure that dams do not have a significant negative impact on the environment;
- (b) ensure that dams are properly designed and constructed; and
- (c) ensure that dam sizes relate to the capability and catchment of the site and the intended use.

Scope

The Shire of Toodyay incorporates a variety of natural environmental features including areas of high conservation value, areas within public drinking water source areas and significant watercourses.

The Shire recognises the important role it plays in relation to protecting and enhancing our natural environment, by ensuring that development activities are conducted in a responsible manner. This Policy has been developed as a guide to landowners and as an aide to assessing development applications.

The Shire recognises that the appropriate siting, design and construction of dams is important from a safety, equitable water supply and sustainable catchment management perspective. This policy deals only with applications for approval to commence development required pursuant to the current Shire of Toodyay Local Planning Scheme.

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Approval may also be required for the construction of a dam under the Rights in Water and Irrigation Act 1914, the Department of Water and Environmental Regulation should be contacted in this regard.

Definitions

Term	Definition
Catchment Dam	means a dam not located across a watercourse which receives rainfall runoff and/or groundwater seepage only.
Dam	means a man-made structure and/or excavation for the purposes of water storage.
Off Stream Dam	means a dam not located across a watercourse but into which water is fed from a watercourse.
On Stream Dam	means a dam located across a watercourse
Watercourse	means any river, stream or creek as depicted on a plan attached to or associated with the 'Interpretation of Watercourses Policy'.

Policy Statement

The Shire's policy with respect to the development of dams within the Shire of Toodyay is outlined as follows.

1. Purpose of Dam/s

- 1.1 The construction of dams will generally only be supported where there is a demonstrated need for water storage associated with an agricultural use or for domestic purposes.
- 1.2 Dams will generally not be supported where they are solely for aesthetic purposes or on lots with an area of less than 2 hectares, where the scale of rural activities does not normally warrant the provision of a dam.
- 1.3 Where an application is made for a new dam on a lot that contains an existing dam, consideration shall be given to whether the additional dam is justified in order to support the use of the land. Where the existing capacity or the combined capacity of the dams exceeds that necessary to support the existing or proposed land use, the proposed dam will not be supported as it does not reflect sustainable water management.

2. Environmental Considerations

- 2.1 The Shire recognises the potential negative environmental impacts associated with the siting and construction of dams.
- 2.2 Consideration should be given to natural flow patterns when designing a dam, dams should be designed so that natural flow patterns, particularly summer flows,

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are not significantly diminished. Off-stream dams should only divert water from watercourses during peak flow periods.

- 2.3 Placement of a dam within a watercourse should be avoided if possible.
- 2.4 Dams should be located so as to reduce the potential risk of erosion associated with both the construction and ongoing operation of the dam. Erosion risk is determined by a combination of soil types, vegetation cover and topography.
- 2.5 Dams should be constructed in a manner which minimises the potential for erosion and rehabilitation of any exposed soils should be undertaken in a timely manner to minimise erosion risk.
- 2.6 The potential presence of acid sulphate soils should be considered when assessing an application for the construction of a dam.

3. Vegetation Management

- 3.1 Dams should be sited so as not to require the removal of remnant vegetation or to keep any such removal to a minimum.
- 3.2 Revegetation and/or additional planting of appropriate native species shall be required where a dam is considered to have a moderate to high impact or where a dam is visually prominent on the external landscape.
- 3.3 Topsoil is to be spread on any exposed batters and exposed soils are to be revegetated with perennial grasses and appropriate native species as soon as possible after construction.
- 3.4 Where landscaping is required, it should comprise local native species with consideration of shade planting to reduce water lost by evaporation and the planting of sedges and reeds to enhance the water quality and biodiversity. The vegetation, however, should not negatively impact upon the structural integrity of the dam.

4. Impact Assessment Criteria

- 4.1 The potential level of impact of a proposed dam is determined by estimating the potential environmental impact of each characteristic of a proposed dam. This is detailed in Table 1.
- 4.2 A scoring method is provided to assist in determining the potential overall environmental impact of a proposed dam.
- 4.3 The potential impact of a dam is classified as follows:
 - (a) High Impact – where the total score is greater than 10 points;
 - (b) Moderate Impact - where the total score is between 5 – 10 points;
 - (c) Low Impact - where the total score is less than 5 points.

5. Requirement for Supporting Information

- 5.1 The applicant is to supply detailed information in support of an application for a dam. The information required to be submitted is commensurate with the potential impact of the dam (as defined in Table 1 and is outlined in Table 2).

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- 5.2 Notwithstanding the requirements detailed in Table 2, further information may be required where deemed necessary in order to address any of the issues raised in this policy.

6. Setback Requirements

- 6.1 Dams must be setback an appropriate distance to ensure that neighbouring landowners are not detrimentally affected by a dam, taking into consideration the standard setback requirements for the respective zone as specified in the current Shire of Toodyay Local Planning Scheme.
- 6.2 Under no circumstances should a dam be located so as to result in land being inundated outside the boundary of the lot on which the dam is to be located.

7. Dam Assessment

When assessing an application to construct or excavate a dam consideration shall be given to:

- (i) The potential level of impact of the dam, as determined in Table 1;
- (ii) the supporting information provided in accordance with Table 2;
- (iii) the setback requirements of the relevant zone as specified in the current Shire of Toodyay Local Planning Scheme;
- (iv) comments received from other government agencies (where applicable);
- (v) submissions received during the advertising process (where applicable); and any other matter deemed relevant by the Council.

8. Assessment Criteria

The following information is intended to guide applicants in their proposal for the development of dams within the Shire of Toodyay.

8.1 Siting Considerations

- 8.1.1 The positioning of dams is one of the most important considerations when minimising negative impacts on waterways. Dams built within a watercourse will impede the natural flow of water and may also have a tendency to cause erosion resulting in movement of sediment downstream.
- 8.1.2 On-stream dams may also cause disturbance to fringing vegetation and fauna habitat and potentially deprive downstream users of water. Dams constructed within watercourses impede natural base flows and capture out of season rain events.
- 8.1.3 For the reasons outlined above, dams should be constructed away from watercourses where impacts on the environment are more likely to be reduced.
- 8.1.4 Catchment dams are the most favourable form of dam, as they have minimal impacts on other water users and environmental impacts are reduced due to negligible impedance to natural flow patterns.

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- 8.1.5 During construction of dam's earthworks may cause soil to be transported into a watercourse. Appropriate sediment and erosion control methods should be installed to protect riparian eco-systems and downstream users.

8.2 Cumulative Impact

- 8.2.1 As well as the direct impact that dams may have on the natural environment when they are constructed on a watercourse, dams also have a cumulative impact. A number of dams constructed on the same watercourse can limit the amount of water flow available for downstream users. The increased storage of water within certain areas and decreased flows in a watercourse, may also impact upon environmental attributes of riparian habitats.
- 8.2.2 Catchment dams located 'off-stream' can also have a cumulative impact upon a water catchment area due to reduced run-off to watercourses.
- 8.2.3 The capacity of proposed and existing dams located within the same water catchment area, should not negatively impact upon an adequate amount of water being able to reach the watercourses or recharge groundwater.

8.3 Design Considerations

- 8.3.1 The foundations of a dam must be structurally sound. The clay content, water holding capacity, wall design and spillway and summer flow bypass design are also important factors requiring consideration as part of dam construction proposals. An application for a large dam should be accompanied by a report from a suitably qualified professional demonstrating that the design considerations outlined in this policy have been properly addressed.
- 8.3.2 Dam design, safety and construction are the responsibility of the landowner. Once the dam is constructed the landowner may be required to submit a structural engineering certification undertaken by a suitably qualified engineer, certifying that the dam has been constructed to an acceptable standard.
- 8.3.3 On completion of the construction of a dam, an applicant may be required to provide confirmation by a surveyor that the capacity of the dam is consistent with that approved.
- 8.3.4 Dams should incorporate design features to ensure that natural flow patterns, particularly in summer are not compromised. A reduction in summer flows is likely to cause greater environmental stress downstream when compared to a minor reduction in peak flows during peak rainfall months.

9. Compliance

- 9.1 The Shire of Toodyay is committed to the protection of the environment and in particular the responsible, planned and sustainable use of water resources. Part of this commitment is to manage compliance with this policy. Development approval for dams must be obtained from the Shire unless the dam is of a type and land zone listed in the exemptions section. Failure to obtain the required approvals from the Shire can result in fines and/or prosecution. In instances where

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development has already commenced, a retrospective application for development approval may still attract fines and possible prosecution and is not a guarantee of a successful outcome. In this instance the Shire may direct the landowner to remove the dam and restore the land.

10. Exemptions

10.1 Dams located within Rural zoned land are exempt from requiring development approval from the Shire provided the following:

- where it can be demonstrated to the satisfaction of the Shire of Toodyay that a dam, crossing or rural drain and their associated clearing and site works manage water resources appropriately and do not result in unacceptable off-site impacts; and
- meet the objectives and provisions of this policy and the general development requirements of the Local Planning Scheme in force at the time.

11. Application requirements

The following is the base information required for a development application for a dam. Additional information may be required based on the impact of the dam or lake as assessed by this Policy:

- (a) A detailed description of the purpose of the dam or lake.
- (b) A detailed Geotechnical report detailing constraints of the site (if applicable).
- (c) Application Specifics, including:
 - Cross-sections;
 - Location of the proposed dam and any upstream dams within 500m;
 - Areas proposed to be landscaped;
 - Capacity of the dam or lake;
 - Materials to be used;
 - Proposed usage of the material excavated; and
 - Whether the dam will be lined or not and any materials to be used for lining.
 - Location of watercourses.
 - Engineering certification (if applicable).
 - Additional information requirements as per Table 2.

12. Consultation

12.1 High & Moderate Impact Dams

- 12.1.1 Prior to determining an application for a dam, comments shall be sought from adjoining landowners for a period of 28 days. Advertising is to be in the form of letters to property owners located within 200 metres of the subject property boundary, through a notice in a newspaper circulating throughout the Shire of Toodyay and a sign on site.
- 12.1.2 As well as formal advertising being undertaken it is suggested that the applicant/landowner discuss their proposal, prior to lodging an application, with any potentially impacted neighbouring property owners.
- 12.1.3 In addition to the proposal being referred to nearby landowners, the Shire will refer the application to the local catchment group, Land Conservation District Committee or other relevant interest group.
- 12.1.4 Where a proposed dam is determined to have a potentially high impact, is located within a public drinking water source area, within a proclaimed surface water area, or is located within 200 metres of a Conservation Category Wetland, it shall be referred to the Department of Environment and Water Regulation and other relevant State Government agencies prior to consideration by Council.

12.2 Low Impact Dams

- 12.2.1 Consultation with neighbouring property owners will occur as detailed above for high and moderate impact dams, however consultation will not normally be required with the Department of Water and Environmental Regulation or other State Government agencies.



13. Appendix I: Table 1 - Dam Construction Assessment based on Potential Impact

DAM CHARACTERISTICS	POTENTIAL IMPACTS			
	HIGH 3 points each)	MODERATE (2 points each)	LOW (1 point each)	NEGLIGIBLE (0 points)
Dam Locations	On-stream, within a public water supply catchment, within a proclaimed surface water area, or within 200 metres of a conservation category wetland	Adjacent to a watercourse but outside of the seasonal flow path.	Greater than 50 metres distance from a watercourse	Greater than 100 metres from the watercourse
Dam Size	Storage capacity exceeding: • 500m³, within a watercourse; • 2,500m³, outside of a watercourse; • 5,000m³, greater than 100 metres from a watercourse; or • Greater than 25% of the catchment yield based on an average annual rainfall of 500mm.	Dam storage capacity not exceeding that for specified for high but exceeding: • 150m³, within a watercourse; • 750m³, outside of a watercourse; or • 1,500m³, greater than 100 metres from a watercourse.	Dams with storage capacity less than those specified for moderate.	Not applicable.

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DAM CHARACTERISTICS	POTENTIAL IMPACTS			
	HIGH 3 points each)	MODERATE (2 points each)	LOW (1 point each)	NEGLIGIBLE (0 points)
Maintenance of Natural Flow	Watercourse dam (on-stream) with limited devices to maintain summer and winter flows downstream.	Watercourse dam with comprehensive measures to maintain summer and winter flows downstream.	Off-stream dam that only receives flow from a watercourse during a storm event.	Catchment dam which does not receive any water from the watercourse.
Cumulative Impact (upstream, downstream and catchment)	Greater than 25% of the catchment yield based on an average annual rainfall of 500mm.	Greater than 1 dam within a one-kilometre radius and within the same catchment.	1 dam within a one-kilometre radius of the proposed dam location.	No dams within a one-kilometre radius of the proposed dam location.
Vegetation Clearing	Requires extensive clearing of remnant trees, shrubs and sedges to construct the dam.	Requires some clearing of remnant vegetation.	Requires minimal clearing of remnant vegetation.	Does not require any vegetation clearing.

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14. Appendix II: Table 2 - Supporting Information Required

Impact Significance	Supporting Information Required to Accompany an Application for a Dam
High	• A comprehensive hydrological report prepared by a suitably qualified hydrologist or engineer providing an assessment of how the structure will affect the summer and winter flow patterns and describe summer and winter flow management provisions; • A certified report on dam structure by a suitably qualified engineer; • A revegetation/landscaping plan; • Detailed plans including a cross-section, site feature survey and locality plan; • The maximum capacity of the dam; and • A report addressing issues outlined within this policy.
Moderate	• A brief report of hydrological and/or structural aspects; • A certified report on dam structure by a qualified engineer; • A revegetation/landscaping plan; • Detailed plans including a cross-section, site feature survey and locality plan; • The maximum capacity of the dam; and • A report addressing issues outlined within this policy.
Low	• Detailed plans including a cross-section, site feature survey and locality plan; • The maximum capacity of the dam; and • A report addressing issues outlined within this policy.

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15. Appendix III: Checklist for Planning a Dam

When planning to construct a dam care should be taken to ensure that all of the following issues are assessed:

- (a) Examine alternative methods in which water demand could be met taking into consideration:
 - (i) reliability
 - (ii) cost
 - (iii) maintenance
- (b) Assess the size of the dam and the demand for water
- (c) Assess the soil types surrounding the dam site to ensure stability (engineering integrity)
- (d) Determine the level of creek flow and assess whether your dam may alter creek flow
- (e) What is the current water quality of the watercourse?
- (f) Will your dam affect water quality or will your dam impact on the creek system by:
 - (i) altering the local ecosystem
 - (ii) impacting on local vegetation
- (g) Will your dam affect other users of the watercourse through:
 - (i) –alteration of flow
 - (ii) –alteration of supply
 - (iii) –possible effects due to dam burst
- (h) What is the size of the catchment and is your dam suitable for the amount of water generated?
 - (i) Have you planned for storm events and evaporation?
 - (j) What measures do you propose to minimise sedimentation?
 - (k) What measure do you propose to control mosquitoes?
 - (l) Will your dam construction affect salinity levels?
- (m) What are the safety issues involved in constructing and maintaining a dam?
- (n) What are the local government requirements for building a dam in your area?
- (o) Is it in a stream protection area?
- (p) Is there a local catchment group in the area?
- (q) Is there a management plan covering the watercourse or catchment in your area?

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Reference Information

Shire of Toodyay Local Planning Policies.

Legislation

[Planning and Development Act 2005](#)

[Planning and Development \(Local Planning Schemes\) Regulations 2015](#)

[Planning and Development Regulations 2009](#)

[Shire of Toodyay Local Planning Scheme No. 4](#)

[State Planning Policy 2.5 - Rural planning – December 2016](#)

[Shire of Toodyay Local Planning Strategy 2018](#)

[State Planning Strategy 2050](#)

Associated documents

[Planning guidelines - Rural planning – December 2016](#)

Draft State Planning Policy 2.9 Planning for Water Guidelines August 2021

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V0	15/05/2012	Adopted new policy	Manager Planning and Development	Council
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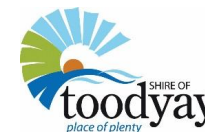
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DRAFT LOCAL PLANNING POLICY - DAMS

SCHEDULE OF SUBMISSIONS



DRAFT LOCAL PLANNING POLICY - DAMS

#	NAME	ADDRESS	SUMMARY OF SUBMISSION	DEVELOPMENT SERVICES COMMENTS ON SUBMISSION
1.	Resident/Ratepayer	Supplied	1. The threshold for “high impact” appears to be very high, particularly given our local context and decreasing annual rainfall. Any impact on natural water courses should be treated as high impact. 2. I would like to see the wording of 5.2.3 strengthened. Placing a dam on a watercourse should not take place. The existing wording does not ensure that dams will not have a negative impact on the environment (Objective 2.0 a.) 3. So that the community are aware of the Shire’s attitude to these matters, I would like to see some reference to the Shire being very focussed on the protection of our natural environment and in particular out waterways. Breaches of policy should be treated seriously and reference to potential penalties if policy is breached should be included.	1. Note the submission. 2. Disagree. This is subjective and should be rejected. 3. Disagree. There may be some instances where placing a dam on-stream is unavoidable, or results in better management of water resources. Therefore, the policy should remain flexible. The default understanding and intent of the policy is that damming on-stream is to be avoided. Using the word ‘should’ as opposed to ‘must’ provides the flexibility. 4. Agree. The policy should be modified to include a section about non-compliance and/or enforcement.

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#	NAME	ADDRESS	SUMMARY OF SUBMISSION	DEVELOPMENT SERVICES COMMENTS ON SUBMISSION
2.	Department of Planning, Lands and Heritage	Locked Bag 2506 PERTH WA 6001	1. The Dams policy conforms with the requirements outlined in the <i>Planning and Development (Local Planning Schemes) Regulations 2015</i> (the Regulations) and draft State Planning Policy 2.9 - Planning for Water (SPP 7.4). 2. It is noted that the policy does not provide exemptions from development approval for Dams in any circumstances. This may create an unintended regulatory burden for the Shire, and it may be worth considering if some exemptions might be warranted - these are provided for in SPP 2.9 cl. 7.4.	1. Note the submission. 2. Agree. The policy should be modified to list exemptions in order to reduce unintended regulatory burden on the Shire. This is only recommended where it can be demonstrated that dam, crossing or rural drain and their associated clearing and site works manage water resources appropriately and do not result in unacceptable off-site impacts. In this instance it is recommended that dams in Rural zoned land are exempt in the policy provided they meet the above and the general development requirements of the Local Planning Scheme in force at the time of the application.



Dogs Policy

Introduction

Current legislation permits property owners to keep a maximum of two dogs without requiring approval from Council. In some circumstances, residents may wish to keep more than the prescribed number; however, approval from the Shire is required. The Shire will consider limited exceptions as provided within this policy to the two-dog rule

The [Dog Act 1976](#) allows residents to apply to keep up to six (6) dogs on their premises provided they have the necessary approval from council. However, it is the policy of the Shire of Toodyay that a maximum of four (4) dogs on a property is the accepted limit.

All dogs residing or staying at the property for longer than eight weeks must be added onto the application.

Surrounding neighbours will be engaged in a consultation process to obtain comments on the application.

Once the application and the survey forms are assessed, a Shire Ranger will contact the applicant to organise a date and time to inspect your property.

The Shire Rangers will also take in account any history recorded against the applicant's dogs while reviewing the application.

NOTE: Application for approval to keep more than the prescribed number of dogs may be withdrawn if the dog owner is proven guilty of an offence under the [Dog Act 1976](#).

Statutory basis

This policy is made pursuant to Section 2.7(2) (b) of the [Local Government Act 1995](#) and provides clarification to Clause 3.2 of the [Shire of Toodyay Dogs Local Law](#), which has been made pursuant to the [Dog Act 1976](#).

Objectives

- To provide guidance to Council, staff and the public on the circumstances under which up to four dogs may be kept on a property.
- To promote animal welfare and the responsible ownership of dogs.
- To ensure the amenity and safety of the neighbourhood is protected.
- To provide a framework for residents who wish to apply to the Shire to foster animals.

Scope

This policy applies to the whole of the Shire of Toodyay.

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Definitions

Act	<i>Dog Act 1976</i>
CEO	Chief Executive Officer
Council	The local government, responsible for making decisions in formal meetings held under the auspices of Part 5 of the Local Government Act 1995 and under the Shire's Standing Orders Local Law 2008.
Shire	The Shire of Toodyay

Mandatory Requirements for Keeping Dogs***Microchipping***

- All dogs over the age of eight weeks must be microchipped.

Sterilization

- All dogs must be sterilized.

Owner's responsibility

A dog owner is responsible under the *Dog Act 1976* to ensure a dog:

- Wears a collar displaying a current Shire registration tag whilst in public places.
- Can be confined to the premises where it lives.
- Is held by a competent person capable of controlling a dog on a maximum two metre fixed lead or eight metre retractable lead when in public places.
- In designated areas, dogs may be exercised off a leash, but the person in control of the dog must carry a leash in case it is required.
- Is registered in one person's name who is over the age of 18 years.

Where the Shire of Toodyay will consider more than two (2) but no more than four (4) dogs in an application.

The following table outlines the circumstances in which the Shire of Toodyay will consider more than two (2) dogs on a property for the purposes of this policy.

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Working dog	Farm dog - no greater than 4, two of which are in training and on a rural property of 40ha or greater.	Assisted Living dog - no more than one per person of need.	
Compassionate	Fostered - no more than 1 dog in a contained environment. • Must be from a registered entity • the dog registered under the registered entity and sterilised. • one foster dog at a time and no more than three dogs in total.	Family - exception where it can be demonstrated the owner can no longer care for a family pet. • Written confirmation required from doctor or other specialist confirming that original owner is no longer able to care for a pet. • Limited to four (4) dogs in total.	Existing dogs -new resident with pre-existing registered dogs and without a history of aggression. The owner must also not have a problematic history. • Must be supported by document evidence of previous registration(s) outside the Shire of Toodyay.

Fees

A non-refundable fee of \$100 must accompany the application when lodged with the Shire. This fee is to cover the costs of processing the application.

Fines and penalties

Heavy fines and penalties can be issued for failing to comply with the *Dog Act 1976* and the Shire of Toodyay's Local Laws.

Breeding

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The breeding of pedigree dogs and designer dogs has become quite popular in Western Australia. However, before you start, you need to obtain planning approval and obtain a kennel licence from the Shire.

If you are considering breeding your dogs as a business, you are required to apply for a kennel licence. The Shire's planning team must be consulted, as only certain zoning under the Shire of Toodyay's Local Planning Scheme No. 4 permits such a business. The rationale behind this is to control numbers of dogs, and therefore reduce associated complaints.

Fostering Animals

Only dogs associated with a registered foster care organisation will be permitted.

Only one (1) foster dog is permitted at any one time.

Applications must include the following information:

- Letter from Foster Care organisation, confirming the applicant is registered with this organisation for the purpose of fostering;
- Details of the property in which the applicant will be keeping foster animals;
- Details of the current animals held on the property;
- Completed Foster Carer Registration Form (would need to be created – this registers the human to have foster animals).

Where a Registered Foster Carer is receiving a new foster animal, a Foster Animal Details Form would need to be completed and provided to the Council, prior to the animal arriving on the property. Details must include:

- Dog name, breed, age, colour;
- Date of sterilisation;
- Microchip number;
- Expected date of arrival.

On the foster animal being placed into a permanent home, the foster carer must notify the Council of the departure of the foster animal within 48 hours.

Approval will be granted or denied, following a review of the applicant, property, current animals kept on the property and any other relevant information.

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Where the fostering of animals exceeds the current legislative approval for two dogs, the conditions outlined in the dog application, below, must be adhered to.

Application Process

1. An application to have more than two (2) dogs (but no more than four (4)) on a property must be accompanied by the following information:
 - Contact details of the applicant, including their full postal address;
 - Residential address of the property on which the dogs will be kept;
 - The reasons for which they require the permit;
 - The total number of dogs to be kept on the property; and
 - Reasons need to be validated and supported with documentation.
2. Prior to determination, all applications to keep up to four (4) dogs on a property will be referred through a mailout to adjoining landowners and properties within 50 meters of the applicant's boundary for public comment. Adjoining landowners will have 21 days from the date of referral to lodge a written submission on the proposed application. Where no response is received, Council will take the view that the adjoining owners have no objection to the application.
3. Prior to determination of an application to keep up to four (4) dogs on a property, an authorised officer of Council will attend the subject property at any time to inspect fencing, dog numbers and registration of dogs. The Shire also welcomes dog owners to make appointments for inspections.
4. Council reserves the right to revoke any approval to keep up to four (4) dogs on a property if it is considered that a breach or offence against the *Shire of Toodyay Dogs Local Law* or the *Dog Act 1976* has been committed. In this circumstance, the Council may require that the number of dogs on the property be reduced to a maximum of two (2) within 14 days.
5. The Chief Executive Officer has delegated authority to perform the functions of Council in respect to the following:
 - a. The determination of applications to keep up to four (4) dogs on a property, where the application meets all requirements of this policy, the *Shire of Toodyay Dogs Local Law* and no written objection has been received from adjoining landowners during the notification period;
 - b. The determination of applications to keep up to four (4) dogs on a property, where the application meets all requirements of this policy, the *Shire of Toodyay Dogs*

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Local Law and a written objection is received which is not considered sufficient reason for refusal of the application;

- c. To refuse any application that does not comply with section 3 of the policy; and
 - d. To refuse applications to keep more than four (4) dogs on a property that are not in connection with a dog kennel facility approved under Council's relevant Local Planning Schemes;
 - e. The determination of a Foster Carer Application and subsequent Foster Animal Details Forms.
6. Any application not considered to fall within the delegation parameters defined in Part 8 will be referred to Council for determination.
7. All dogs within the Shire of Toodyay must meet the requirements set out in PART 3 of the Shire of Toodyay Dogs Local Law – Dogs to be confined.

Legislation

- *Local Government Act 1995* Section 2.7(2)(b)
- *Dog Act 1976*
- *Shire of Toodyay Dogs Local Law Clause 3.2*

Version control information

Version No.	Date Issued	Review position	Developed by	Approved by
V1				Council
V2				

Document control information	
Document Theme	
Document Category	
Document Title	
Document ID	
Document Owner (position title)	
Author (position title)	

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Document control information	
Date of approval	
Approving authority	
Access restrictions	
Date Published	
Date of last review	
Date of next review	
Archived antecedent documents and previous versions	
Location	

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9.1.7 Draft Dogs Policy

Date of Report:	8 June 2022
Applicant or Proponent:	Shire of Toodyay
File Reference:	POL1
Author:	H de Vos – Manager Development and Regulation
Responsible Officer:	H de Vos – Manager Development and Regulation
Previously Before Council:	Nil
Author's Disclosure of Interest:	Nil
Council's Role in the matter:	Executive
Attachments:	1. Draft Dogs Policy ↗

PURPOSE OF THE REPORT

To review the new draft Shire Policy – Dogs with a view to adopt for advertising.

BACKGROUND

The current A.15 Keeping of 3 to 6 Dogs policy was adopted by the Council on 19 June 2012. It had previously manifested itself as a Local Planning Policy which had been adopted on 20 August 2009.

However, the Council revoked the Local Planning Policy at the 19 June 2012 as the Policy did not relate to development under the provisions of the Local Planning Scheme. This Policy provides direction on the number of dogs that can be kept on a property under the *Shire of Toodyay's Dog Local Law* and the *Dog Act 1976*. At the same meeting, the Council resolved to adopt the policy as an administration policy.

Given it is ten years since this iteration was adopted, it is an appropriate time to review the document to ensure it is consistent with the current legal framework and is in line with the expectations of the community.

COMMENTS AND DETAILS

The Shire is currently experiencing an unprecedented number of compliance issues relating to dog regulation. The most consistent compliance issue relates to landowners and occupiers having more than two dogs on their property. However, the Shire has also dealt with dangerous dog, dog confinement, dog noise and dog breeding issues.

Accordingly, the Council has had to deal with a number of retrospective applications for 3 to 6 dogs, some of which have also been challenged through the State Administrative Tribunal.

This has resulted in a considerable drain on already limited staff resources as often these retrospective applications and associated appeals are complex in nature.

Therefore, Council is seeking a more robust policy to clearly communicate its position on dogs within the Shire, whilst also providing clarity to dog owners (and prospective ones), as

ORDINARY COUNCIL MEETING MINUTES

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well as a clearer way for the issue to be administered and regulated by Shire staff and elected members.

A draft policy is provided at **Attachment 1** for Council's consideration.

IMPLICATIONS TO CONSIDER**Consultative:**

There is no statutory requirement to advertise. The Shire's adopted M.2 Public Consultation – Formal Matters policy states that consultation (in relation to policy development) is required only in instances of proposals, projects or Council functions that are of Shire wide significance. Still, it is likely that this particular proposal will be of some community interest as it is a policy which will have compliance implications for the community in the future.

Council can choose to advertise the draft policy if it feels it is warranted in this case.

In this instance, despite there being no formal requirement to advertise, it is recommended that the policy is advertised in a method akin to the procedures set out for the advertising of a Local Planning Policy. This will include:

- Advertising in the *Toodyay Herald*;
- A notice on the Shire's Facebook page; and
- A notice on the Shire's website.

The period of advertising will be 21 days.

However, there has already been internal consultation where elected members have had access to review the draft policy in the MS Teams environment and where the draft policy was examined in depth at a Council Workshop held on 8 June 2022. This workshop was attended by Shire staff and seven elected members.

Significantly at this workshop, the elected members present wanted to see a policy more reflective of their position to limit the maximum number of dogs on any property to 4. It was felt that by being called a 3 to 6 dog policy, it would be counterproductive to this intent. In renaming the policy a 'Dogs' policy, it also provides future scope and flexibility to introduce other dog related policy functions into future iterations.

Strategic:

Shire of Toodyay Community Strategic Plan – Toodyay 2028

Governance: The way the Shire Leads and Operates

O 1: Provide accountable and transparent leadership for the community

O 2: Consistently improve our governance practices

Policy related:

A.15 Keeping of 3 to 6 Dogs policy.

The Shire of Toodyay is one of two Local Government Authorities (LGA's) in Western Australia, found to have a dedicated policy on the keeping of 3 to 6 dogs. Most other LGA's are relying instead on the Local Law for compliance and enforcement, and a series of fact sheets for educational purposes.

The benefit is that a policy does allow some discretion in that they are not wholly inflexible. Additionally, the process for amending a policy is relatively simple and therefore the Shire

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can tweak a policy to meet the changing needs and expectations of the community as well as being able to remain consistent with any changes to the statutory framework.

Financial:

There are no immediate financial implications as a result of this policy as it does not carry with it a mandatory statutory advertising requirement. Were the Council to determine that some advertising was warranted – then the Shire would be responsible for the cost of this. In a newspaper, two advertisements could be approximately \$500, though this money has been factored into the upcoming budget.

If and when the policy is adopted, the Shire potentially faces appeals to its decisions at the State Administrative Tribunal. Additionally, the Shire may be challenged over any punitive measures it decides to take, through the legal system.

In each instance, this is generally a costly exercise as the Shire must divert resources to pay for consultants and lawyers to navigate this process.

Legal and Statutory:

This policy is made pursuant to Section 2.7(2) (b) of the [Local Government Act 1995](#) and provides clarification to Clause 3.2 of the [Shire of Toodyay Dogs Local Law](#), which has been made pursuant to the [Dog Act 1976](#).

Risk related:

Health	Mental health issues arising from altercations and incidents.	Moderate (9)
Financial Impact	Legal action against Shire	Moderate (9)

Workforce related:

A renewed policy providing certainty and clarity will assist officers in administering and regulating the issue of dogs.

VOTING REQUIREMENTS

Simple Majority

Cr Madacsi moved the Officer's Recommendation, as a motion, with an amendment to Point 1 as follows:

That Council:

1. **Adopts the Draft Dogs Policy (Attachment 1), as amended, for the purposes of public advertising subject to the following amendments:**
 - (a) **Amend p. 3 Exception Table to read:**
 - i. **Working Dog, amend Farm dog – to include “or, where it can demonstrated an additional dog is required because of an increase in stock or landholding”.**
 - ii. **Compassionate: To be amended to read: “New residents with pre-existing dogs provided;**
 - a. **The dogs were registered at the previous locality.**

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b. The dogs have no history of aggression.

c. The owner has no previous breaches or offences under the Dog Act 1976

(b) Amend mandatory sterilization to read – sterilization is to be compliant with current State government legislation at the time of application.

2. Authorises the Chief Executive Officer to make any necessary minor typographical changes to the above policy, prior to advertising;

3. Requests that the Draft Dog Policy is brought back to the August 2022 Ordinary Council Meeting after the advertising is completed - for final review.

Clarification was sought.

Cr Ruthven moved an amendment to the motion as follows:

That a point 1(c) and 1(d) be included to read as follows:

(c) All dogs registered at previous locality have no history of aggression

(d) In part 2 replace the z in the word sterilization with an s.

Cr Madacsi accepted the amendments to the substantive motion.

Clarification was sought.

Cr McCormick moved an amendment to the Policy as follows:

That at Point 1(b) the words “or nuisance behaviour” be inserted after the word “aggression”

Cr Madacsi accepted the amendment to the substantive motion.

The substantive motion was put.

OFFICER'S RECOMMENDATION/COUNCIL RESOLUTION NO. OCM108/06/22

MOVED Cr R Madacsi

That Council:

4. Adopts the Draft Dogs Policy (Attachment 1), as amended, for the purposes of public advertising subject to the following amendments:

(a) Amend p. 3 Exception Table to read:

i. Working Dog, amend Farm dog – to include “or, where it can demonstrated an additional dog is required because of an increase in stock or landholding”.

ii. Compassionate: To be amended to read: “New residents with pre-existing dogs provided;

a. The dogs were registered at the previous locality.

b. The dogs have no history of aggression or nuisance behaviour.

c. The owner has no previous breaches or offences under the Dog Act 1976

(b) Amend mandatory sterilization to read – sterilization is to be compliant with current State government legislation at the time of application.

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- (c) All dogs registered at previous locality have no history of aggression.
- (d) In part 2 replace the 'z' in the word sterilization with an 's'.
- 2. Authorises the Chief Executive Officer to make any necessary minor typographical changes to the above policy, prior to advertising;
- 3. Requests that the Draft Dog Policy is brought back to the August 2022 Ordinary Council Meeting after the advertising is completed - for final review.

MOTION CARRIED 7/0

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9.1.2 Lot Sub 101 Beaufort Street, West Toodyay - 4 Dog Application

Date of Report:	1 April 2022
File Reference:	A1320/SUB101BEAU
Author:	T Prater – Planning and Compliance Officer
Responsible Officer:	H de Vos – Acting Manager Development and Regulation
Previously Before Council:	No
Author's Disclosure of Interest:	Nil
Council's Role in the matter:	Quasi-Judicial
Attachments:	1. 3 - 6 Dog Permit Ranger Inspection 🔗

SUMMARY

Applicant: B Hollister and J Ryder
Owner: B Hollister and J Ryder
Proposal: 4 dog application
Location: Lot Sub 101 Beaufort Street, West Toodyay

PURPOSE OF THE REPORT

For Council to consider an application for the keeping of 4 dogs at Lot Sub 101 (17) Beaufort St, West Toodyay. Council is being requested to determine this application as it does not meet all the requirements of Council's *Keeping of 3 to 6 Dogs* policy.

BACKGROUND

The Applicant is seeking approval to have 4 dogs at Lot Sub 101 (17) Beaufort Street in the locality of West Toodyay. The applicant has lived in Toodyay for two and a half years.

The owners have two Staffordshire Terriers and two Labrador Retrievers.

The two Staffordshire Terriers have lived with the applicant since they were puppies. Before moving to West Toodyay, both dogs were previously registered with the Shire of Northam.

The owners acquired one Labrador Retriever 2 years ago and one approx. 7 months ago. Both as puppies. The Labrador Retrievers are used as therapy dogs in an aged care home.

The owners have indicated that they intend to breed from the Labrador Retrievers, and each dog will have two litters of puppies each, before being spayed. The owners have also indicated that most of the pups would be trained as therapy dogs and breeding would only occur if there were appropriate homes available.

No.	Breed	Colour	Name	Sex	Sterilised	Age	Reg. No.
1	Staffordshire Terrier, Labrador, Kelpie	Tan	Rusty	M	Y	10 Yrs.	2200187

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No.	Breed	Colour	Name	Sex	Sterilised	Age	Reg. No.
	cross.						
2	Staffordshire Terrier	Brindle & White	Steve	M	Y	4 Yrs.	2200193
3	Labrador Retriever	Black	Darcy	F	N	2 Yrs.	TBA
4	Labrador Retriever	Golden	Koda	F	N	7 MThs	TBA

COMMENTS AND DETAILS

This application for the keeping of (4) four dogs at Lot Sub101 (17) Beaufort St, West Toodyay would be a variation to Council's Policy as it specifies up to 2 dogs can be approved on a Special Residential zoned property.

Earlier Approvals

Records indicate the Shire has not received a 3-6 Dog application for this property.

Applicant's Justification

The owner's justification for keeping more than two dogs at the address is they have two Staffordshire Terriers that are pets and have obtained two Labrador Retrievers that are used as therapy dogs in aged care facilities.

Once the Staffordshire Terriers pass away the owners do not intend on having any more than two dogs.

The Property

Lot Sub 101 (17) Beaufort Street, West Toodyay has an area of 3.62ha and is zoned 'Special Residential' under the Shire's Local Planning Scheme No 4.

Ranger Inspection

The Shire's Ranger Services inspected the property on 7 January 2022.

The Rangers' findings are below:

Aspect	Ranger Comments
Fencing	Suitable for the breed of dogs.
Materials and Height of Fencing	Fencing is suitable for the breed of dogs. Ring lock mesh. Star Picket and perm a pole supports. Approximately 1.2m high.
Locking Devices on Gates	Rural gates approximately 1.2m tall. Chain latch on all gates.
Housing	All dogs have bedding outside on raised beds. All dogs also have the inside couch to sleep on in the living room.

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Aspect	Ranger Comments
Condition of Existing Dogs	All dogs are in good condition.
Dog(s) / Owners History	Shire of Toodyay Ranger Services have no history of any dog related issues at this property.

Please see **Attachment 1 - 3-6 Dog Permit Ranger Inspection** for further details.

Whilst the Rangers have inspected the premises and determined that four dogs could be supported, additional information has been provided by the applicant who have stated an intention to breed puppies.

Given this information, the Officers have determined that this application is not supportable as the breeding of the puppies will constitute an Animal Establishment which is an 'X' use for the Special Residential zone.

IMPLICATIONS TO CONSIDER**Consultative:**

Consultation with eight (8) landowners were undertaken in accordance with section 5 of Council's *Keeping of 3 to 6 Dogs* policy with no objections received.

Strategic:

There are no adverse strategic implications envisaged from this report.

Policy related:

The application does not meet all the requirements of Council's *Keeping of 3 to 6 Dogs* policy and is being referred to full Council for consideration.

Under the Policy, the maximum number of dogs that could be approved by Officers in the 'Special Residential' zone is 2.

Under section 4 of the Policy, an application to have more than 2 dogs on a property must, among other things, be accompanied by the reason(s) for which the applicant requires the permit.

Financial:

There are no direct financial implications for the Shire due to the recommendations of this Report.

Legal and Statutory:

Section 26 of the *Dog Act 1976* outlines the limitations on dog numbers. The Act allows for the local government to create Local Laws to control the number of dogs on a property.

Clause 3.2(3) of the Shire's Dogs Local Law establishes that Council may approve more than two dogs on a property.

Shire of Toodyay Local Planning Scheme No. 4 refers to an animal establishment, as an X use for this zone. Given the applicants have indicated that they wish to breed their dogs, this is consistent with the definition of an animal establishment and, therefore not permitted.

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Risk related:

Adverse risk implications from the recommendations of this Report are not envisaged. However, if Council is of a mind to refuse the application, the applicants might have a right of appeal to the State Administrative Tribunal (SAT). Should the applicants elect to appeal Council's decision (refusal or dissatisfied with conditions of approval), the Shire may need to assign resources to defend its position at SAT.

Workforce related:

This matter has taken time in being brought to the Council due to resourcing and staffing restrictions which have resulted in longer than normal wait times.

Whilst it is regrettable, the Shire is under no statutory obligation to determine such a matter within a particular timeframe.

VOTING REQUIREMENTS

Simple Majority

OFFICER'S RECOMMENDATION/COUNCIL RESOLUTION NO. OCM043/04/22

MOVED Cr B Ruthven

SECONDED Cr S Pearce

That Council:

1. Refuses the application for the keeping of four (4) dogs on Lot Sub 101 (17) Beaufort Street, West Toodyay, due to the owner indicating that they wish to breed their Labradors retrievers, which is an Animal Establishment under the Local Planning Scheme No.4. and is an X use (not permitted).
2. Requests that the applicant is advised that only (2) two dogs are authorised on the property.
3. Requests that the applicant is advised that the (2) two dogs on the property will be kept under control by means of Fencing and gates on the premises or a portion of the premises where the dogs are to be contained. This containment must be of a suitable type, height, and construction that prevent the dogs from passing over, under or through it always.
4. Requests that the applicant is advised that the additional two dogs must be removed from the property or surrendered to the Ranger within 28 days.

Voted For: Crs R Madacsi, B Ruthven, C Duri, P Hart, S McCormick, M McKeown, S Pearce and D Wrench

Voted Against: Nil

MOTION CARRIED 8/0

TOODYAY SHIRE DEVELOPMENT APPLICATION COVER LETTER REF PROPOSED EXTERNAL CHANGES
TO HOUSE AT 34 STIRLING TERRACE TOODYAY.

PLUS ADDITION OF CARPORT.

I am making application for changes to be made to the external appearance of my heritage listed home at 34 Stirling Terrace Toodyay. The proposed changes are as follows;

- Replace parlour doors at front of house leading to front verandah with a 12 pane Georgian sash window same as one in situ. This will bring back the symmetry to the home and give me additional security. Brick work and cement render will be completed to match existing window.
- Back window in kitchen area to be removed and replaced with a timber framed fixed pane window, of a smaller in size. Cement render, brick work will be done to match other side of back door. This small change will alter the kitchen inside, allowing me more bench space.

My other request is for a carport to be added to the property. This will be situated at the end of the driveway.

I have enclosed photos of the areas of the home for change and a letter from Lara Watson, Heritage Officer, detailing her input in relation to these changes.

Regards,



Cheryl-Jean

cheryljean3@hotmail.com

From: Lara Watson <lara.watson@dplh.wa.gov.au>
Sent: Monday, 16 May 2022 2:44 PM
To: cheryljean3@hotmail.com
Subject: Referral DR P4125-49557 - reinstatement of window and other works to 34 Stirling Tce Toodyay

Hi Cheryl

Thank you for your email, enquiring about changes you are contemplating to your home at 34 Stirling Terrace Toodyay.

The place is entered on the State Register as part of P4125 *Roman Catholic Church Group, Toodyay* and is a two-storey Victorian Georgian style brick and iron building, known as 'The Ship', which was constructed in the c.1860s. I understand you are seeking our preliminary advice on the following works to assist your application to the decision-maker:

1. Kitchen - remove and recover ex. timber double hung sliding sash window from rear (north) wall; build up sill height of ex. opening to provide clearance internally for Kitchen bench, aligning to base of opening to top of ex. external render; install new fixed window in modified opening.
2. Sitting Room - reconstruct original double hung sliding sash window to front (south) elevation. This will involve: removal of ex. 6-panel part glazed French doors; partial infill of door opening to match original window sill height; installation of ex. timber sliding sash window recovered from Kitchen north wall.

I've had quick look at the Heritage Council's assessment documentation and the Conservation Management Plan (*Avondown Centre, Toodyay Conservation Plan*, Gavan Reilly Architect with Helen Burgess, Historian, May 2003) and can advise that in principle the changes seem supportable subject to the following comments:

- It is noted that the window you are proposing to relocate from the Kitchen to the Sitting Room is currently fitted with single pane sashes, which differ from the 6-pane sashes to the existing Kitchen front window. It would be preferable for the reconstructed Sitting Room window to match the original 6-pane sash configuration evidenced in the existing Kitchen front window. Perhaps the sashes can be modified to meet this requirement?
- The new fixed window on the north side should preferably be of timber construction so as to be compatible with other existing windows on the building.
- Masonry and rendered surfaces should be made good to match existing.
- It would also be useful to make an archival record of the existing French doors and rear window prior to undertaking the works.

Please note that these comments are based on an preliminary assessment of the proposal's impact on P4125 *Roman Catholic Church Group, Toodyay* and are given from a heritage perspective to assist your application to the decision-maker.

These comments do not replace the need for any required approvals from the decision-maker.

If I can be of any further assistance, please contact me via phone or email.

Kindest regards

Lara Watson | Principal Heritage Officer | Heritage Services
140 William Street, Perth WA 6000
6552 4023
www.dplh.wa.gov.au

		3/DP415396	
WESTERN	AUSTRALIA	DUPLICATE EDITION 1	DATE DUPLICATE ISSUED 5/5/2021
RECORD OF CERTIFICATE OF TITLE UNDER THE TRANSFER OF LAND ACT 1893		VOLUME 4001	FOLIO 912

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

BC Roberts
REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 3 ON DEPOSITED PLAN 415396

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

CHERYL JEAN OF 11 DUNSFOLD STREET BUTLER WA 6036

(T 0936960) REGISTERED 10/11/2021

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

1. *O687046 NOTIFICATION. HERITAGE ACT 2018. AS TO PORTION ONLY - SEE DEPOSITED PLAN 415396. LODGED 30/3/2021.
2. EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR SEWERAGE PURPOSES TO WATER CORPORATION - SEE DEPOSITED PLAN 415396

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

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

STATEMENTS:

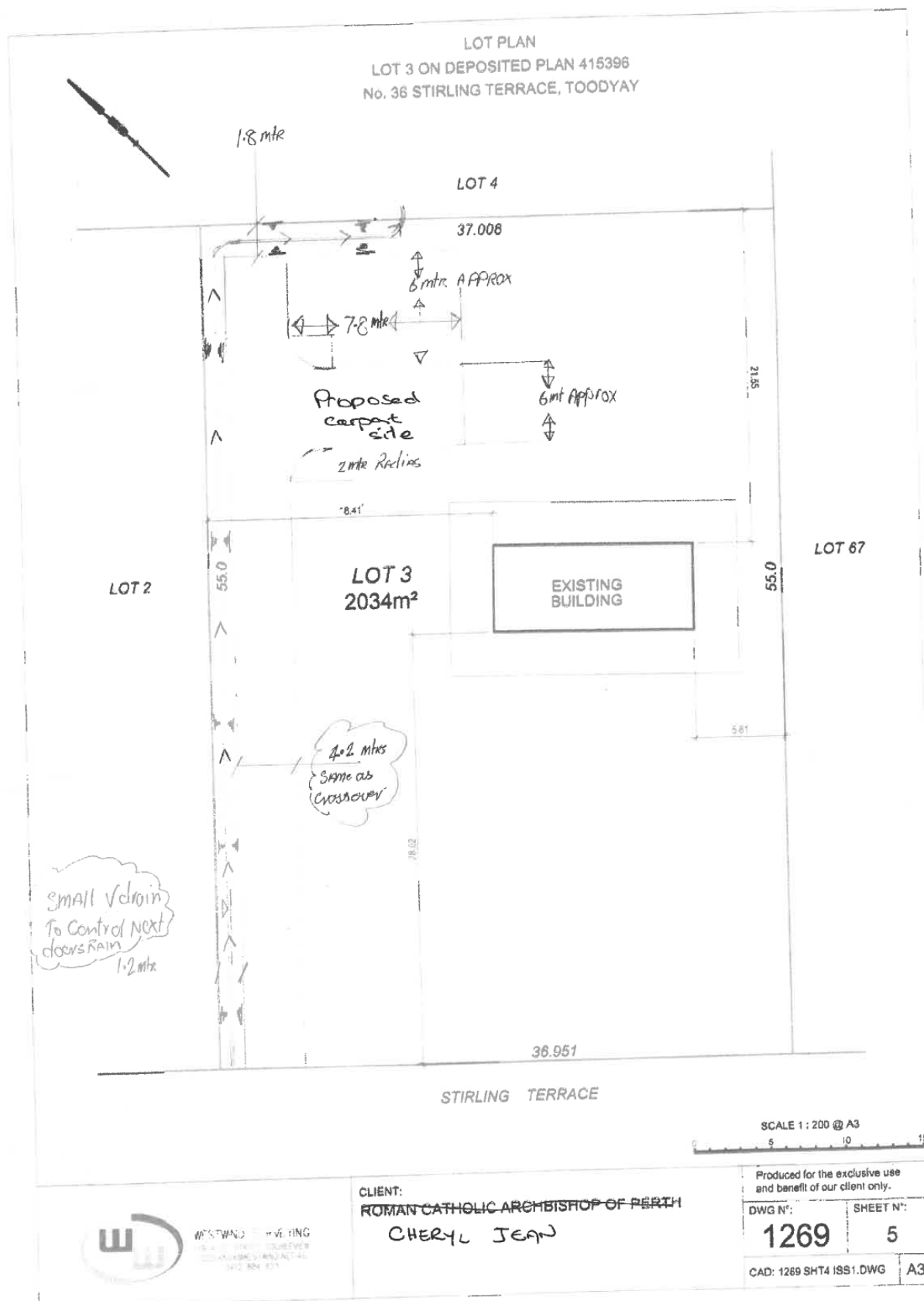
The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP415396
PREVIOUS TITLE: 1729-310
PROPERTY STREET ADDRESS: 34 STIRLING TCE, TOODYAY.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF TOODYAY

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING
O936960

LANDGATE COPY OF ORIGINAL NOT TO SCALE 09/03/2022 11:37 AM Request number: 63296133


Landgate
www.landgate.wa.gov.au



**PROPOSED CARPORT/SHED
FOR C. JEAN
LOT 3 - 34 STIRLING TERRACE
TOODYAY**

Engineer certified
copy.



AVON VALLEY DESIGN & DRAFTING SERVICE ©

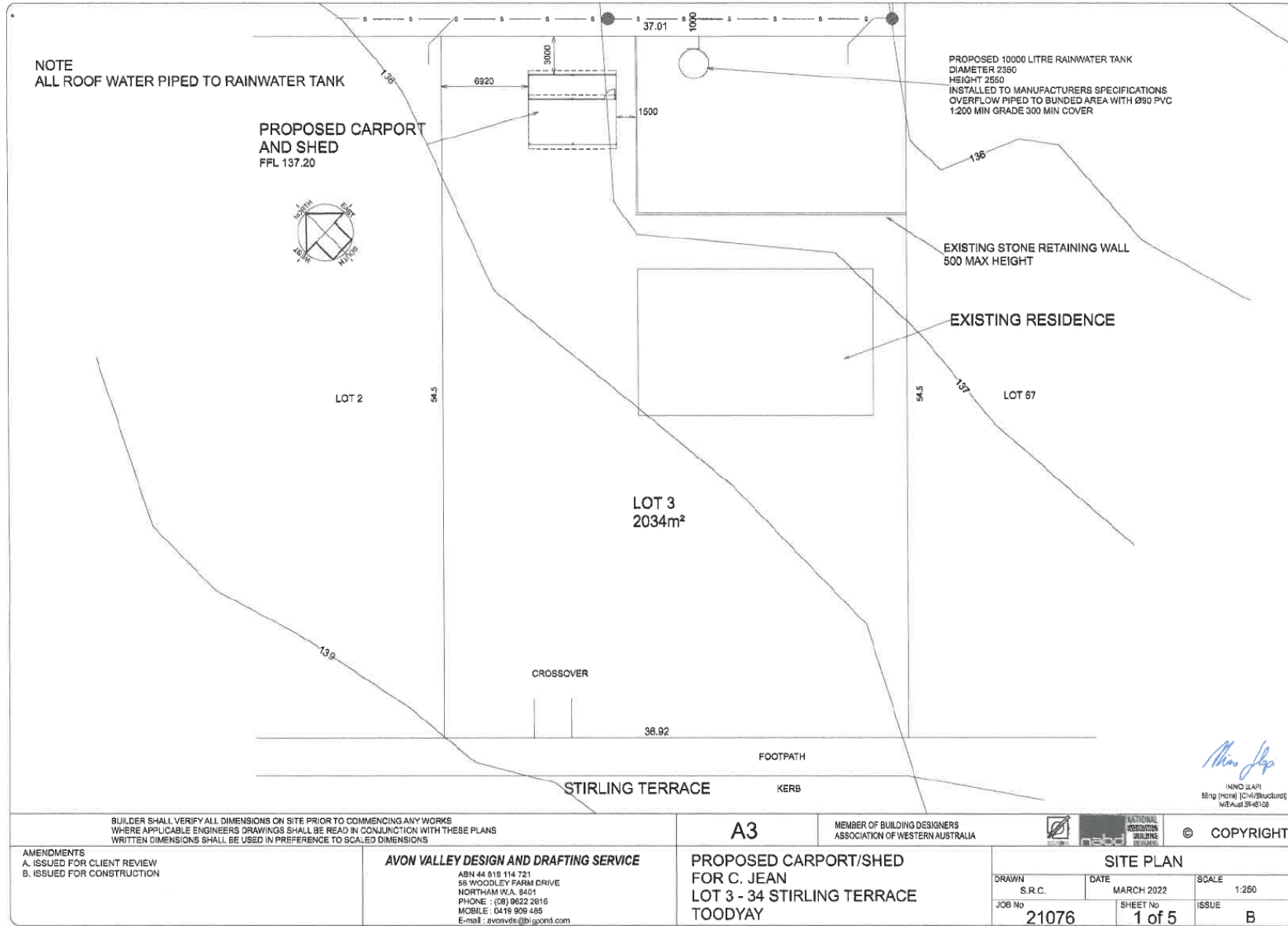
**56 WOODLEY FARM DRIVE
NORTHAM W.A. 6401**

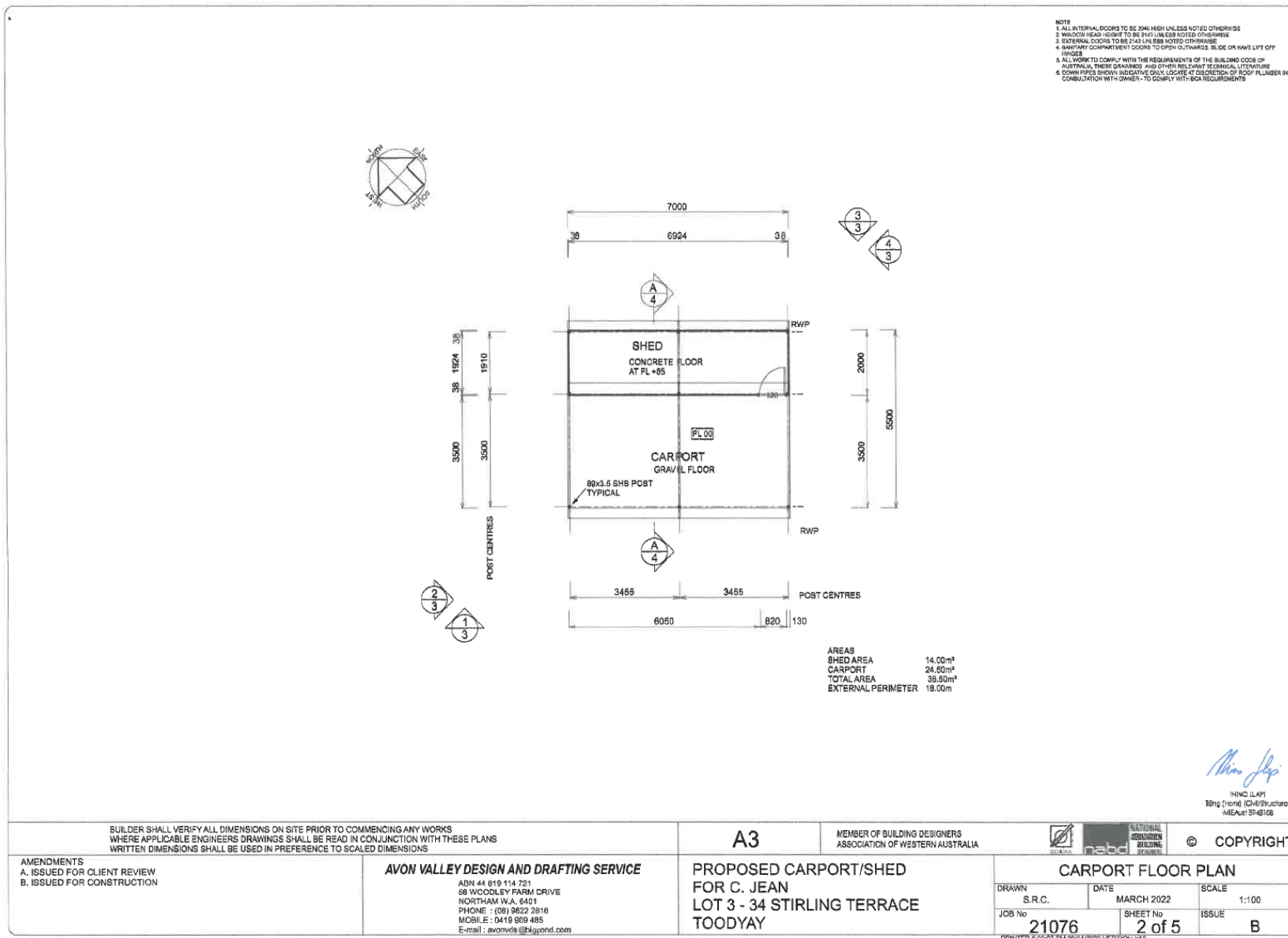
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3311g (11011) (CM/Structural)
MEMBER 5540728

BUILDER SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING ANY WORKS WHERE APPLICABLE ENGINEERS DRAWINGS SHALL BE READ IN CONJUNCTION WITH THESE PLANS WRITTEN DIMENSIONS SHALL BE USED IN PREFERENCE TO SCALED DIMENSIONS		A3	MEMBER OF BUILDING DESIGNERS ASSOCIATION OF WESTERN AUSTRALIA									
AMENDMENTS A. ISSUED FOR CLIENT REVIEW B. ISSUED FOR CONSTRUCTION	AVON VALLEY DESIGN AND DRAFTING SERVICE ABN 44 819 114 721 58 WOODLEY FARM DRIVE NORTHAM W.A. 5401 PHONE : (08) 9622 2816 MOBILE: 0419 909 485 E-mail : avonvda@bigpond.com	PROPOSED CARPORT/SHED FOR C. JEAN LOT 3 - 34 STIRLING TERRACE TOODYAY		<table border="1" style="width: 100%;"> <tr> <td colspan="2" style="text-align: center;">CARPORT ELEVATIONS</td> </tr> <tr> <td>DRAWN S.R.C.</td> <td>DATE MARCH 2022</td> </tr> <tr> <td>SCALE 1:100</td> <td>ISSUE B</td> </tr> <tr> <td>JOB No 21076</td> <td>SHEET No 3 of 5</td> </tr> </table>	CARPORT ELEVATIONS		DRAWN S.R.C.	DATE MARCH 2022	SCALE 1:100	ISSUE B	JOB No 21076	SHEET No 3 of 5
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DRAWN S.R.C.	DATE MARCH 2022											
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JOB No 21076	SHEET No 3 of 5											

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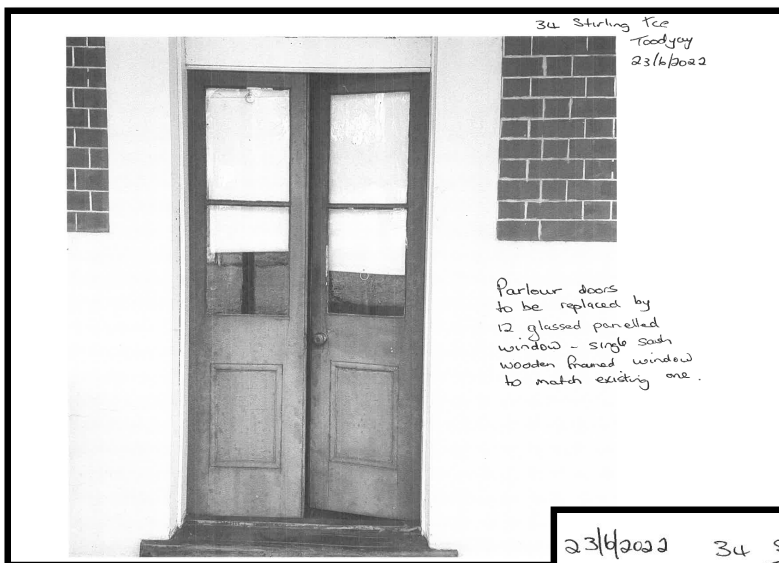
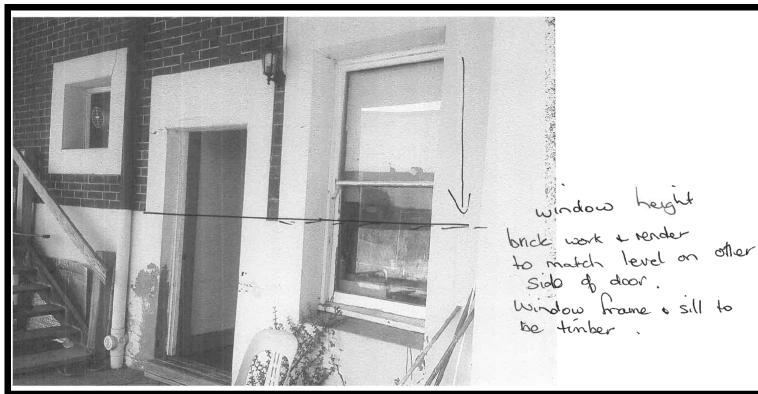
23/6/2022

34 Stirling Tce
Toodyay.

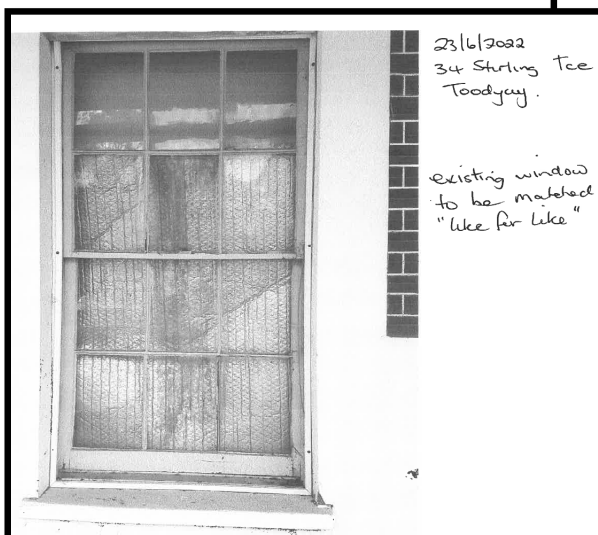
Picture showing front view of house.
Wanting to replace existing parlour
doors to bring back symmetry of
original structure.



to be replaced
with matching
window.



23/6/2022 34 Stirling Tce
 Toodyay.



Proposed carport design.





Department of **Planning,
Lands and Heritage**

Your ref: P2202-67
Our ref: P4125/49748
Enquiries: Katie Davies (08) 6552 4638

Chief Executive Officer
Shire of Toodyay
dso@toodyay.wa.gov.au

Attention: Tobie Prater

Dear Sir

ROMAN CATHOLIC CHURCH GROUP, TOODYAY

Under the provisions of Section 73 of the *Heritage Act 2018*, the proposal as described below has been referred to the Heritage Council for its advice.

Place Number	P4125
Place Name	Roman Catholic Church Group, Toodyay
Street Address	34 Stirling Terrace
Referral date	30 June 2022
Proposal Description	Install carport and replace windows

We received the following information prepared by Cheryl Jean:

Cover Letter – Toodyay Shire Development Application – Proposed External Changes to House at 34 Stirling Terrace
Email from Lara Watson – Referral P4125-49557- reinstatement of window and other works to 34 Stirling Terrace Toodyay
Lot Plan
Proposed Carport/Shed – Site Plan
Proposed Carport/Shed – Floor Plan
Proposed Carport/Shed – Elevations
Proposed Carport/Shed – Sections & Details
Proposed Carport/Shed – Electrical Plan
Annotated Images of 34 Stirling Terrace Toodyay 1-5

The proposal has been considered in the context of the identified cultural heritage significance of *Roman Catholic Church Group* and the following advice is given:

Findings

- *Roman Catholic Church Group, Toodyay*, comprising 'The Ship' (fmr Residence, c.1860s, 1902, 1986-87), a two storey Victorian Georgian style brick and shingle (covered with corrugated iron) building; Mercy House Convent School (1903), a two storey Federation Queen Anne style brick and tile building with associated outbuildings, (construction dates

Postal address: Locked Bag 2506 Perth WA 6001 Street address: 140 William Street Perth WA 6000
Tel: (08) 6551 8002 info@dplh.wa.gov.au www.dplh.wa.gov.au
ABN 68 565 723 484
wa.gov.au

unknown), including a Kitchen, Laundry, and Boiler Room; St Aloysius House (1921), a two storey Federation Arts and Crafts style building; O'Connor House (1928-29, 1939), a single storey Inter war Georgian Revival style brick and corrugated iron building; and St John the Baptist Church (1963), a Late Twentieth Century Ecclesiastical brick and tile church; all set in an open site adjacent to the Avon River, has cultural heritage significance is an excellent representative example of a purpose built complex of religious buildings.

- The proposal is for the onsite addition of a carport/shed and water tank, as well as window modifications to the residential building, known as 'The Ship', that is part of *Roman Catholic Church Group, Toodyay*.
- The proposed carport/shed and water tank are freestanding independent structures that are set to the rear of the site and will not dominate the significant residential building.
- The proposed modifications to the parlour window will reinstate the original feature of a twelve paned timber sash window. It will also reinstate the rendered brickwork and match the existing adjacent window like for like.
- The proposed modifications for the rear kitchen window will replace the existing with a new smaller timber sash window and increase the height of the rendered brick sill to match the height of the existing render line.
- Overall, the proposed additions and external window modifications will not negatively impact the heritage significance of *Roman Catholic Church Group, Toodyay*.

Advice

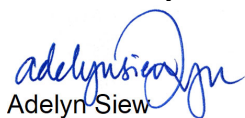
The proposal, in accordance with the plans submitted, is supported subject to the following condition:

1. All reconstruction of brickwork and render shall be carried out in a like for like manner that matches existing materials, profiles and finishes.

Please be reminded that you are required under r.42(3) of the *Heritage Regulations 2019* to provide us with a copy of the Council determination within 10 days after making the decision.

Should you have any queries regarding this advice please contact Katie Davies at katie.davies@dplh.wa.gov.au or on 6552 4638.

Yours faithfully



Adelyn Siew
Director
Historic Heritage Conservation

27 July 2022

cc: Cheryl Jean, cheryljean3@hotmail.com

TOODYAY SHIRE DEVELOPMENT APPLICATION COVER LETTER REF PROPOSED EXTERNAL CHANGES
TO HOUSE AT 34 STIRLING TERRACE TOODYAY.

PLUS ADDITION OF CARPORT.

I am making application for changes to be made to the external appearance of my heritage listed home at 34 Stirling Terrace Toodyay. The proposed changes are as follows;

- Replace parlour doors at front of house leading to front verandah with a 12 pane Georgian sash window same as one in situ. This will bring back the symmetry to the home and give me additional security. Brick work and cement render will be completed to match existing window.
- Back window in kitchen area to be removed and replaced with a timber framed fixed pane window, of a smaller in size. Cement render, brick work will be done to match other side of back door. This small change will alter the kitchen inside, allowing me more bench space.

My other request is for a carport to be added to the property. This will be situated at the end of the driveway.

I have enclosed photos of the areas of the home for change and a letter from Lara Watson, Heritage Officer, detailing her input in relation to these changes.

Regards,



Cheryl-Jean

cheryljean3@hotmail.com

From: Lara Watson <lara.watson@dplh.wa.gov.au>
Sent: Monday, 16 May 2022 2:44 PM
To: cheryljean3@hotmail.com
Subject: Referral DR P4125-49557 - reinstatement of window and other works to 34 Stirling Tce Toodyay

Hi Cheryl

Thank you for your email, enquiring about changes you are contemplating to your home at 34 Stirling Terrace Toodyay.

The place is entered on the State Register as part of P4125 *Roman Catholic Church Group, Toodyay* and is a two-storey Victorian Georgian style brick and iron building, known as 'The Ship', which was constructed in the c.1860s. I understand you are seeking our preliminary advice on the following works to assist your application to the decision-maker:

1. Kitchen - remove and recover ex. timber double hung sliding sash window from rear (north) wall; build up sill height of ex. opening to provide clearance internally for Kitchen bench, aligning to base of opening to top of ex. external render; install new fixed window in modified opening.
2. Sitting Room - reconstruct original double hung sliding sash window to front (south) elevation. This will involve: removal of ex. 6-panel part glazed French doors; partial infill of door opening to match original window sill height; installation of ex. timber sliding sash window recovered from Kitchen north wall.

I've had quick look at the Heritage Council's assessment documentation and the Conservation Management Plan (*Avondown Centre, Toodyay Conservation Plan*, Gavan Reilly Architect with Helen Burgess, Historian, May 2003) and can advise that in principle the changes seem supportable subject to the following comments:

- It is noted that the window you are proposing to relocate from the Kitchen to the Sitting Room is currently fitted with single pane sashes, which differ from the 6-pane sashes to the existing Kitchen front window. It would be preferable for the reconstructed Sitting Room window to match the original 6-pane sash configuration evidenced in the existing Kitchen front window. Perhaps the sashes can be modified to meet this requirement?
- The new fixed window on the north side should preferably be of timber construction so as to be compatible with other existing windows on the building.
- Masonry and rendered surfaces should be made good to match existing.
- It would also be useful to make an archival record of the existing French doors and rear window prior to undertaking the works.

Please note that these comments are based on an preliminary assessment of the proposal's impact on P4125 *Roman Catholic Church Group, Toodyay* and are given from a heritage perspective to assist your application to the decision-maker.

These comments do not replace the need for any required approvals from the decision-maker.

If I can be of any further assistance, please contact me via phone or email.

Kindest regards

Lara Watson | Principal Heritage Officer | Heritage Services
140 William Street, Perth WA 6000
6552 4023
www.dplh.wa.gov.au

		3/DP415396	
WESTERN	AUSTRALIA	DUPLICATE EDITION 1	DATE DUPLICATE ISSUED 5/5/2021
RECORD OF CERTIFICATE OF TITLE UNDER THE TRANSFER OF LAND ACT 1893		VOLUME 4001	FOLIO 912

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

BC Roberts
REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 3 ON DEPOSITED PLAN 415396

REGISTERED PROPRIETOR: (FIRST SCHEDULE)

CHERYL JEAN OF 11 DUNSFOLD STREET BUTLER WA 6036

(T 0936960) REGISTERED 10/11/2021

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

1. *O687046 NOTIFICATION. HERITAGE ACT 2018. AS TO PORTION ONLY - SEE DEPOSITED PLAN 415396. LODGED 30/3/2021.
2. EASEMENT BURDEN CREATED UNDER SECTION 167 P. & D. ACT FOR SEWERAGE PURPOSES TO WATER CORPORATION - SEE DEPOSITED PLAN 415396

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

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

STATEMENTS:

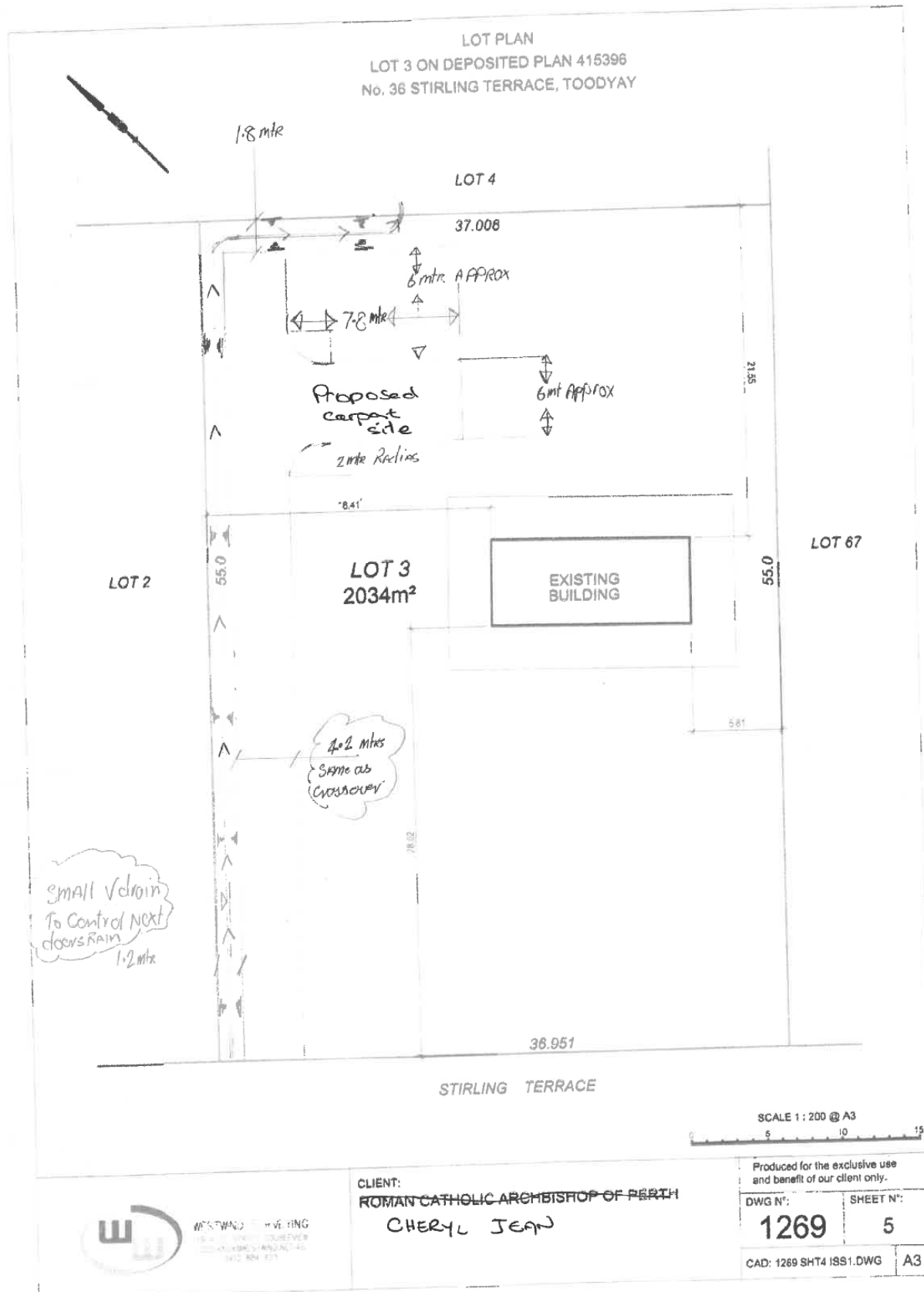
The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP415396
PREVIOUS TITLE: 1729-310
PROPERTY STREET ADDRESS: 34 STIRLING TCE, TOODYAY.
LOCAL GOVERNMENT AUTHORITY: SHIRE OF TOODYAY

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING
O936960

LANDGATE COPY OF ORIGINAL NOT TO SCALE 09/03/2022 11:37 AM Request number: 63296133


Landgate
www.landgate.wa.gov.au



**PROPOSED CARPORT/SHED
FOR C. JEAN
LOT 3 - 34 STIRLING TERRACE
TOODYAY**

Engineer certified
copy.



AVON VALLEY DESIGN & DRAFTING SERVICE ©

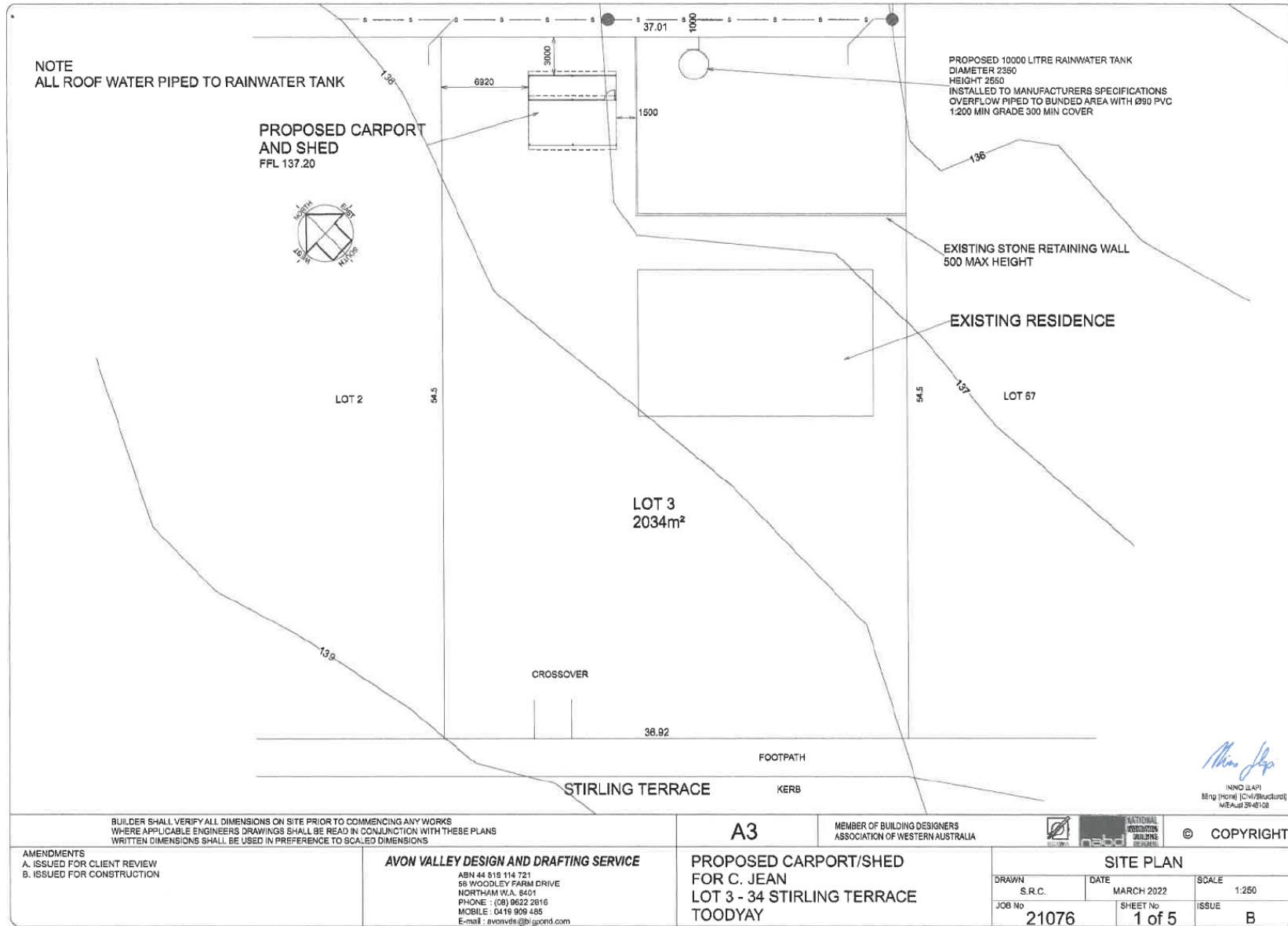
**56 WOODLEY FARM DRIVE
NORTHAM W.A. 6401**

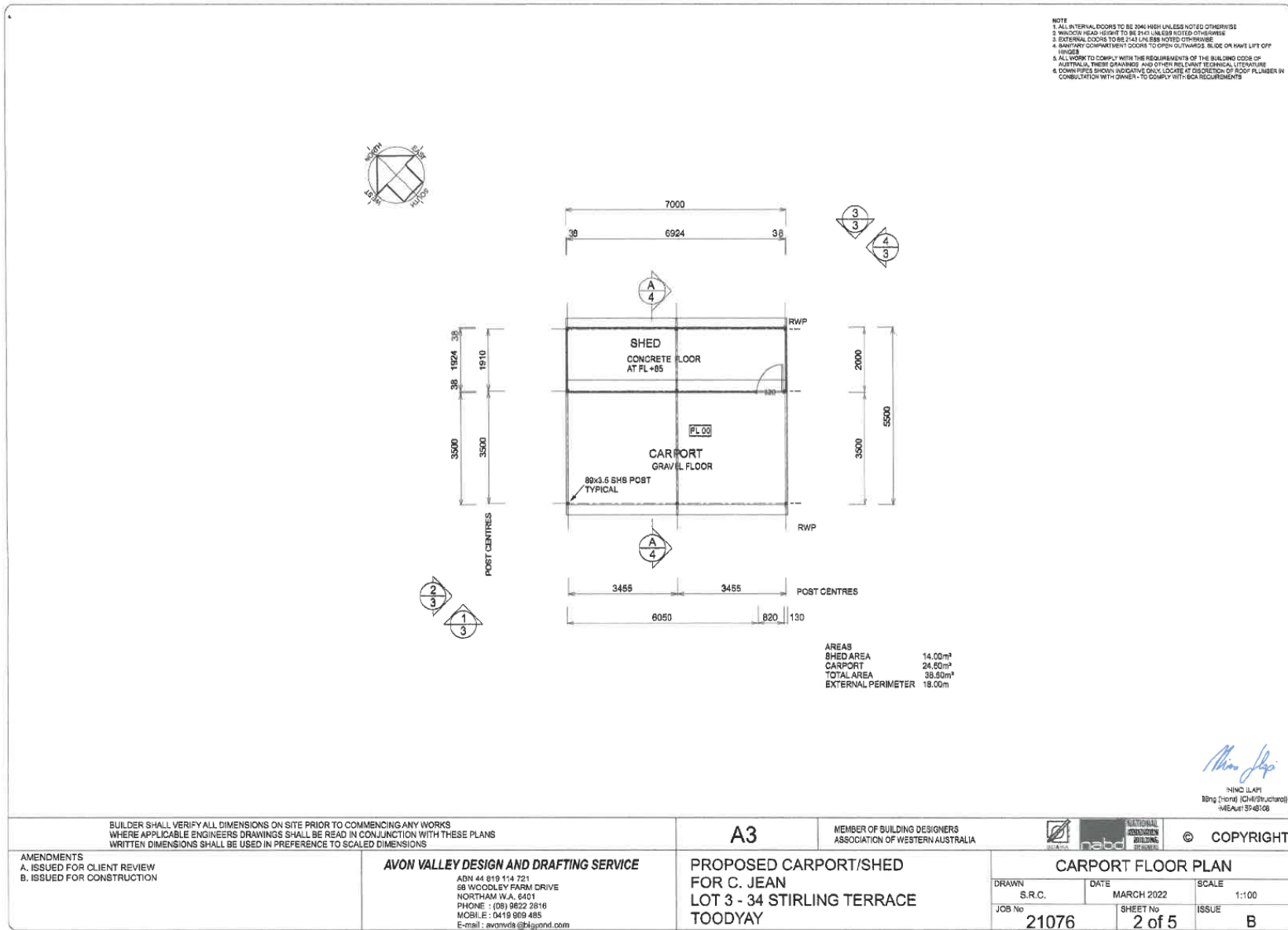
Phone (08) 9622 2816 Mobile 0419 909 485



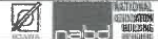
Australian Building Specialist

Structural Engineering
Residential, Commercial, Site Inspections






INNOVAP
3311g (11011) (CM/Structural)
MEMBER 5540728

BUILDER SHALL VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING ANY WORKS WHERE APPLICABLE ENGINEERS DRAWINGS SHALL BE READ IN CONJUNCTION WITH THESE PLANS WRITTEN DIMENSIONS SHALL BE USED IN PREFERENCE TO SCALED DIMENSIONS		A3 MEMBER OF BUILDING DESIGNERS ASSOCIATION OF WESTERN AUSTRALIA	 © COPYRIGHT								
AMENDMENTS A. ISSUED FOR CLIENT REVIEW B. ISSUED FOR CONSTRUCTION	AVON VALLEY DESIGN AND DRAFTING SERVICE ABN 44 819 114 721 58 WOODLEY FARM DRIVE NORTHAM W.A. 5401 PHONE : (08) 9622 2816 MOBILE: 0419 909 485 E-mail : avonvda@bigpond.com	PROPOSED CARPORT/SHED FOR C. JEAN LOT 3 - 34 STIRLING TERRACE TOODYAY	<table border="1" style="width: 100%;"> <tr> <td colspan="2" style="text-align: center;">CARPORT ELEVATIONS</td> </tr> <tr> <td>DRAWN S.R.C.</td> <td>DATE MARCH 2022</td> </tr> <tr> <td>SCALE 1:100</td> <td>ISSUE B</td> </tr> <tr> <td>JOB No 21076</td> <td>SHEET No 3 of 5</td> </tr> </table> PRINTED 8:20:24 PM 28/04/2022 VERSION X13	CARPORT ELEVATIONS		DRAWN S.R.C.	DATE MARCH 2022	SCALE 1:100	ISSUE B	JOB No 21076	SHEET No 3 of 5
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SCALE 1:100	ISSUE B										
JOB No 21076	SHEET No 3 of 5										

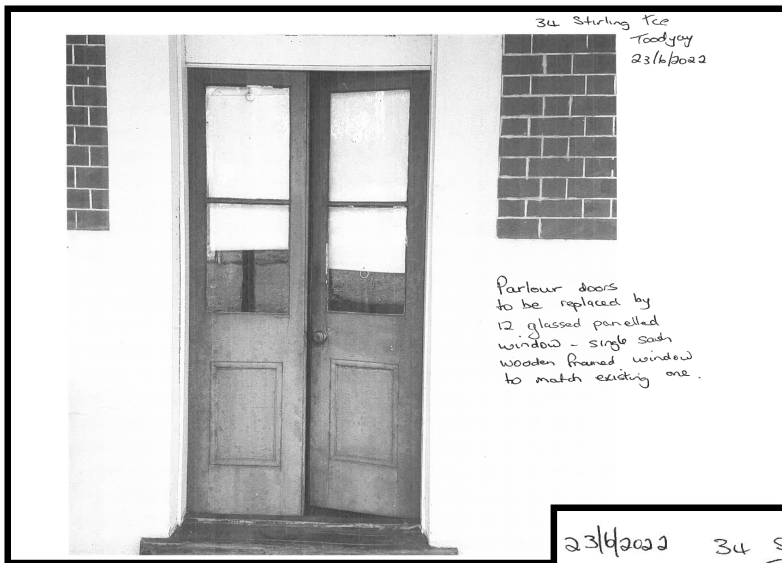
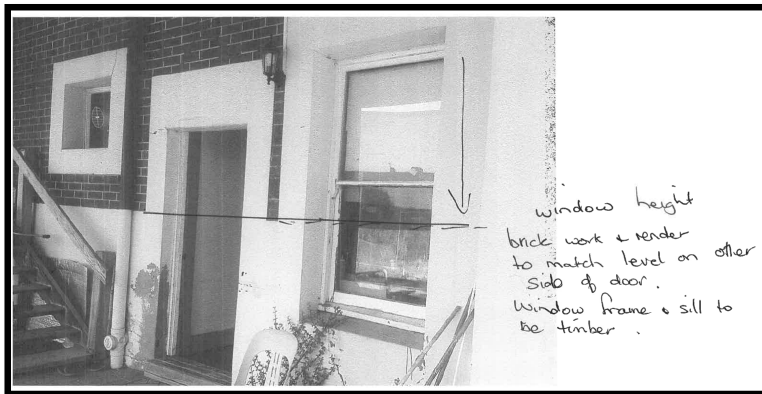
23/6/2022

34 Stirling Tce
Toodyay.

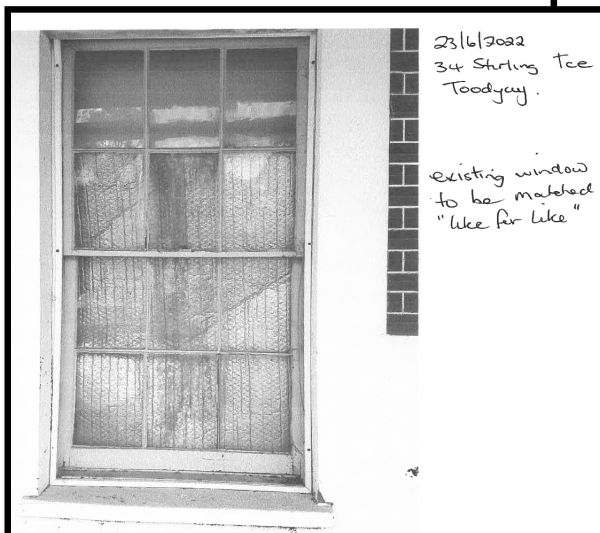
Picture showing front view of house.
Wanting to replace existing parlour
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23/6/2022 34 Stirling Tce
Toodyay.



Proposed carport design.



Shire of Toodyay					
List of Payments Presented to Council for Period 1 July 2022 to 31 July 2022					
Pay Type	Date	Name	Description	Amount	
12939	1/07/2022	Department Of Transport	12 Months Registration Renewal 1HCF585	406.70	
12939	1/07/2022	Department Of Transport	12 Months Registration renewal T0021	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T7853	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T7854	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T7855	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T7856	219.80	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T7124	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T7093	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T7851	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T8035	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T7858	82.85	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T15298	120.75	
12939	1/07/2022	Department Of Transport	12 Months registration renewal - T15232	24.85	
12939	1/07/2022	Department Of Transport	12 Months Registration Renewal - T4708	24.85	
12939	1/07/2022	Department Of Transport	12 Months Registration Renewal - T7857	82.85	
12939	1/07/2022	Department Of Transport	12 Months Registration Renewal - T7852	82.85	
12940	5/07/2022	Department Of Transport	12 Months vehicle registration renewal - 1HNV832	436.40	
12941	15/07/2022	Old Gaol Museum	Old Gaol Honorariums - August 2022	400.00	
12942	15/07/2022	Shire Of Toodyay	Library Petty Cash - July 2022	93.90	
12943	15/07/2022	Telstra Corporation Ltd	Telstra account 0293288400 - June 2022	4,907.82	
12943	15/07/2022	Telstra Corporation Ltd	Telstra account 7852285500 - June 2022	68.72	
12943	15/07/2022	Telstra Corporation Ltd	Telstra Mobiles & Data - June 2022	1,300.77	
12944	15/07/2022	Water Corporation	Water account - Northam Toodyay Rd Standpipe 02/05/2022 to 04/07/2022	15,764.77	
12944	15/07/2022	Water Corporation	Water account - Stirling Toe standpipe 26/04/2022 to 27/06/2022	192.41	
12944	15/07/2022	Water Corporation	Water account - Information bay 26/04/2022 to 27/06/2022	19.10	
12944	15/07/2022	Water Corporation	Water account - Community Centre & medical Centre 26/07/2022 to 27/06/2022	568.68	
12944	15/07/2022	Water Corporation	Water account - Duke street toilets 26/04/2022 to 27/06/2022	355.45	
12944	15/07/2022	Water Corporation	Water account Memorial Hall 26/04/2022 to 27/06/2022	220.28	
12944	15/07/2022	Water Corporation	Water account - Connors Cottage 26/04/2022 to 27/06/2022	308.03	
12944	15/07/2022	Water Corporation	Water account - Admin Gardens 27/04/2022 to 29/06/2022	122.81	
12944	15/07/2022	Water Corporation	Water account - Anzac Park 27/04/2022 to 29/06/2022	193.76	
12944	15/07/2022	Water Corporation	Water account - Old P&G Depot 27/04/2022 to 29/06/2022	13.65	
12944	15/07/2022	Water Corporation	Water account - Pelham Reserve toilets 27/04/2022 to 29/06/2022	35.48	
12944	15/07/2022	Water Corporation	Water account 19A Clinton St 27/04/2022 to 29/06/2022	259.91	
12944	15/07/2022	Water Corporation	Water account - 19B Clinton St 27/04/2022 to 29/06/2022	274.77	
12944	15/07/2022	Water Corporation	Water account - Museum 27/04/2022 to 29/06/2022	212.86	
12944	15/07/2022	Water Corporation	Water account - Railway Rd Depot 27/04/2022 to 28/06/2022	46.39	
12944	15/07/2022	Water Corporation	Water account - Waste Transfer Station 26/04/2022 to 28/06/2022	27.29	
12944	15/07/2022	Water Corporation	Water account - Duidgee Park 26/04/2022 to 28/06/2022	957.88	
12944	15/07/2022	Water Corporation	Water account - Toodyay St showgrounds 26/04/2022 to 28/06/2022	1,930.78	
12944	15/07/2022	Water Corporation	Water account - Parkers Cottage 26/04/2022 to 28/06/2022	46.81	
12944	15/07/2022	Water Corporation	Water account - Donegans Cottage 26/04/2022 to 28/06/2022	44.95	
12944	15/07/2022	Water Corporation	Water account - Cemetery 26/04/2022 to 28/06/2022	10.92	
12944	15/07/2022	Water Corporation	Water account - Connors Mill & VC 26/04/2022 to 27/06/2022	115.75	
12944	15/07/2022	Water Corporation	Water account - Newcastle Park 26/04/2022 to 27/06/2022	32.75	
12944	15/07/2022	Water Corporation	Water account - Library 26/04/2022 to 27/06/2022	59.09	
12944	15/07/2022	Water Corporation	Water account - Mrs O'Reillys 26/04/2022 to 27/06/2022	327.99	
12944	15/07/2022	Water Corporation	Water account - Bank Building 26/04/2022 to 27/06/2022	483.72	
12944	15/07/2022	Water Corporation	Water account - Stirling Park 26/04/2022 to 27/06/2022	8.19	

W:\Accounts\Council\2022-2023\List of Payments\1. List of Payments - July 2022

1 of 7

Shire of Toodyay				
List of Payments Presented to Council for Period 1 July 2022 to 31 July 2022				
Pay Type	Date	Name	Description	Amount
12944	15/07/2022	Water Corporation	Water account - Shire Admin 27/04/2022 to 29/06/2022	27.29
12945	29/07/2022	Shire Of Toodyay	Depot Petty Cash -July 2022	72.90
1	1/07/2022	Bendigo & Adelaide Bank Ltd	Bpay fee	317.90
2	1/07/2022	Paymate	Community standpipe controller - Usage fee	0.01
3	1/07/2022	Alleasing	Solar lease Library & Depot	1,407.46
4	1/07/2022	Bendigo & Adelaide Bank Ltd	Bank fee	3.01
5	1/07/2022	Bendigo & Adelaide Bank Ltd	Overdraft fee	15.00
6	1/07/2022	Bendigo & Adelaide Bank Ltd	Monthly Service fee	15.00
7	1/07/2022	Bendigo & Adelaide Bank Ltd	Transfer fee	10.00
8	4/07/2022	Paymate	Community standpipe controller - Monthly fee	82.50
9	4/07/2022	HP Financial Services Pty Ltd	Printer lease	1,116.84
10	4/07/2022	Commonwealth Bank Of Australia	Merchant fee	87.57
11	4/07/2022	Commonwealth Bank Of Australia	Merchant fee	72.31
12	4/07/2022	Commonwealth Bank Of Australia	Merchant fee	239.05
13	4/07/2022	Commonwealth Bank Of Australia	Merchant fee	140.63
14	5/07/2022	QPC Group	Printer Lease	1,901.67
15	6/07/2022	Bendigo & Adelaide Bank Ltd	Bank fee	6.38
16	12/07/2022	CNH Industrial Capital Aust Pty Ltd	Iveco Truck Lease	3,207.70
17	12/07/2022	Paymate	Community standpipe controller - Usage fee	0.33
18	14/07/2022	Paymate	Community standpipe controller	0.01
19	14/07/2022	Credit Card CEO	Credit card - CEO	898.78
			Adobe Subscription	587.88
			Dropbox - Gov Officer for Annual Report	306.90
			Card Fee	4.00
20	14/07/2022	Credit Card M CCS	Credit card - M CCS	270.00
			Farewell Lunch - Dan Hobley - Toodyay Pizza Shack	166.00
			Mega Office supplies - 10 x File binders	69.97
			Puma York - Fuel	30.03
			Card Fee	4.00
21	14/07/2022	Credit Card MAS	Credit Card - MAS	3,958.13
			Autodesk- Auto Cadd Program - A Lamas	3239.50
			Leavng Gift - J Hansen, J Donegan, M Morrell & D Hobley	603.80
			Mainroads - Heavy Vehicle Permit (T0011)	50.00
			Mainroads - Heavy Vehicle Permit - T0012	50.00
			Spot Device - GPS Tracking	10.51
			Iterantionl Transaction Fee	0.32
			Card Fee	4.00
22	14/07/2022	Credit Card CESM	Credit Card - CESM	56.62
			Dunnings - Fuel - CESM	52.62
			Card Fee	4.00
23	15/07/2022	Commonwealth Bank Of Australia	Bpoint fee	35.57
24	15/07/2022	Bendigo & Adelaide Bank Ltd	Bank fee	8.36
25	15/07/2022	AFGRl Equipment Australia Pty Ltd	Supply replacement shute for mid deck mower.	871.07
26	15/07/2022	AFGRl Equipment Australia Pty Ltd	Air Restriction Sensor for T0007 Grader	99.94
27	15/07/2022	Alison Downie	Consignment sales May & June 2022	47.32
28	15/07/2022	Alison Cromb	Consignment sales June 2022	80.76
29	15/07/2022	Australia Post	Postage charges for June 2022	457.53
30	15/07/2022	Australian Taxation Office - Albury	BAS June 2022	55,843.03
31	15/07/2022	Automatic Gate Solutions	Hinge Replacement - Pedestrian Gate - Depot	347.50

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Shire of Toodyay					
List of Payments Presented to Council for Period 1 July 2022 to 31 July 2022					
Pay Type	Date	Name	Description	Amount	
32	15/07/2022	Autopro Northam	supply replacement brake pads.	58.80	
33	15/07/2022	AV Truck Services Pty Ltd	Supply service kit for truck 12	1,011.85	
34	15/07/2022	AV Truck Services Pty Ltd	Tail Lights - T0010	160.37	
35	15/07/2022	AV Truck Services Pty Ltd	Supply new tail light for truck 10	160.37	
36	15/07/2022	Avon Valley Toyota	Supply & Deliver 1 (One) x new Isuzu M-UX 4x4 LS-U Auto Wagon with optional extras	52,382.00	
37	15/07/2022	Avon Waste - Stondon Pty Ltd	Fortnightly Rubbish Collection charges fortnight ending 17/06/2022	15,562.26	
38	15/07/2022	Avon Yard & Maintenance Services	Nottingham fire access gate installation.	360.00	
39	15/07/2022	Barry Keens	Consignment sales April to June 2022	11.55	
40	15/07/2022	Bartco Traffic Equipment	Registered User EFDRS Auto BOM Updates - WA Annual Fee 01/07/2022 - 30/06/2023	346.50	
41	15/07/2022	Betty Brindle	Refund excess rates payment as per customer request	760.00	
42	15/07/2022	Bitumen Surfacing	Two Coat Spray Seal Shoulder Widening - Bindi Bindi Toodyay Rd - RRSP - SLK9.18-20.33	74,279.46	
43	15/07/2022	Blackwell Plumbing	Repair faulty hot water system - Bendigo Bank, Repair toilet and unblock sink - Memorial Hall	423.50	
44	15/07/2022	Broderick Waste Solutions	Monthly Cartage of Waste to Northam - June 2022	1,980.00	
45	15/07/2022	Broderick Waste Solutions	Monthly cartage of waste to Northam - June 2022	5,722.20	
46	15/07/2022	Broderick Waste Solutions	Management of Waste Transfer Station fortnight ending 12/07/2022	5,500.00	
47	15/07/2022	Charles Service Company	Carpet cleaning - Admin Office - Transportable 20/06/2022	192.50	
48	15/07/2022	Corsign (WA) Pty Ltd	MMS Signage for Road Maintenance	1,183.60	
49	15/07/2022	D Clements Smash Repairs	Repair damage to bonnet of Mitsubishi Outlander	440.00	
50	15/07/2022	Datacom Solutions (Au) Pty Ltd	Datacom SaaS Fees for the month of June 2022	3,300.00	
51	15/07/2022	Datacom Solutions (Au) Pty Ltd	Datacom SaaS Fees for the month of June 2022	275.87	
52	15/07/2022	Deborah Termann	Consignment sales June 2022	12.00	
53	15/07/2022	Easifleet	Salary Sacrifice Deductions PPE 05/07/2022	852.18	
54	15/07/2022	Easifleet	Salary Sacrifice Deductions PPE 21/06/2022	852.18	
55	15/07/2022	Emma Fay	Reimbursement - Pre employment medical costs	154.00	
56	15/07/2022	Equifax	Fit 2 Work Integrity checks June 2022	96.36	
57	15/07/2022	Esslemont Estate	Consignment sales June 2022	32.96	
58	15/07/2022	Executive Compass Pty Ltd	Facility Management Review (Toodyay Recreation Centre)	3,300.00	
59	15/07/2022	Fcar Australia	Yearly subscription for vehicle scan tool updates.	880.00	
60	15/07/2022	Glenoran Leather	Consignment sales June 2022	119.99	
61	15/07/2022	Houston Legal & Consultants Pty Ltd	Consultancy Fees for legal advice - Chalice Mining	3,850.00	
62	15/07/2022	John Reudavey, Patricia Reudavey	Refund of excess rates due to sale of property A663 183 Drummond Drive	89.00	
63	15/07/2022	Leah Carvell	Consignment sales May & June 2022	16.00	
64	15/07/2022	Margaret Bradford Seeley	Consignment sales June 2022	18.47	
65	15/07/2022	Mayday Rental	Water Cart Hire - June 2022	7,507.50	
66	15/07/2022	MM Mechanical Pty Ltd	Replace fuel hose on truck 19	172.54	
67	15/07/2022	Nicola Cowie	Consignment sales June 2022	29.40	
68	15/07/2022	Officeworks	2x \$200 12 month Boost Mobile Prepaid Sim Cards for Rangers Feral pig management	405.95	
69	15/07/2022	Officeworks	Stationery for workshop - part order	279.13	
70	15/07/2022	Officeworks	Stationery for Training Course	189.64	
71	15/07/2022	One Degree Advisory Pty Ltd	Values & Culture Project	4,359.08	
72	15/07/2022	One Music Australia - Australasian Performing Right Assoc Ltd	Licence fee for Music for Councils - July to Sept 2022	160.72	
73	15/07/2022	Outback Grave Markers Inc	Laser engraved anodised aluminium sign.	500.00	
74	15/07/2022	Public Transport Authority Of WA	TransWA tickets Sales for June 2022	239.11	
75	15/07/2022	Quilts By Robyn	Consignment sales June 2022	167.00	
76	15/07/2022	Rural Traffic Services Pty Ltd	Traffic Management Set up for Feature Survey - Julimar Road SLK 17.56 - 19.81	725.56	
77	15/07/2022	Sandra Harms	Creative artwork for Gnulla Karmay Waangkiny project for didactic panels at museum and in the community	1,000.00	
78	15/07/2022	Seek Ltd	Advert for Governance Officer (Re-advertised), Seek 06/07/2022	302.50	
79	15/07/2022	Sharon's Outback Pottery	Consignment sales May & June 2022	25.75	

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Shire of Toodyay					
List of Payments Presented to Council for Period 1 July 2022 to 31 July 2022					
Pay Type	Date	Name	Description	Amount	
80	15/07/2022	Shire Of Northam	Waste Tipping fees for May 2022	8,686.30	
81	15/07/2022	Southern Sharpening Services	Consignment sales June 2022	34.61	
82	15/07/2022	Spacetoco Pty Ltd	Host ParterPro Bundle - Online Facility Bookings - June 2022	165.00	
83	15/07/2022	Swan Genealogy	Consignment sales June 2022	26.92	
84	15/07/2022	Synergy	Electricity charges 22/03/2022 to 08/06/2022 - Group account	6,572.63	
85	15/07/2022	Synergy	Electricity account - Streetlights 25/05/2022 to 24/06/2022	3,903.01	
86	15/07/2022	Synergy	Electricity account - Railway Rd Depot 08/06/2022 to 12/07/2022	595.12	
87	15/07/2022	Taborda Contracting Pty Ltd	Traffic Management for Townsite asphalt repairs (Stirling Tce, Hammersley, Anzac)	686.40	
88	15/07/2022	Tammar Publications	Consignment sales June 2022	40.73	
89	15/07/2022	Tanya Stuart	Consignment sales June 2022	50.02	
90	15/07/2022	Tenderlink	TEN 01 / 2022 Grading and Re-sheeting - Various Shire Roads	203.50	
91	15/07/2022	The Toodyay Historical Society Inc	Consignment sales June 2022	15.00	
92	15/07/2022	Think Project Aust Pty Ltd (Ramm Software Pty Ltd)	RAMM Annual Support and Maintenance 1 July 22 to 30 June 23	8,001.57	
93	15/07/2022	Toll	Freight charges to 19/06/2022	16.61	
94	15/07/2022	Toll	Freight charges to 26/06/2022	35.86	
95	15/07/2022	Tom's Hydraulics Pty Ltd	Attend site and replace hyd hoses on bucket T0006	334.13	
96	15/07/2022	Toodyay Agricultural Society Inc	In-kind sponsorship Toodyay Ag Show 2022	500.00	
97	15/07/2022	Toodyay Bakery & Cafe	Refreshments for Meeting 9 June 2022	68.00	
98	15/07/2022	Toodyay Hardware & Farm	1Lt Gripset Betta Waterproof Pond clear	36.00	
99	15/07/2022	Toodyay Hardware & Farm	Envirodyne Red 1Lt	51.95	
100	15/07/2022	Toodyay Hardware & Farm	5Lt Hills Garden Sprayer	28.95	
101	15/07/2022	Toodyay Tyre & Exhaust	Strip & Fit Tyres to Truck - T0012	164.00	
102	15/07/2022	Toodyay Tyre & Exhaust	2 x Steer Tyres T0012	1,770.00	
103	15/07/2022	Total Green Recycling	E-Waste Recycling - 17 June 2022	930.25	
104	15/07/2022	Transwest WA	Laterite Spalls 150-300 size for Range Road - Drainage Repairs	113.96	
105	15/07/2022	Transwest WA	Supply and Deliver gravel for Telegraph Rd Floodway Culvert	1,454.42	
106	15/07/2022	URL Networks Pty Ltd	SIP Trunks - PAYG , Landlines & Mobiles for June 2022	299.41	
107	15/07/2022	Valuation Advisory (Australia) Pty Ltd	Property Valuation of 26, 28, 30, 32 Hammersley Street, 15 & 17 Wilson Street	4,290.00	
108	15/07/2022	Vanguard Press	Toodyay Brochure 2022	5,032.50	
109	15/07/2022	Vicki Cowell	Consignment sales April to June 2022	14.00	
110	15/07/2022	Victoria Hotel	BFB Training Catering 18th & 19th June 2022	450.00	
111	15/07/2022	Victoria Hotel	Catering BFS Training - Bushfire Safety Awareness 25th & 26th June - Coondle	450.00	
112	15/07/2022	WA Hino & Sales	Supply service filters for truck 10	543.55	
113	15/07/2022	Wacwil Landscaping & Earthworks Pty Ltd	Installation of 1.5m wide concrete footpath and kerbing at Duidgee Park & Replace block retaining wall around pendulum swing	27,280.00	
114	15/07/2022	Wacwil Landscaping & Earthworks Pty Ltd	Installation of guide post & culvert markers Bindi Bindi Rd Shoulder Sealing SLK 9.18-13.45	2,200.00	
115	15/07/2022	West Wide Auto Electrics	Install new 2 way radio as requested.	685.00	
116	15/07/2022	West Wide Auto Electrics	Supply beacons plus repairs to T10	2,024.50	
117	15/07/2022	Winc Australia P/L	Final order - Admin Stationery (Original PO 2955 - Closed)	1.58	
118	15/07/2022	Wright Express Aust Pty Ltd	SES Fuel Card Fees - June 2022	20.64	
119	15/07/2022	Wurth Australia P/Ty Ltd	Supply store items.	698.31	
120	18/07/2022	Gear Select	Drum Roller Lease	2,296.91	
121	18/07/2022	Komatsu Australia Corporate Finance Pty Ltd	Front Wheel Loader Lease	4,901.37	
122	18/07/2022	QPC Group	Photocopier Lease	30.80	
123	19/07/2022	Paymate	Community standpipe controller - Usage fee	0.66	
124	20/07/2022	Bendigo & Adelaide Bank Ltd	Bank fee	6.49	
125	25/07/2022	Komatsu Australia Corporate Finance Pty Ltd	Grader Lease	4,560.99	
126	25/07/2022	Western Australian Treasury Corporation	WATC - GFee invoice	19,918.53	
127	26/07/2022	Paymate	Community standpipe controller - Usage fee	0.33	

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Shire of Toodyay					
List of Payments Presented to Council for Period 1 July 2022 to 31 July 2022					
Pay Type	Date	Name	Description	Amount	
128	29/07/2022	QPC Group	Photocopier Lease	2,095.94	
129	29/07/2022	Bendigo & Adelaide Bank Ltd	Bank fee	5.39	
130	29/07/2022	A&M Medical Services	Annual Servicing of BFS Oxy Soks	1,006.17	
131	29/07/2022	Advanced Traffic Management	Supply Traffic Management for Vegetation Clearing - 3 x Traffic Control plus vehicle	2,679.44	
132	29/07/2022	Advanced Traffic Management	Supply Traffic Management for Vegetation Clearing - 3 x Traffic Control plus vehicle	6,885.45	
133	29/07/2022	Advanced Traffic Management	Supply Traffic Management for Vegetation Clearing - 3 x Traffic Control plus vehicle	2,033.63	
134	29/07/2022	Advanced Traffic Management	Supply Traffic Management for Vegetation Clearing - 3 x Traffic Control plus vehicle	3,795.55	
135	29/07/2022	Allquip Water Trucks	Supply and deliver 1 x New Slide in Water Cart . Includes freight to Toodyay WA.	57,369.94	
136	29/07/2022	Autopro Northam	Supply ISO68 Hydraulic oil 205 litre.	779.11	
137	29/07/2022	Autopro Northam	Supply service filters for gator	80.69	
138	29/07/2022	Avon Waste - Stondon Pty Ltd	Fortnightly Rubbish Collection charges fortnight ending 01/07/2022	15,722.78	
139	29/07/2022	Avon Waste - Stondon Pty Ltd	3,600 Recycling Calendars to go in the Rates Notices	1,661.00	
140	29/07/2022	Avon Waste - Stondon Pty Ltd	Fortnightly Rubbish collection fortnight ending 15/07/2022	16,934.44	
141	29/07/2022	Avon Yard & Maintenance Services	Gnulla Kamany Waangkiny project - Installation external signage (Wagyl/Karleri), support for 16 x museum display panels installation, preparation and tidying of area at Police Stables for launch	1,500.00	
142	29/07/2022	Avon Yard & Maintenance Services	Weekly maintenance of Pelham Reserve and Lookout area from 1/7/22 to 23/9/22.	1,800.00	
143	29/07/2022	Avon Yard & Maintenance Services	Bilya Walk Track Weed Spraying	1,000.00	
144	29/07/2022	Bigstep Holdings Pty Ltd T/As Pacific Safety Wear	Work Boots - M Stevens & S Holding	352.00	
145	29/07/2022	BOC Limited	Rental of Oxysox Medial Oxygen Cylinders	1,015.20	
146	29/07/2022	Bolgart Rural Merchandise	Purchase of Herbicides for weed control	2,662.00	
147	29/07/2022	Broderick Waste Solutions	Management of Waste Transfer Station fortnight ending 26/07/2022	5,610.00	
148	29/07/2022	Building & Construction Industry Training Fund	Payment of BCTIF remaining funds from June 2021	3,059.08	
149	29/07/2022	Building & Construction Industry Training Fund	August 2021 to June 2022 BCTIF	3,376.45	
150	29/07/2022	Building & Construction Industry Training Fund	BCTIF Levies - July 2022	3,030.29	
151	29/07/2022	C & F Building Approvals	NCC Compliance and Issue of CDC & BP x 4	1,760.00	
152	29/07/2022	C & F Building Approvals	NCC Compliance & Issue of CDC x 1	385.00	
153	29/07/2022	C & F Building Approvals	Issue of BP x 2	550.00	
154	29/07/2022	C & F Building Approvals	NCC Compliance & Issue of CDC x 2, Issue of BP x 2	1,650.00	
155	29/07/2022	Charles Service Company	Consumables 05/07/2022	702.25	
156	29/07/2022	Charles Service Company	Additional services - Admin Building & Youth hall - July 2022	1,742.40	
157	29/07/2022	Charmeine Duri	Members Monthly Attendance allowance - July 2022	1,022.92	
158	29/07/2022	Chris Owen	Research for Gnulla Kamany Waangkiny (Our Truth Telling)	3,000.00	
159	29/07/2022	Danielle Wrench	Members Monthly Attendance allowance - July 2022	1,022.92	
160	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL levies - July 2021	551.65	
161	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL Levies - August 2021	1,184.91	
162	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL Levies - Sept 2021	1,906.28	
163	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL Levies - Oct 2021	1,722.28	
164	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL Levies - Nov 2021	1,181.31	
165	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL Levies - Dec 2021	1,021.86	
166	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL Levies - Jan 2022	2,764.07	
167	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL Levies - Feb 2022	3,079.74	
168	29/07/2022	Dept Of Mines Industry Regulation & Safety	BSL Levies - Mar 2022	2,201.19	
169	29/07/2022	EAG Electrical Air-Conditioning & Gas	Replacement of Filters in Chambers and Administration Air Cons	797.50	
170	29/07/2022	Easifleet	Payroll Salary Sacrifice deductions PPE 19/07/2022	852.18	
171	29/07/2022	Elizabeth Ruthven	Members Monthly Attendance allowance - July 2022	1,484.92	
172	29/07/2022	Esri Australia	Annual Subscription Local Gov ELA Level 1 - ESRI Australia - GIS - Quote 7000004135	13,750.00	
173	29/07/2022	Ezi-Fix Welding & Handyman Services	Repair damage to 4:1 bucket	400.00	
174	29/07/2022	Ezi-Fix Welding & Handyman Services	Repair to grand stand hand rails and water cart support frame.	2,000.00	
175	29/07/2022	JBA Surveys	Feature Survey - Retford Rd Upgrade - SLK - 0.00 - 0.29	2,750.00	

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Shire of Toodyay				
List of Payments Presented to Council for Period 1 July 2022 to 31 July 2022				
Pay Type	Date	Name	Description	Amount
176	29/07/2022	Justin Dorigo	Reimbursement for the costs of obtaining MR Licence - VBFB	138.00
177	29/07/2022	Kelyn Training Services	Traffic Control & Basic Traffic Management - J Stamenkovic & B Glyde	1,190.00
178	29/07/2022	Landworx	Removal of termite damaged tree at 205 Horseshoe Drive, Coondle	550.00
179	29/07/2022	LGIS (Jardine Lloyd Thompson)	Marine Cargo & Personal Accident & Sickness Insurance 2022/2023	42,132.51
180	29/07/2022	Mcleods Barristers & Solicitors	Proposed Transfer of Lots 3, 4, 5, & 6 Clinton Street to RSL	346.50
181	29/07/2022	Michael McKeown	Members Monthly Attendance allowance - July 2022	1,022.92
182	29/07/2022	Neo Civil Pty Ltd	Bridge 700 Tender - Retention withheld at 2.5% of Contract value defects liability	12,497.93
183	29/07/2022	Philip Hart	Members Monthly Attendance allowance - July 2022	1,022.92
184	29/07/2022	Professional PC Support Pty Ltd	Managed Phone Agreement - July 2022	1,156.25
185	29/07/2022	Professional PC Support Pty Ltd	Managed ITC Agreement - August 2022 billing	9,411.23
186	29/07/2022	Professional PC Support Pty Ltd	Managed Phone Agreement - August 2022 monthly billing	1,156.25
187	29/07/2022	Ronlieeh Pty Ltd, T/A A K Evans Earthmoving	Filling of Water Tanks - DFES Grant - 16 Loads Total	5,299.80
188	29/07/2022	Rosemary Madacsi	Members Monthly Attendance allowance - July 2022	3,114.92
189	29/07/2022	Rural Traffic Services Pty Ltd	Traffic Management for Features Surveys - Chitty Rd SLK 4.34-6.75	668.58
190	29/07/2022	State Library Of WA	Better Beginnings - Reading Packs for babies and toddlers 2022/23 financial year	154.00
191	29/07/2022	Steven McCormick	Members Monthly Attendance allowance - July 2022	1,022.92
192	29/07/2022	Susan Pearce	Members Monthly Attendance allowance - July 2022	1,022.92
193	29/07/2022	Toll	Freight Charges ending 10/07/2022	26.49
194	29/07/2022	Tom's Hydraulics Pty Ltd	Make new hydraulic hoses for T12 Trailer	889.67
195	29/07/2022	Tom's Hydraulics Pty Ltd	Replace hydraulic hoses on 4:1 Bucket	211.45
196	29/07/2022	Toodyay Hardware & Farm	Batten Screws	25.10
197	29/07/2022	Toodyay Herald	Shire News - June 2022	783.28
198	29/07/2022	Toodyay Traders	Selley Silicone 401 310g	29.00
199	29/07/2022	Toodyay Traders	Loctite Quicktite & Power Grip Adhesive	18.55
200	29/07/2022	Toodyay Traders	13mm Snap on Hose connector	4.50
201	29/07/2022	Toodyay Traders	Pipes for Morangup Carpark	86.25
202	29/07/2022	Toodyay Traders	13mm Snap on Hose connector	4.50
203	29/07/2022	Toodyay Traders	Replacement of hand tools for P & G team	583.75
204	29/07/2022	Toodyay Traders	25pk Black Cable Ties 370x4.8mm	8.90
205	29/07/2022	Toodyay Traders	Mixer Drill Universal Uni-Pro	16.75
206	29/07/2022	Toodyay Traders	25kg Flaked Barley	20.45
207	29/07/2022	Toodyay Traders	Lithium Cell Battery	8.90
208	29/07/2022	Toodyay Tyre & Exhaust	2 x new 205R16C tyres and disposal of old tyres	539.50
209	29/07/2022	Toodyay Tyre & Exhaust	Callout to site to repair puncture to T0006 FE loader tyre	209.00
210	29/07/2022	Total Tools Midland	Supply 1 x New Ironair LB1890S3 240v 3.0HP 90L belt driven air compressor.	999.00
211	29/07/2022	Vaughan Hinchliffe, Lynn Hinchliffe	Refund of payment for Rural Street Number which is not required in River Hills estate.	52.50
212	29/07/2022	Veris Australia Pty Ltd - Corporate Office (Head Office)	Feature Survey, Julimar Rd SLK 17.56 to 19.81	11,649.00
213	29/07/2022	WOBM - Wheatbelt Office Of Business Machines - Northam	Monthly Rental of Photocopier - Toodyay Library - July 2022	117.59
214	29/07/2022	WOBM - Wheatbelt Office Of Business Machines - Northam	Photocopier Readings - Library 06/06/2022 to 04/07/2022	106.68
215	29/07/2022	WOBM - Wheatbelt Office Of Business Machines - Northam	Onsite Audiometry (hearing) testing for workers exposed to noise. Legislative requirement.	1,914.00
	6/07/2022	Payroll PPE 05/07/2022	Payroll PPE 05/07/2022	92,171.96
	6/07/2022	Aware Super	Superannuation PPE 05/07/2022	20,141.43
	20/07/2022	Payroll PPE 19/07/2022	Payroll PPE 19/07/2022	95,515.76
	20/07/2022	Aware Super	Superannuation PPE 19/07/2022	20,669.20
				916,535.65

Shire of Toodyay					
List of Payments Presented to Council for Period 1 July 2022 to 31 July 2022					
Pay Type	Date	Name	Description	Amount	
Direct Debit	\$47,668.24				
Trust Chqs	\$0.00				
EFT	\$608,718.49				
DD Payroll	\$228,498.35				
DD Loans	\$0.00				
Muni Chqs	\$31,650.57				
TOTAL	\$916,535.65				

STATEMENT OF FINANCIAL ACTIVITY
FOR THE PERIOD ENDED 31 JULY 2022

BY NATURE OR TYPE

	Ref Note	Adopted Budget	YTD Budget (a)	YTD Actual (b)	Var. \$ (b)-(a)	Var. % (b)-(a)/(a)	Var.
		\$	\$	\$	\$	%	
Revenue from operating activities							
Rates	4	7,221,919	0	0	0	0%	
Operating grants, subsidies and contributions	11	1,810,514	115,525	346,575	231,050	200%	p
Fees and charges		1,420,409	15,921	48,369	32,448	204%	p
Interest earnings		50,000	1,133	3,403	2,270	200%	
Other revenue		140,428	48,814	146,445	97,631	200%	p
		10,643,270	181,393	544,792	363,399		
Expenditure from operating activities							
Employee costs		(4,273,693)	(150,749)	(452,236)	(301,487)	(200%)	q
Materials and contracts		(4,419,708)	(158,733)	(379,288)	(220,555)	(139%)	q
Utility charges		(450,649)	(9,720)	(29,161)	(19,441)	(200%)	q
Insurance expenses		(394,663)	(72,032)	(216,096)	(144,064)	(200%)	q
Other expenditure		(291,946)	(9,782)	(29,345)	(19,563)	(200%)	q
Total Operating Expenditure		(14,422,620)	(401,016)	(1,106,126)	(705,110)	(176%)	q
Net cash provided by (used in) Operating activities							
		(3,779,350)	(219,623)	(561,334)	(341,711)	(156%)	
Funding Balance Adjustments							
Add back Depreciation		4,436,148	0	0	0	0%	
Net Cash from Operations		656,798	(219,623)	(561,334)	(341,711)	(156%)	
CASH FLOWS FROM INVESTING ACTIVITIES							
Non-operating grants, subsidies and contributions		3,776,923	94,800	284,400	189,600	200%	
Land and Buildings		(979,125)	0	0	0	0%	
Infrastructure - Roads		(4,503,199)	0	(49,686)	(49,686)	0%	q
Infrastructure - Footpaths		(122,500)	0	0	0	0%	
Infrastructure - Bridges & Drainage		(369,248)	0	(93)	(93)	0%	
Infrastructure - Other		(149,118)	0	(214)	(214)	0%	
Plant and Equipment		(1,448,846)	0	0	0	0%	
Net cash provided by (used in) investing activities		(3,795,113)	94,800	234,407	139,607	147%	
CASH FROM FINANCING ACTIVITIES							
Transfer from Reserves		56,000	0	0	0	0%	
Repayment of Debentures		0	0	(18,108)	(18,108)	0%	
Transfer to Reserves		(406,000)	0	0	0	0%	
Net cash provided by (used in) Financing activities		(350,000)	0	(18,108)	(18,108)	0%	
Net Operations, Capital and Financing							
		(3,488,315)	(124,823)	(345,035)	(220,212)	176%	
Closing Net Current Assets Surplus(Deficit)							
		(3,488,315)	(124,823)	(345,035)	(220,212)	176%	q

KEY INFORMATION

pq Indicates a variance between Year to Date (YTD) Actual and YTD Actual data as per the adopted materiality threshold.

Refer to Note for an explanation of the reasons for the variance.

This statement is to be read in conjunction with the accompanying Financial Statements and Notes.

SHIRE OF TOODYAY
VARIANCE REPORT
FOR THE PERIOD ENDED 31 July 2022

Local Government (Financial Management) Regulations 1996
Reg 34. Financial activity statement required each month (Local Government Act s6.4)

- (1) A local government is to prepare each month a statement of financial activity reporting on the revenue and expenditure, as set out in the annual budget under regulation 22(1)(d), for that month in the following detail —
- (a) annual budget estimates, taking into account any expenditure incurred for an additional purpose under section 6.8(1)(b) or (c); and
 - (b) budget estimates to the end of the month to which the statement relates; and
 - (c) actual amounts of expenditure, revenue and income to the end of the month to which the statement relates; and
 - (d) material variances between the comparable amounts referred to in paragraphs (b) and (c); and
 - (e) the net current assets at the end of the month to which the statement relates.

#REF!	YTD Budget (a)	YTD Actual (b)	Var. \$	Var. %	Timing/Permanent	Explanation of variances
	\$	\$	\$	%		
Revenue from operating activities						
Operating grants, subsidies and contributions	115,525	346,575	231,050	200%	Timing	Favourable variance is mainly attributable to MAF GP 22/23 Round 1-Instalment 1 for \$102,922 received and ESL grants received for \$66,858
Fees and charges	15,921	48,369	32,448	204%	p Timing	Favourable Variance Fees and Charges are over budget. It also relates to an aggregate result of minor variances in different fee categories.
Interest earnings	1,133	3,403	2,270	200%	p Timing	Favourable variance in Interest earnings are over budget. The variance is mainly due to the rates instalment plan interests.
Other revenue	48,814	146,445	97,631	200%	Timing	Favourable variance mainly revenue recived various roads maintenace of \$104,145 and other aggregate result of minor variances in individual income categories
Expenditure from operating activities						
Employee costs	(150,749)	(452,236)	(301,487)	(200%)	q Timing	Unfavourable variance of employment costs as a result of variances in different business units
Materials and contracts	(158,733)	(379,288)	(220,555)	(200%)	Timing	Material costs are over budget due to aggregate result of minor variances in various departments and timing issues
Utility charges	(9,720)	(29,161)	(19,441)	(200%)	q Timing	Unfavourable variance in Utilities due to standpipe Charges of \$19,441 and aggregate imaterial variances from various departments
Depreciation on non-current assets	0	0	0	3361%	Timing	Depreciation to be processed after finalising June 2022 Financials.
Insurance expenses	(72,032)	(216,096)	(144,064)	0%	Timing	Unfavourable variance due to payment of LGIS insurance and timing issues
Other expenditure	(9,782)	(29,345)	(19,563)	(213%)	q Timing	The variance is due the timing difference of payment of loan fees to WATC and payment of council attendance meetings
Investing activities						
Non-operating grants, subsidies and contribution:	94,800	284,400	189,600	(200%)	Timing	Timing Variance-\$284,400 state grant received and receipted to Non Applicable, to be journaled.
CAPITAL ACTIVITIES						
Infrastructure - Roads	(49,686)	(49,686)	0	0%	Timing	YTD Budget is based on Capital Works during the Year, as no there was no YTD Capital Budget that was adopted.
Infrastructure - Bridges & Drainage	(93)	(93)	0	0%	Timing	YTD Budget is based on Capital Works during the Year, as no there was no YTD Capital Budget was adopted.
Infrastructure - Other	(214)	(214)	0	0%	Timing	YTD Budget is based on Capital Works during the Year, as no there was no YTD Capital Budget was adopted.
Loan Repayments	0	(18,108)	(18,108)	0%	Timing	YTD Budget is based on Capital Works during the Year, as no there was no YTD Capital Budget was adopted. Principal and interest repayments processed for the period ending 31 May 2022 in accordance with WATC schedule.

Rates Account Reconciliation As At 31 July 2022

		Amount	Journals	Creditor	Utilities	Total	Ledger Balance	Variance
Rates Control	199.710.10	608,171.40	0.00	0.00	0.00	608,171.40	608,171.40	0.00
Rates Deferment	199.740.50	282,766.10	0.00	0.00	0.00	282,766.10	282,766.10	0.00
Rates PrePayment	199.750.10	-205,748.69	-387.59	-0.02	202.83	-205,933.47	-205,933.47	0.00
Total		685,188.81	-387.59	-0.02	202.83	685,004.03	685,004.03	0.00

Account Reconciliation

Rates Accounts Total	685,188.81
Rates Control Accounts Total	685,188.81
Variance	0.00

Debtors Account Reconciliation As At 31 July 2022

	Amount	Journals	Rates	Utilities	Creditor	Total	Ledger Balance	Variance
Debtor Control	111.178.10	208.35	-1,763.00	0.00	0.00	0.00	-1,554.65	0.00
Debtor Control	199.711.10	714,205.04	-16.41	0.00	0.00	0.00	714,188.63	0.00
Debtor PrePayment	199.749.10	-0.02	-387.59	-205,748.69	0.00	202.83	-205,933.47	0.00
Debtor PrePayment	199.750.10	-197.48	-0.04	0.00	0.00	0.00	-197.52	0.00
Total		714,215.89	-2,167.04	-205,748.69	0.00	202.83	506,502.99	0.00

Account Reconciliation

Debtors Accounts Total	714,215.89
Debtors Control Accounts Total	714,215.89
Variance	0.00



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

THE ROLE OF THE COUNCIL						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
3.3(1)	Review content, layout and structure of reports to the Council	Medium	(a) Allocate resources to implement InfoCouncil (b) Develop CEO directive regarding structure and content of reports (c) Implement installation of InfoCouncil and undertake staff training	Council CEO EA	Sept 2021 Nov 2021 Apr 2022	Annual budget contains allocation for InfoCouncil. Directive issued 06/10/21 InfoCouncil fully functional. Training provided in January 2022. On-going support provided where required.
3.3(2)	Provide training to staff re report writing/agenda preparation	Medium	(a) Identify training opportunities for relevant staff (b) Budget allocation for training (c) Schedule training	SMG MCCS EA	Sept 2021 Dec 2021	Identified as part of annual budget process \$65K allocated in adopted budget for 2021/22. Training undertaken 24 & 25 March 2022.
3.3(3)	The Council to consider all proposals to treat matters as confidential on individual basis.	High	(a) Review all reports and attachments prior to agenda distribution to determine reasons (if any) for confidentiality (b) Council decision required to treat matters as confidential and provide reasons in accordance with the Act.	SMG Council	Monthly On-going	Senior Management Group (SMG) agenda settlement process includes review of proposed confidential items and reasons. InfoCouncil implemented February 2022 – includes requirement to choose the relevant clause for confidential items.



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

THE ROLE OF THE COUNCIL (cont)						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
3.3(4)	Undertake a risk-based review of all Council Policies. Local Planning Policies should be afforded special attention.	High	(a) Present indicative plan with timeframes to Council (b) Consider allocation of resources to support review (c) Hold staged Council workshops to review policies (d) Present policies to Council for adoption	CEO / MPD Council Officers	January 2022 March 2022 As per plan On-going	Timeline process considered and agreed at February 2022 OCM. No further resources allocated in mid-year budget review. Being undertaken in-house. Draft policies are workshopped with elected members before being presented to Council.
3.3(5)	Develop Council Policy for dealing with corporate documents.	Medium	(a) Policy developed and workshopped with Council (b) Policy adopted by Council	CEO Council	November 2021	Policy adopted 23/11/21
3.3(6)	Modify Corporate Business Plan to include a 5-year financial forecast.	High	(a) Finalise review of Strategic Community Plan (b) Council workshop to review draft Corporate Business Plan and Long Term Financial Plan (c) Incorporate 5 year financial plan in CBP for adoption by Council	CEO MCCS	October 2021	New timeline agreed as part of CEO KPIs. Delayed due to challenges associated with transition of ERP from Synergysoft to Datascape. Process and amended timeline considered and agreed at June 2022 OCM.
3.3(7)	Undertake workshops to elevate the Corporate Business Plan to guide strategic financial management.	High	(a) Hold workshops with Council to review the CBP in November and April of each year to align with end of financial year performance (November) and formulation of the annual budget (April)	MCCS	Nov / April annually	Delayed due to challenges associated with transition of ERP from Synergysoft to Datascape. Process and amended timeline considered and agreed at June 2022 OCM.



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

THE ROLE OF INDIVIDUAL COUNCILLORS		
No recommendations		No action required

CULTURE AND DYNAMICS						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
5.3(1)	Councillors to pay attention to taking steps to address behaviour issues	High	(a) Governance Framework developed and adopted by Council (b) Councillors to familiarise themselves with Standing Orders Local Law and ensure compliance (c) Induction process for new Councillors to include briefing on: - Code of Conduct - Complaints of Alleged Breach of Code of Conduct - <i>Standing Orders Local Law 2008</i> - Governance Framework - Record-keeping	CEO / Council Councillors CEO	August 2021 On-going October 2021	Framework developed, workshopped and adopted by Council at the August 2021 OCM. Standing Orders being applied during Council meetings. Induction Manual updated. Induction occurred 18/11/21 – attended by all elected members. Induction Manual provided and placed on the Councillor Hub.



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

RELATIONSHIP BETWEEN THE COUNCIL AND CEO						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	
6.3(1)	Engage a qualified independent facilitator to assist in the annual performance review process, in alignment with recommendation 4 of the Authorised Inquiry.	Medium	(a) Select an appropriately qualified independent facilitator to assist with the CEO's annual performance review for 2021. (b) Consider including a clause requiring independent facilitator in <i>Standards for Recruitment and Selection, Performance Review and Termination of CEO</i> policy	Council CEO / Council	August 2021 June 2022	Price Consulting appointed by Council to undertake CEO performance and remuneration review in 2021. Completed 26/10/21. Covered by Clause 3.1 (1) of the policy. Independent consultant engaged to undertake 2022 review.

RELATIONSHIP BETWEEN THE COUNCIL AND ADMINISTRATION						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	
7.3(1)	Councillors to pay attention to the Code of Conduct in dealings with staff.	High	(a) Process developed and implemented to address concerns prior to the matter being escalated to a Complaint of Breach of the Code of Conduct (b) Councillors to undertake a self-assessment at least annually	SP / CEO	October 2021 Sept / Oct annually	Dealing with Conflict training provided to Councillors and senior staff in October 2021. Process included in Complaints of <i>Alleged breach of Code of Conduct for Members, Committee Members and Candidates</i> policy reviewed at the April 2022 OCM. Self-assessment completed by 4 elected members following training session held on 12/10/21.
7.3(2)	Councillors to advise the CEO promptly of advice concerns	High	(a) Councillors to provide prompt advice of concerns via email (b) CEO to investigate and take steps to update the advice provided if required	Council CEO	On-going As required	Process of submitting queries via email prior to Briefings and Meetings is in place. Advice emailed to Councillors.



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

RELATIONSHIP BETWEEN THE COUNCIL AND ADMINISTRATION (cont)						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
7.3(3)	CEO to pay attention to the standard of advice that is provided by staff.	High	(a) Review all reports and attachments prior to agenda distribution to confirm accuracy of advice (b) Develop and implement a procedure for seeking external advice when required (c) Identify areas for improvement and provide training	SMG	Monthly December 2021 March 2022	Senior Management Group (SMG) agenda settlement process includes review of proposed confidential items and reasons Discussed informally at weekly SMG meetings. CEO approval sought. Formalised procedure delayed due to Governance Officer vacancy and recruitment challenges. Discussed informally at weekly SMG meetings and as part of annual budget process.

MANAGEMENT OF EMPLOYEES						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
8.3(1)	Modify the annual performance review form re role changes	Medium	(a) Amend the Annual Performance Review form to include review of position descriptions and follow-up actions (b) Review and implement the procedure for annual performance review	MCCS	February 2022	Review of position descriptions undertaken Jan/Feb 2022 with values added and positions amended to reflect updated responsibilities. Included in template for annual performance review.



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

MANAGEMENT OF EMPLOYEES (cont)						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
8.3(2)	Employees not to be directed to undertake functions outside PD without appropriate skills/experience	High	(a) Review position descriptions and expectations annually (b) Identify skills gaps and provide training where required (c) Encourage employees to discuss issues or concerns relating to position descriptions	Supervisors / Managers	Annually	Part of the annual performance review and budget development process. Employees asked to review PD's to identify and discuss areas of concern. Manager/Supervisor makes recommendations for changes/actions which are signed off by employee.
8.3(3)	Review of all job specifications when performance reviews done	Medium	(a) Review position descriptions during annual performance reviews (b) Develop and implement a procedure to update position descriptions as required	SMG MCCS	Annually	Part of the annual performance review and budget development process. Developed and included in Performance Review template provided to managers and supervisors.
8.3(4)	Identify training opportunities	Medium	(a) See 8.3(2)(b) above (b) Develop and implement a procedure to identify training needs as part of the annual budget process	MCCS	December 2021	Training needs template developed and distributed to all Service areas for discussion and submission to the budget process.



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

PROCUREMENT AND PROBITY						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
9.3(1) to 9.3(7)	Establish suite of standard contract templates	High	(a) Review and develop suite of standard purchasing and contract templates	CCO / M CCS	November 2021	Templates developed and being utilised.
			(b) Provide training to relevant staff regarding the use of the templates	CCO / M CCS	February 2022	Training provided to relevant staff.
9.3(8) to 9.3(10)	Develop CEO directive to mandate use of templates	High	(a) Develop and implement CEO directive regarding use of standard purchasing and contract templates	M CCS / CEO	November 2021	Delayed due to Governance Officer vacancy and recruitment challenges. However, email issued to all staff outlining requirements.
9.3(11)	CEO to encourage training	Medium	(a) Identify and provide training to relevant staff	SMG	June 2022	Procurement Training provided for relevant staff. Other opportunities discussed at Senior Management Group meetings.
9.3(12) to 9.3(17)	Develop and mandate list of matters where scope of works to be prepared by external expert	High	(a) Identify list of matters where scope needs to be prepared with expert input	CCO / SMG	December 2021	Discussed informally at weekly SMG and SP/CEO meetings.
			(b) Develop and implement CEO directive regarding matters where scope needs expert input	CCO / CEO	January 2022	Delayed due to Governance Officer vacancy and recruitment challenges.



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

PROCUREMENT AND PROBITY (cont)						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
9.3(18) to 9.3(19)	CEO to oversee evaluation panels and consider a suitable CEO Directive	Medium	(a) Develop and implement template "Approval for RFT/RFQ" to be used that outlines specification, evaluation criteria and weightings, expert input provided if any, and evaluation panel members. (b) Develop and implement CEO Directive to ensure approval of RFT/FRQ by CEO	CCO / SMG CCO / CEO	December 2021 January 2022	Template developed and utilised. To be completed. Continued delay due to Governance Officer vacancy and recruitment challenges.
9.3(20)	CEO to provide report to Council re Rec Centre options	Medium	(a) Report presented to Council providing options for management of Recreation Centre, comparing in-house and outsourced management	CEO	August 2022	Report provided to the August 2022 OCM.



GOVERNANCE REVIEW ACTION PLAN FINAL REPORT

As at 31/07/2022

RECORD KEEPING						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
10.3(1)	Develop procedures re record keeping for councillor emails	Medium	(a) Develop and implement procedures re record keeping for councillor emails	EA / Records		Information provided as part of Cr induction. Records Officer provided workshop for Councillors as part of induction.
10.3(2)	CEO to ensure enterprise-wide record keeping capability	High	(a) Retain 10 access licenses for access to Synergysoft to enable continued record registration while new system is developed	MCCS Records	July 2021	Licenses retained for 2022/23.

LITIGATION POLICY						
Report Ref.	Recommendation	Priority	Action	Respons.	Due Date	Progress
11.3(1)	Consider amending Policy re prosecutions	Medium	(a) Workshop policy with Council to determine amendments	CEO	July 2022	Policy reviewed and adopted at the March 2022 OCM.

Our Ref: MAN13//OCR61612

8 August 2022

Ms Lanie Chopping
Director-General
Department of Local Government,
Sport & Cultural Industries
PO Box 8349
Perth Business Centre WA 6849

Via email: @dlgsc.wa.gov.au

Cc: @dlgsc.wa.gov.au
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Administration Centre

15 Fiennes Street
PO Box 96
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T (08) 9574 9300

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E records@toodyay.wa.gov.au

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Dear Ms Chopping

Shire of Toodyay Governance Update

I write to provide an update on matters relating to governance at the Shire of Toodyay.

Elected Members

Further to my correspondence of October 2021, three new members were elected at the 2021 Ordinary Elections. All members were provided with an induction and have since completed the mandatory training required by the Act.

Following the resignation of Cr Benjamin Bell in January 2022, the Shire sought and received approval from the WA Electoral Commission for the vacancy to remain unfilled until the 2023 Ordinary Elections. Council is currently operating effectively with eight members.

In March 2022, Council resolved to undertake a review of its system of representation with a view to reducing the number of elected members. Based on advice from the Local Government Advisory Board, the Shire is continuing with this process despite proposed changes to the Act in this regard. A discussion paper and survey are currently out for public advertising, to seek the community's views on the preferred number of elected members and whether a ward system should be reintroduced in the Shire of Toodyay.

2020/21 Audit Process

In 2018, following an audit of the Shire's Information and Communications Technology, a decision was made to change the Shire's enterprise software from Synergysoft to a new product offered by Datacom Systems called Datascape. Despite sound reasons for the change and a robust procurement process, the transition continues to provide considerable operational challenges.

The major challenge has been the difficulty in reconciling the two non-integrated financial systems to produce accurate financial statements. This has affected the preparation of monthly financial statements on two occasions in 2021 (as reported to the Department) and more significantly, the finalisation of the 2020/2021 annual financial statements for audit.

Officers have been working closely with the Office of the Auditor-General (OAG) and their contracted auditors, Dry Kirkness as well as with Datacom development personnel to resolve issues that relate mostly to the transition of opening and closing balances being reported from the two systems. It is anticipated that the audit will be completed within the next two months.

In addition, this issue has affected the ability to effectively update the Shire's Long Term Financial Plan, which will be done once the audit is finalised.

Council has been kept apprised of the situation and has discussed the fact that abandoning the new system at this point would present an insurmountable financial and human resource cost to the organisation.

The Shire is aware that the OAG will be required to provide comment about the Shire's inability to provide balanced financial statements for audit within the prescribed timeframes. However, I assure you the Shire is treating this matter seriously and has allocated additional resources for the past 16 months to provide extra assistance.

While this and difficulties in attracting staff in the current climate remain significant challenges, the Shire is making progress and we look forward to continuing to work with the Department to achieve positive outcomes for the Toodyay community.

Please contact me on 9574 9300 or via email: records@toodyay.wa.gov.au if you require further information. Alternatively, I would be happy to arrange a meeting to discuss any queries.

Yours sincerely



Suzie Haslehurst
Chief Executive Officer

This is the correspondence to the DLGSC for the 'Application Form - Rating Policy: Differential General Rates' for Ministerial Approval without the attachments as sent on the 15th July 2022 and the thread of the queries and responses to the 9th August 2022.

From:**Sent:** Tuesday, 9 August 2022 9:57 PM**To:** @dlgsc.wa.gov.au>**Subject:** RE: [External]-RE: [External]-RE: Shire of Toodyay - : Mining Industry Differential General Rates

Good evening

Thank you for your assistance and questions on our Mining Industry Differential General Rates.

- The \$94,320 expense a yearly amount and is the total result of the grading tender requesting a monthly grade which calculates as \$7,860 per month.
- With 2 to 3 normal grades per year the \$70,000 is the potential additional nine grades that may be required and is a subset of the total \$94,320 quote for twelve months.
- The \$1,013,833 re-sheeting is part of the long term strategy to support the Mining Industry in Toodyay. It will all be in future years when it would be required, in consultation with the industry and potential grant funding State Government departments.

The purpose of the Mining Differential Rates Revenue is to meet the anticipated cost of providing road works and other services to the industry, similar to the services provided to other sectors of the community. The Differential Rating categories for Residential, Commercial, Industrial, etc are to meet the specific needs of different categories of ratepayers. This is why we are endeavouring to introduce a Mining Differential Rates for this very unique category of ratepayers. We look forward to a bright and prosperous Mining Industry in Toodyay.

We await with anticipation the decision from the Minister or his delegate.

Kindest Regards

PROJECT MANAGER

Shire of Toodyay
PO Box 96
TOODYAY WA 6566

W: www.toodyay.wa.gov.au

From: @dlgsc.wa.gov.au
Sent: Tuesday, 9 August 2022 4:27 PM
To: @toodyay.wa.gov.au
Subject: [External]-RE: [External]-RE: Shire of Toodyay - : Mining Industry Differential General Rates

Hi

Thank you for the information.

I'm afraid I have limited experience when it comes to road maintenance costs. Just to ensure I'm not misunderstanding:

- is the \$94,320 expense a yearly amount or is it incurred each month?
- Is the \$70,000 expense a subset of the above cost or is it a separate, additional cost?
- what portion of the \$1,013,833 re-sheeting is likely to be incurred during the 2022/23 financial year (if any)?

I just want to make sure I accurately reflect these road costs in my report to the delegate.

Kind regards

Senior Legislation Officer

Department of Local Government, Sport and Cultural Industries
140 William Street, Perth WA 6000
GPO Box R1250, Perth WA 6844

Web www.dlgsc.wa.gov.au

The Department acknowledges the Aboriginal peoples of Western Australia as the traditional custodians of this land, and we pay our respects to their Elders past and present.

From: @toodyay.wa.gov.au
Sent: Tuesday, 9 August 2022 8:51 AM
To: @dlgsc.wa.gov.au; Legislation <legislation@dlgsc.wa.gov.au>
Cc: @toodyay.wa.gov.au; <records@toodyay.wa.gov.au>
Subject: FW: [External]-RE: Shire of Toodyay - : Mining Industry Differential General Rates

Good morning

Thank you for assisting the Shire of Toodyay to get the Ministerial Approval for our Mining Industry Differential Rates in place.

In reply to your email below, the RID which is a mathematical calculation is 'unusually' high because the Landgate valuation is extremely low, with two properties having a Landgate valuation of \$2.00 and \$4.00 each. I have researched other Shires and Boddington has a UV Mining valuation on the non minimum exploration licences (not the two GRV operating Mining Licences) with an average valuation of \$913,522 and a RID of 0.032646 raises \$29,823 per Mining Property. The Shire of Toodyay has an average UV Valuation of \$6,139 and expects to raise \$5,714 per Mining Property. The total Landgate Valuation of the 35 Mining tenements in Toodyay comes in at \$214,816. As we have not had a Mining Differential Rate before, these properties have been valued at broadacre prices. We shall be querying Landgate about the methodology of the Mining Sector valuation process after we complete the Current Budget.

For the additional questions, on occasions Keating Road was so cutup even with the current low level of truck traffic that the operation had, they had to use Beach and Plunket Roads for access. Other locals complained that Keating was unsuitable for smaller vehicles at those times. The Shire diverted the grader and operator to fix the road with an additional grade on a number of occasions. The internal cost evaluation and the tender for additional grading came in very similar. Note that the normal 2 to 3 grades a year will not be included in the \$94,320 for the monthly grading quote, we expect the 9 extra grades would come to \$70,000 plus normal Shire expenses. The expected Rates Revenue for the 10 Mining Tenements in the Gonville / Keating area would be \$63,130 and this is for a collection of Shire expenses, the same as a farmer's rates are not just for grading their road.

The sheeting expenses at approximately \$1.1 million dollars relates to the future needs of the mining industry and the Shire is intending to meet these needs as they come up. This quote was part of the Shire's future planning strategy. It is anticipated that the current Gonville / Keating area operation would need a MRWA Standard sealed road system once it goes to a Mining operation, not the current gravel road system which would have frequent closed roads in wet weather. The operation is so confident that the exploration will go to the next level that they have bought 9 farms in their exploration area. The upgrade infrastructure would be gradually incurred over multiple financial years, most likely with road grant funding from the Department of Mines or from MRWA.

The \$200,000 "target" with regard to rate yield is based on the internal calculations of Shire costs and the Grading Tender price referred to above and in the attachment in the previous email.

You have indicated that you have received several letters from mining ratepayers in the district and I have collated 30 pages of correspondence and replies as well. As noted, we intend to raise \$200,000 from the 35 Mining Tenement this year and honestly feel that this is probably marginal for the needs of the industry at this time. Any future budget will have to go to the Minister for approval over the greater than 2 time rule so will be monitored by your department.

Last year, and in previous years, every Mining Tenement was rated at the minimum rate which is for the most basic of the services provided by the Shire, at \$1,351 each, with some explorations operations funded with many millions of dollars with the expectation that the Shire would be providing significant infrastructure, particularly roading.

The existing mining tenements with significant heavy vehicles and industry using the road infrastructure are on Minimum Rates, the same as a low value home or vacant land in Toodyay with maybe a small vehicle. This state of affairs would not meet the Minister's policy criteria on objectivity, fairness and equity, consistency, transparency and administrative efficiency.

On the DLGSCI [web site](#) it states:

"The Minister's approval under section 6.33(3) will be made consistently with the key values of objectivity, fairness and equity, consistency, transparency and administrative efficiency."

To that end, the Minister will not approve an application for an approval under this policy unless the Minister is satisfied of these matters.

I am aware that the department have received several letters from mining ratepayers in the district advising that the new rate category will result in significantly higher rate bills for their properties. The new rate category will be noticeably higher than the previous minimum rate however would be more appropriate for the type of operation and services on their properties. I am also aware that the department have not received any letters from the same ratepayers discussing the appropriateness of the proposed rate revenue compared to the services that the Shire currently are providing and plan to provide into the future.

It is the intention of the Shire and the Council to provide the resources that are anticipated to be needed to ensure a robust and successful Mining Industry in Toodyay, preferably with a self funding model, particularly when the exciting new nickel-copper-platinum group element (PGE) discovery comes to production.

We would anticipate that we could have the Ministerial approval for an appropriate Rate Revenue from the developing Mining Industry for the Shire to meet the needs of the sector.

Kindest Regards

PROJECT MANAGER

Shire of Toodyay
PO Box 96
TOODYAY WA 6566

W: www.toodyay.wa.gov.au

Sent: Monday, 8 August 2022 4:35 PM
To: @toodyay.wa.gov.au
Subject: [External]-RE: Shire of Toodyay - : Differential General Rates

Hi

Thank you for providing the additional budget information and rates information.

At first inspection, the RID proposed by the Shire is unusually high. As a result, due diligence requires us to assess this application in particular detail, since it is likely to generate public interest if we go ahead and recommend approval.

It is unlikely we will have a resolution by Wednesday, but we will endeavour to do so.

At this stage, I have some additional questions:

- (a) The tender documents put the grading and sheeting expenses at approximately \$1.1 million dollars, presuming the lowest quotes are taken. Can you confirm whether this entire expense is going to be incurred over the 2021/22 financial year, or whether it is likely to be gradually incurred over multiple financial years?
- (b) I've noted that in several documents, the Shire has mentioned a \$200,000 "target" with regard to rate yield that it wishes to generate from the UV mining ratepayers. Can you advise how this \$200,000 target was calculated and how that number fits in with the tenders and estimated budget expenses?
- (c) We have received several letters from mining ratepayers in the district. These letters advise that the new rate category will result in significantly higher rate bills for their properties. Once again, due diligence requires us to investigate these claims. Are you able to advise:
 - (i) As an approximate figure, how much total rate yield will be raised from those mining properties this year?
 - (ii) How much money was raised from those specific properties last year?

Kind regards

Senior Legislation Officer

Department of Local Government, Sport and Cultural Industries
140 William Street, Perth WA 6000
GPO Box R1250, Perth WA 6844

Web www.dlgsc.wa.gov.au

The Department acknowledges the Aboriginal peoples of Western Australia as the traditional custodians of this land, and we pay our respects to their Elders past and present.

From: @toodyay.wa.gov.au>

Sent: Saturday, 30 July 2022 10:58 PM

To: @dlgsc.wa.gov.au>

Cc: Legislation <legislation@dlgsc.wa.gov.au>;

Subject: RE: [External]-RE: Application Form - Rating Policy: Differential General Rates

Hi

The manager building the budget document is away today, so I have not attached the preliminary budgetary figures.

I have attached the rate information table with the GRV figures for the two years.

We are intending to keep to the target of raising \$200,000 from the UV mining properties. We had made an evaluation of the cost of maintenance of the relevant roads to get our initial position however the Manager of Infrastructure and Assets has put out a tender for the Grading & Resheeting of Keating/Beach/Plunket Rds. These are the relevant roads surrounding the Chalice exploration sites and that required additional maintenance works

while the exploration has been going on. The tender was for 12 grading works, although usually 2 of these would be done in the normal works program. The best quote for grading is \$94,320 and depending on the year, this could be enough to be funded mainly from the Rates. We will be putting to the Council that any real surplus would be put into a new Mining Industry Reserve for the expected increasing requirements as the industry progresses. The best price for the tender for the Resheeting is \$1,013,800 which demonstrates the future requirements for the mining stages to ensure that the industry is not compromised by the state of the roads and infrastructure. The Shire would most likely be sourcing grant funding in the future to provide MRWA grade access for the industry, however that is some time away.

I have redacted the names from the tender sheet as it is still a confidential document

Attachments:

- Attachment 1 Rate Information Tables - Shire of Toodyay
- TENDER 05-2022 - Grading & Resheeting of Keating-Beach-Plunket Rds – REDACTED

I will send the preliminary budgetary figures on Monday.

Kind Regards

PROJECT MANAGER

Shire of Toodyay
PO Box 96
TOODYAY WA 6566

W: www.toodyay.wa.gov.au

From: [<@dlgsc.wa.gov.au>](mailto:@dlgsc.wa.gov.au)
Sent: Tuesday, 26 July 2022 3:56 PM
To: [<toodyay.wa.gov.au>](mailto:toodyay.wa.gov.au)
Subject: [External]-RE: Application Form - Rating Policy: Differential General Rates

Good afternoon,

This email is regarding the Shire's differential rates application.

I have completed a preliminary check of the application. In order for the team to complete its assessment, we will require the following additional information:

- (a) In the application form, it was noted that the Shire has not yet prepared a draft budget. As a result we will need a copy of the preliminary budgetary figures the Shire used as a substitute (i.e. the figures which predict next year's expenditure and formed the basis for the rate yield the Shire seeks to generate).
- (b) The rate information table contains data for the UV rates. However, we also require the data for the GRV figures, so that we can compare the rate yields across all the rate categories.
- (c) In the Shire's minutes, it was noted that the Shire had a target of raising \$200,000 from the UV mining properties. Can you provide further information on how that target number was obtained? The objects and reasons seem to suggest that the number is related to infrastructure maintenance near those properties. If that is correct, any figures you could provide on the predicted expenditure of those projects would be helpful.

Kind regards

Senior Legislation Officer

Department of Local Government, Sport and Cultural Industries
140 William Street, Perth WA 6000
GPO Box R1250, Perth WA 6844

Web www.dlgsc.wa.gov.au

The Department acknowledges the Aboriginal peoples of Western Australia as the traditional custodians of this land, and we pay our respects to their Elders past and present.

From: @toodyay.wa.gov.au>

Sent: Friday, 15 July 2022 3:26 PM

To: Legislation <legislation@dlgsc.wa.gov.au>;

Subject: Application Form - Rating Policy: Differential General Rates

Manager Statutory Approvals Team
Department of Local Government, Sport and Cultural Industries
PO Box 8349, Perth Business Centre, WA 6849
Email: legislation@dlgsc.wa.gov.au

Hi Legislation

This is the 'Application Form - Rating Policy: Differential General Rates' for Ministerial Approval with attachments. Some attachments are not relevant or available however I have added some comments relating to the application which did not fit into the formal application. Please let us know if there is any further information needed for the Minister's approval.

Notes on the Ministerial Approval Application

8. Has council reviewed its expenditure and considered budgetary efficiency measures as part of its budget deliberations?

Yes ☐ No ☐

Attachment 3: copy of council minutes. Please ensure that budget efficiency measures are clearly identified in the minutes.

Council has reviewed its expenditure and considered budgetary efficiency measures in the 2021/2022 budget process and adoption, and again in the mid-year review. The current budget workshops involve considerable review of these matters to result in a balanced and efficient 2022/2023 Budget. For example, the second seal on some roads was delayed in a prior year and it was decided to action the reseal program as this was more efficient than further delays. The Mid-Year Review process was promoted as the opportunity to review the expenditure, revenue and budgetary efficiencies and this process continues to influence the budget process. The current budget workshops look carefully at the expenditure and budgetary efficiencies as a continuous process and will be formalised at the Budget adoption. Attachment 3: copy of council minutes, if anything, would be best reflected in the Mid-Year Review minutes.

- 13.** In categories where there were fewer than 30 ratepayers, has each ratepayer been consulted in writing and provided a 21 day submission period?

There were more than 30 ratepayers in the UV Mining category however later we sent the full documentation including the link to the minutes to all the Mining Tenement Licence Holders and received and answered many queries, questions and conversations. These have been collated into a single document and summarised in the agenda and minutes of the Special Council Meeting on the 13th July 2022.

Kind Regards

PROJECT MANAGER
Shire of Toodyay
PO Box 96
TOODYAY WA 6566

W: www.toodyay.wa.gov.au

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022****1 DECLARATION OF OPENING**

Cr McKeown, Chairperson, declared the meeting open at 6.04pm.

1.1 ANNOUNCEMENT OF VISITORS

Cr Duri

1.2 RECORD OF ATTENDANCE AND APOLOGIESMembers

Cr M McKeown	Councillor
Mr R Koch	Deputy 2 CBFCO / CESM
Mrs E Francis	Emergency Management Officer
Ms S Haslehurst	Chief Executive Officer
Mr N Griggs	Deputy 1 CBFCO
Mr P Brennan	Toodyay Central Bush Fire Brigade Rep
Ms S Anderson	A/Coondle-Nunile Brigade Representative
Ms T Martin	Julimar Brigade Representative

Staff

Mrs M Rebane	Executive Assistant
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Visitors

Cr Duri	Councillor
---------	------------

Apologies

Mr G Warburton	Reserves Management Officer
Mr S Tunnicliffe	Coondle-Nunile Brigade Representative
Mr C Stewart	Chief Bush Fire Control Officer

1.3 DISCLOSURE OF INTEREST

The Chairperson advised that no disclosures of interest in the form of a written notice had been received prior to the commencement of the meeting.

2 MINUTES AND ADDITIONAL INFORMATION**2.1 CONFIRMATION OF MINUTES****2.1.1. Minutes of Meeting held on 4 May 2022**

OFFICER'S BFAC004/08/22	RECOMMENDATION/BFAC	RESOLUTION	NO.
MOVED	Mr P Brennan		
SECONDED	Mr N Griggs		
That the Unconfirmed Minutes of the Bushfire Advisory Committee Meeting held on 4 May 2022 be confirmed.			
MOTION CARRIED 8/0			

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022****2.2 REVIEW OF STATUS REPORT****2.2.1 Review of Status Report**

Attachments:	1. Updated Status Report
--------------	--------------------------

The Status Report was reviewed and amended.

2.2.2 BUSH FIRE OPERATIONAL PROCEDURES

The Status Report detailed, from a Council Meeting held on 27 April 2022, that Council had resolved to:

Authorises the CEO to arrange for the Bush Fire Operational Procedures to be reviewed and brought back to Council through the Bush Fire Advisory Committee (BFAC) by December 2022.

The CESM requested an extension of time be given to review the *Bush Fire Operational Procedures*.

OFFICER'S RECOMMENDATION/BFAC RESOLUTION NO. BFAC005/08/22

MOVED Mrs E Francis

SECONDED Mr P Brennan

The Bush Fire Advisory Committee recommends that Council approve the extension of time for a review of the Bush Fire Operational Procedures to some point after February 2023.

MOTION CARRIED 8/0

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES

3 AUGUST 2022

2.3 INWARD/OUTWARD CORRESPONDENCE

2.3.1 VBFB Management Position Paper

Date of Report:	18 July 2022
File Reference:	FIR3
Author:	E Francis – Emergency Management Officer
Responsible Officer:	R Koch – Community Emergency Services Manager
Attachments:	1. WALGA Advocacy Position Paper 2. SOT Response to VBFB Advocacy Position.

PURPOSE

To receive the Shire of Toodyay's response to WALGA's Management of Volunteer Bush Fire Brigade (VBFB) Advocacy Position.

BACKGROUND

WALGA circulated an Info page and Proposed Advocacy Position on Arrangements for Management of Bushfire Brigades Paper (**Attachment 1**) to all local governments on 24 May 2022.

WALGA sought the views of the sector on a new Advocacy Position on the management of Bushfire Brigades. This matter will be of most relevance to those 111 Local Governments that manage brigades, although the views of all members are sought.

WALGA allowed for a 6-week consultation timeline on this matter, to enable consultation with local volunteers and communities, and for Councils to make a decision. Due to the timeframes involved, local views were sought via email. An Item will go to WALGA State Council in September 2022.

COMMENTS AND DETAILS

The Shire of Toodyay's Response to VBFB Advocacy Position is provided at **Attachment 2** to this report. The response incorporates feedback received via a workshop with Shire elected members and staff and via email from elected members, the CESM, Chief and Deputy Chief Fire Control Officers and four brigade captains.

OFFICER'S RECOMMENDATION/BFAC RESOLUTION NO. BFAC006/08/22

MOVED Mr N Griggs

SECONDED Ms T Martin

That the Bushfire Advisory Committee receives, as attached, the Shire of Toodyay Response to WALGA's Volunteer Bush Fire Brigade Management Advocacy Position.

MOTION CARRIED 8/0

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022****3 BUSINESS LEFT OVER FROM PREVIOUS MEETING**

Nil.

4 OFFICER REPORTS**4.1 2022/2023 Bush Fire Control Officer Appointments**

Date of Report:	21 July 2022
Applicant or Proponent:	R Koch – Community Emergency Services Manager
File Reference:	FIR1
Author:	R Koch – Community Emergency Services Manager
Responsible Officer:	J Augustin – Manager Infrastructure and Assets
Previously Before Council:	Resolution 257/08/20 – Appointments 20/21 Resolution 172/08/21 – Appointments 21/22
Author's Disclosure of Interest:	Nil
Council's Role in the matter:	Executive
Attachments:	1. FCO Nomination Report 2022/2023 (Confidential) (confidential) (under separate cover) 2. BAFC FCO Ballot and Recommendation Procedure

PURPOSE OF THE REPORT

To consider the nominations for the roles of Bush Fire Control Officers and make recommendations to Council for Bush Fire Control Officers and appointment of Chief Bush Fire Control Officer and Deputy Chief Bush Fire Control Officer(s) pursuant to Section 38(1) of the *Bushfires Act 1954*.

BACKGROUND

As per items 11.4 and 11.5 of the Shire of Toodyay Bush Fire Operating Procedures (the Operating Procedures), a process for nomination, recommendation and resolution to appoint Bush Fire Control Officers is conducted annually.

As per item 11.5.1 (a-f) the Shire of Toodyay compiled a report on Bush Fire Control Officer nominations received and circulated to the membership via email on 19 July 2022.

Items 11.5.2 and 11.5.3 of the Operating Procedures, now require a recommendation to Council regarding the appointment of Bush Fire Control Officers from this meeting of the Bush Fire Advisory Committee, in line with the procedure of the aforementioned items in the procedures document.

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022****COMMENTS AND DETAILS**

Seven applications for the role of Bush Fire Control Officer have been received. These have been provided as a Confidential Attachment. Given the Operating Procedures provide for eleven appointment and only seven nominations have been received, the BFAC may wish to consider whether additional nominations are required.

IMPLICATIONS TO CONSIDER**Consultative:**

The Bush Fire Control Officer Nomination report was circulated to BFAC members to permit Captains to consult with their officers and/or members.

Strategic:

Bushfire management is an outcome that the Council has identified to meet the aspirations for Toodyay as a liveable and thriving Shire in the Toodyay 2023 Strategic Community Plan. The focus of the outcome is to increase the number of registered volunteers for the Bush Fire Brigades. Provision of effective leadership and incident control personnel for bushfire events is a key component of effective management of volunteers.

Policy related:

The excerpt below is from section 11.3 of the *Shire of Toodyay Bush Fire Operating Procedures* Administration Manual which denotes the role, duties, responsibilities and qualifications of a Bush Fire Control Officer as follows:

---Begin Excerpt---**11.3 Bush Fire Control Officer****Role**

A Bush Fire Control Officer is a delegated representative of the Local Government responsible for the administration of provisions within the *Bush Fires Act 1954*. The position is required to perform active operational duties in relation to both firefighting and fire prevention strategies within the local community.

A Bush Fire Control Officer must be able to demonstrate experience in wild fire behaviour, AIIMS and knowledge of the area. The person in this position must be able to interpret provisions of the *Bush Fires Act 1954* and the *Bush Fires Regulations 1954* and be confident with communication skills.

This position reports to the Chief Bush Fire Control Officer on all matters pertinent to bush fire management.

A Bush Fire Control Officer may hold jointly the position of Brigade Captain.

Duties and Responsibilities

Duties and responsibilities of the Bush Fire Control Officer include:

- 11.3.1 Authorise permits for hazard reduction burns within the Shire of Toodyay in accordance with the *Bush Fires Act 1954* and *Environmental Act* as and when directed by the CEO;
- 11.3.2 Identify and conduct risk assessments of fire hazards within the Shire of Toodyay;
- 11.3.3 Perform duties prescribed by the *Bush Fires Act 1954* and authorised by Local Government;

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022**

- 11.3.4 Maintain a personal log book to include a record of events and decisions during an incident;
- 11.3.5 Take control, command and manage resources during wildfire or hazard reduction burns within the Brigade area they are appointed;
- 11.3.6 To take control of firefighting operations at a wildfire outside their Brigade area where no other Fire Control Officer is present;
- 11.3.7 Demonstrate Positive leadership and mentor Captains and Brigade members;
- 11.3.8 Provide advice to the CBFCO and CESM as to when harvest bans and or movement of vehicle bans should be applied.

Criteria of Bush Fire Control Officer -

- Firefighting experience of 8 years;
- Knowledge of managing a volunteer organisation;
- Knowledge of all Fire Response Plans in the Shire of Toodyay;
- Knowledge of the Bush Fires Act 1954;
- Ability to attend further fire and emergency management training;
- Effective Interpersonal Skills;
- Good Written and Verbal Communication Skills;
- Leadership Skills;
- Management Skills;
- Experience in managing operations;
- Ability to perform under stressful conditions.

Qualifications of Bush Fire Control Officer –

Following courses completed:

- Bush Fire Safety Awareness;
- Firefighting Skills;
- Crew Leader 2020;
- Advanced Bush Fire Firefighting 2020;
- Structural Fire Fighting;
- Sector Commander;
- Fire Control Officer;
- AIIMS 2017;
- Incident Controller Level 1;
- AIIMS awareness;
- Ground Controller;
- Machine Supervision.

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022**

If a member has not done a course they must endeavour to complete the next available course and in this situation the appointment will be at the discretion of the CBFCO and/or CEO.

---End Excerpt---

Additionally, the process for BFAC to make a recommendation is also specified in the *Shire of Toodyay Bush Fire Operating Procedures*. The excerpt below is from section 11.5 outline the procedure to be followed.

---Begin Excerpt---

11.5 Recommendation of Nominations (to Council)

- 11.5.1 <intentionally omitted>
- 11.5.2 At each August BFAC, the committee will consider the report (11.5.1) and each member will vote in the following manner to determine a recommendation to Council:
 - a) By indicating which candidate (zero or more) it endorses by way of formal secret ballot.
 - b) Candidates receiving a simple majority shall be recommended to Council for appointment in descending order based on the number of votes received up to a maximum of 11 candidates.
 - c) In the case of a tie where the 12th or subsequent candidates share the same number of votes as the 11th placed candidate, process 11.5.3(d) and if required (e) shall be followed to determine the 11th candidate.
- 11.5.3 At each August BFAC, the committee will consider the report (11.5.1), and each member will vote in the following manner to determine a CBFCO recommendation to Council:
 - a) Nominations for CBFCO will be called from the BFAC membership. Nominations must come from either:
 - i) candidates recommended in 11.5.2, or;
 - ii) a member of staff who has been appointed an FCO as part of their employment duties under council delegated authority to the CEO.
 - b) Nominees must have expressed their acceptance of the nomination by:
 - i. In writing along with their FCO nomination; or
 - ii) In person as a member or guest at the August BFAC.
 - c) Election shall be by secret ballot of nominated candidates where the highest number of votes is elected.
 - d) In the case of a tie, the tied candidates only shall be voted on again in the form of secret ballot, and so on until a result.
 - e) In the case process (d) results in a tie of two candidates the BFAC chair shall have the casting vote.

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022**

- 11.5.4 At each August BFAC, the committee will consider the report (11.5.1), and each member will vote in the following manner to determine a DCBFCO recommendation to Council:
- The process followed shall be the same as 11.5.3, substituting the term CBFCO for DCBFCO.
 - The process may be repeated to appoint desired number of DCBFCOs by ascending number designation.
 - Candidates previously recommended to the CBFCO or a DCBFCO role shall be ineligible to nominate.

---End Excerpt---

A flow chart, depicting the above is attached to this report.

Financial:

Nil

Legal and Statutory:

Local Governments appoint Bushfire Control Officers under Sections 38 and 38A of the *Bushfires Act 1954* and the duties of Bush Fire Control Officers are set out in the legislation. The Shire must appoint, at a minimum, a Chief and Deputy Chief Bush Fire Control Officer.

Risk related:

FCOs are provided powers under Section 39 of the *Bush Fires Act 1954*. While the appointment of FCOs aim to reduce risk to the community by providing leadership in control of bush fire incidents, having an untrained or under-skilled FCOs increases the potential exposure to the following risks:

- *Reputational Risk – There is a potential reputational risk to the Shire should review of a major incident expose unacceptable levels of training/skill or oversight in the appointment of FCOs.*

Likelihood: Rare

Consequence: Major

Analysis Risk: Medium

- *Social/Economic/Environmental Risk – There is the potential for social, economic and environmental impact of incidents, where life, or property or other significant assets are lost due to unacceptable levels of training/skill or oversight in the appointment of FCOs.*

Likelihood: Rare

Consequence: Extreme

Analysis Risk: High

In response to this risk, Council moved to adopt the Volunteer Bush Fire Brigade – Bush Fire Operating Procedures as Council's Interim Policy on 24 June 2014 (with most recent amendments adopted 15 February 2022) which sets out the qualities and qualifications of a FCO.

Workforce related:

Shire Staff FCOs – the Shire also requires a number of staff members to be appointed FCOs to perform the function of their employment. As these appointments relate to the

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022**

management of Shire Staff, Delegation to the CEO exists under the Shire's delegation register (Item ES8) in relation to Section 38 "Local government may appoint bush fire control officers" of the *Bush Fires Act 1954*.

Historically this includes the individuals holding the following positions:

1. Community Emergency Services Manager (CESM)
2. Emergency Management Officer (EMO) and/or A/Community Emergency Services Manager (A/CESM)
3. Reserves Management Officer (RMO)
4. Bush Fire Risk Mitigation Planning Coordinator (BRMPC)
5. Ranger 1
6. Ranger 2

Additionally, the Shire of Toodyay has a Memorandum of Understanding (MOU) with the Department of Fire and Emergency Services (DFES) that the person employed in the CESM role will be appointed an FCO for the Shire of Toodyay. This extends to any staff member who is appointed to act in the role when the incumbent is on a period of leave.

These details have been provided in this report to provide BFAC the CEO's intent and full visibility of appointments to be advertised to meet the requirements of the *Bush Fires Act 1954*, but do not feature in the officer's recommendation below.

VOTING REQUIREMENTS

Simple Majority

R Koch provided an overview of the voting process for FCO positions in the SOP's.

Ballot papers were distributed.

FCO Nominees were declared as:

- Craig Stewart;
- Garry Forsyth;
- Charles Wroth;
- Kim Maddrell;
- Ian MacGregor;
- Nick Griggs; and
- Grant Scobie.

Nominations were sought for the position of Chief Bush Fire Control Officer.

R Koch nominated C Stewart; indicating that he was aware of the nomination and had accepted it prior to the meeting.

C Stewart was declared as the Chief Bush Fire Control Officer (CBFCO).

Nominations were sought for the position of Deputy Chief Bush Fire Control Officer 1

E Francis nominated N Griggs as DCBFCO1.

N Griggs accepted the nomination.

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES

3 AUGUST 2022

N Griggs declared as the Deputy Chief Bush Fire Control Officer 1 (DCBFCO1).
 Nominations were sought for the position of Deputy Chief Bush Fire Control Officer 2.
 S Haslehurst nominated R Koch as DCBFCO2.
 R Koch accepted the nomination.
 R Koch declared as the Deputy Chief Bush Fire Control Officer 2 (DCBFCO2).

OFFICER'S RECOMMENDATION/BFAC RESOLUTION NO. BFAC007/08/22**MOVED** Ms T Martin**SECONDED** Mr N Griggs

That the Bushfire Advisory Committee recommends that Council appoints Bush Fire Control Officers as follows:

- | Appointment of | (to Position) |
|--|--|
| 1. Craig Stewart | (Chief Bush Fire Control Officer) |
| 2. Nick Griggs | (Deputy Chief Bush Fire Control Officer 1) |
| 3. Rob Koch - CESM | (Deputy Chief Bush Fire Control Officer 2) |
| 4. Charles Wroth | (Bush Fire Control Officer) |
| 5. Garry Forsyth | (Bush Fire Control Officer) |
| 6. Kim Maddrell | (Bush Fire Control Officer) |
| 7. Ian MacGregor | (Bush Fire Control Officer) |
| 8. Grant Scobie | (Bush Fire Control Officer) |
| 9. The following Shire Officers as Bush Fire Control Officers: | |
| (a) Ebony Francis - Emergency Management Officer | |
| (b) Greg Warburton - Reserves Management Officer | |
| (c) Leon Couper - Ranger | |
| (d) Wade MacMillan - Ranger | |

MOTION CARRIED 8/0

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES

3 AUGUST 2022

4.2 Proposed Standard Operating Procedure - Recording and Use of Data/Information

Date of Report:	25 July 2022
Applicant or Proponent:	R Koch – Community Emergency Services Manager
File Reference:	FIR1
Author:	R Koch – Community Emergency Services Manager
Responsible Officer:	J Augustin – Manager Infrastructure and Assets
Previously Before Council:	Nil
Author's Disclosure of Interest:	Nil
Council's Role in the matter:	Executive
Attachments:	1. Proposed SOP - Recording and Use of Data/Information

PURPOSE OF THE REPORT

To receive a draft Standard Operating Procedure (SOP) proposal for the recording and use of data/information relating to bush fire operations. No decision is sought – the intent is for circulation to members for comment prior to the next BFAC meeting.

BACKGROUND

Legislation under which firefighters operate, provide certain privileges for access to, and carry out fire management related actions on, private, or otherwise restricted land, not accessible to the general public. It is vital that appropriate discretion is applied when collecting and disseminating data or information to ensure: relevant legislation is followed; respect for the privacy of an individual/organisation and their property/possessions is observed; and professionalism in line with the standards of the Shire of Toodyay Bush Fire Operating Procedures.

COMMENTS AND DETAILS

The proposed SOP is intended to apply to all activities including, but not limited to; fireground operations, training, exercises, fundraising and administration duties.

For the interpretation of the proposed SOP, the term 'data/information' includes, but is not limited to; photographs, videos, audio recordings, sketches, conversations, and observations.

By the proposed SOP, there is no blanket prohibition on use of photographs etc by brigades or members. The Shire acknowledges that use distribution via members networks (such as social media), may be part of the value proposition a member experiences from their volunteering effort. In fact, appropriate dissemination to external networks may have a positive impact on attracting new members, or general community awareness of fire safety/service. The proposed SOP provides guidance to members on meeting legislative and community expectation requirements.

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022****IMPLICATIONS TO CONSIDER****Consultative:**

This report is intended to introduce the proposed SOP to BFAC members, and through BFAC representatives, Bush Fire Service members for comment.

Strategic:

Bushfire Management is an outcome that the Council has identified to meet the aspirations for Toodyay as a liveable and thriving Shire in the Toodyay 2023 Strategic Community Plan. The focus of the outcome is to increase the number of registered volunteers for the Bush Fire Brigades. Provision of effective leadership and incident control personnel for bushfire events is a key component of effective management of volunteers.

Policy related:

This is a proposed addition to the Shire of Toodyay Bush Fire Operating Procedures which form the Shire's policy on operations of Bush Fire Brigades/personnel.

Financial:

Nil

Legal and Statutory:

The proposed SOP aims to provide guidance to members with relation to legal provisions and limitations in the subject area.

Risk related:

- *Reputational Risk – There is a potential reputational risk to the Shire should members operate outside of legislation or public expectation with respect to any operations of bush fire brigades or personnel.*

Likelihood: Possible (3)

Consequence: Moderate (3)

Analysed Risk: Moderate (9)

The Measures contained in the proposed SOP aim to reduce to the likelihood to Unlikely (2) or even Rare (1) and in doing so reducing the re-calculated analysed to Moderate (6) or Low (3)

Workforce related:

Nil

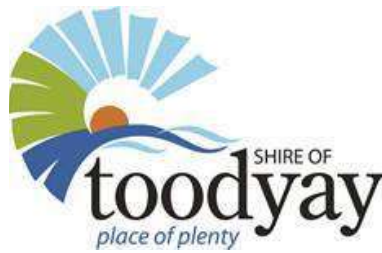
VOTING REQUIREMENTS

Simple Majority

BUSHFIRE ADVISORY COMMITTEE MEETING MINUTES**3 AUGUST 2022****OFFICER'S RECOMMENDATION/BFAC RESOLUTION NO. BFAC008/08/22****MOVED** Mr P Brennan**SECONDED** Mrs E Francis

That the BFAC refers the draft standard operating procedure (SOP) proposal for the recording and use of data/information relating to bush fire operations as presented for member comment prior to the next meeting of the BFAC.

MOTION CARRIED 8/0



Shire of Toodyay

Bush Fire Preparedness and Resilience Strategies

2022

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1. Introduction

The Shire of Toodyay, like every local government, has a Civic responsibility to and for its communities' safety. In 2015, the Shire of Toodyay engaged an external consulting agency to conduct a strategic review of bush fire related matters within the shire. This was seen as a step to understanding the Shire's immediate bush fire planning and management issues and identify areas for improvement moving forward.

The Shire's knowledge in this area has matured since the '2015 Report' and seeks to provide a new report that leverages in-house knowledge. This approach then supports a seamless transition between reviewing and implementing any of recommendations subsequently endorsed by Council. It also avoids the potential of an external agency authoring a report, who may also represent other proponents/clients with dealings within the shire.

This report examines a range of themes relating to bush fire; however, a major focus will be the legacy issues surrounding the lack of evacuation options with many sub-divisions within the Shire of Toodyay having only one-way in and out.

Actions to address certain recommendations of this report will require long-term, ongoing strategic commitment. This will require a wider organisational approach, involving council, planning and development services, assets and services and emergency management teams, in their areas of expertise to achieve successful outcomes.

Recently within the state of Western Australia, there has been a renewed focus on bush fire safety planning with respect to a number of devastating fires.

Bush fire planning regulations have evolved over time to ensure safer standards. This is evident in the recent case where the contemporary standards were used by the Shire of Mundaring and ultimately upheld by the WAPC (Western Australia Planning Commission). The decision resulted in the rejection of a significant 1410 lot subdivision proposal in Stoneville, based on its lack of connectivity to the surrounding road network (Shire of Mundaring, 2019). This should be seen as a watershed moment in planning for bush fire safety with more importance being placed on safety over so-called unavoidable development.

With respect to legacy issues, Recommendation 39c) of the Perth Hills 2011 Report (Keelty, M. (2011) endorsed 'examination options to retrospectively bring these areas into compliance with 'Planning for Bushfire Protection Guidelines'. An example of retrospectively applying modern planning standards to historical subdivisions is that of the 'Shady Hills Estate' in Bullsbrook. With residents only having one-way in and out. The issue was again brought to council in December 2020, with the concept of supporting subdivision development on adjacent land, which would provide secondary egress to the residents of Shady Hills Estate. Council resolved administration to take appropriate action in support of the subdivision (City of Swan, 2020).

Thus, the Shire of Toodyay should ensure appropriate attention is applied to all development applications received to ensure the situations analysed in this report do not become an ongoing fixture into the future and consider enhancing existing subdivision egress via the construction of roads.

To assist in interpreting this report the 2015 Report 'Strategic Review of Bushfire Policy' conducted by Bushfire Prone Planning will be referred to as '2015 Report' throughout the body of this report and this report referred to simply as 'this report'.

Likewise, the 'Guidelines for Planning in Bushfire Prone Areas (December 2021, Version 1.4) which are part of State Planning Policy 3.7 are heavily referred to throughout the body of this report will be simply referred to as 'The Guidelines'.

For further terminology, please see the glossary contained at the end of this section.

1.1 Local Context

Most sub-division areas were developed during the 1980's when bush fire planning was less stringent and virtually non-existent. Despite being a rural shire, the prevalence of residential subdivisions in Toodyay is largely due to the Shire's proximity to Perth. Based on the proximity, this makes Toodyay attractive to retirees and tree changers from the city. This is a demographic, which is not overly familiar with bush fire risk or what to do in the event of one. Such demographic is less likely to stay and defend their property and would be more inclined to evacuate in line with state government messaging. Thus, the evacuation options within Toodyay subdivisions areas is of paramount concern.

Of the 26 state defined hazards, bush fire is the most likely to impact Toodyay, with the potential of high consequence (loss of life, homes, structures), all of which have occurred in Toodyay within recent memory.

The recent Australia Fire Danger Rating System Project has identified the Shire of Toodyay as containing 45% forest fuel types. The majority of subdivision areas exist in these more heavily fuelled areas. These areas represent locations not suitable for farming (generally due to challenging terrain) which were subsequently subdivided.

While not in itself a local phenomenon, Toodyay should not consider itself exempt from the effects of climate change. This is resulting in more extreme weather events, reduced rainfall and extended bush fire danger periods. This means the likelihood and severity of fires are only likely to increase as the effects of climate change continue to be felt.

As identified in the Bushfire Risk Management Program, the combination of demographics, location and adverse conditions place a significant proportion of the Toodyay population at extreme risk from bush fire.

Most notable, the 2007 Chatcup fire which claimed one life and the 2009 Toodyay bush fire which destroyed thirty-eight homes and affected some two hundred properties. This particular bush fire is an example of how a fast moving fire impacts a subdivision area. Fortunately, the majority of the impacted area had relatively good egress options for residents – the outcome may not have been the same in other areas of the shire with less directional egress options.

Additional challenges for Toodyay include its limited reticulated water supply outside of the Toodyay town site. This represents challenges for bush fire response.

In summary, there are significant bush fire challenges facing the Shire of Toodyay, which require careful consideration in addressing legacy and future issues.

1.2 A brief history of the '2015 Report'

The 2015 Report 'Strategic Review of Bushfire Policy' was conducted by *Bushfire Prone Planning* as a due diligence review of, the then sizable program of completed and planned fire egress and access tracks. The review made substantial recommendations to refocus the Shire's efforts by utilization of the Planning for Bushfire Protection Guidelines (2010) as a guiding doctrine.

Between then and now, the Shire's knowledge of these guidelines (now updated) has increased to the point that critical review of some of the recommendations made in the '2015 Report' is possible.

This had led to identification of alternate preferred options, recommendations requiring additional or varied actions, and in some cases rejection of the recommendation due to factors not considered in 2015.

An example of factors not accurately represented includes land tenures over which the Shire does not have direct control, or recommendations that were at odds with existing legal documents (i.e. Deed of easement).

Despite the above, overall the report met the Shire's requirements at the time and should be seen as a useful progression.

Geographically the focus of the report largely represented the Shire's existing egress/access program in 2015, however, only focused on the major sub-division areas of Julimar, Coondle, Morangup, Moondyne Park and the greater Majestic Heights area.

Omissions included, Mountain park (Nairn Drive) and Walkey Heights (Whitefield Road), Toodyay town site and West Toodyay town site. The later included the example of North Street, which was briefly mentioned, but not investigated to the same degree to facilitate an appropriate recommendation. This report will address these geographic gaps, as well as review subdivisions considered in the '2015 Report'.

The '2015 Report' made recommendations in two ways, some as listed sentences (Refer Strategic Review of Bushfire Policy, Section 9, Page 42) and also tabulated in an appendix, listing existing and proposed tracks with specific work recommended for each (Refer Strategic Review of Bushfire Policy, Page 46, Appendix One).

This report contains a position on each recommendation made in the '2015 Reports in Appendix A. Recommendations of this report can be found in Section 11.

1.3 Scope

The scope of works for this report includes an in-depth review of the '2015 Report', with the objective of confirming, amending or removal of '2015 Report' recommendations and in doing so, deliver a refined set of recommendations for council consideration moving forward. Themes considered are categorised as Primary or Secondary focus as per the below:

Primary Focus

The primary focus is to analyse and identify deficiencies in subdivision area/road networks with respect to safe egress in the event of a bush fire, or other applicable hazard.

Definition of subdivision area: For the purpose of this report a subdivision area will be defined as a grouping of lots which have the primary purpose of providing residence, being the following zones: Residential, Rural Residential and Rural Living

Figure 1 below shows the aggregated outline of these areas (including contained reserve land, i.e. recreational and road), their extent and distribution within the shire.

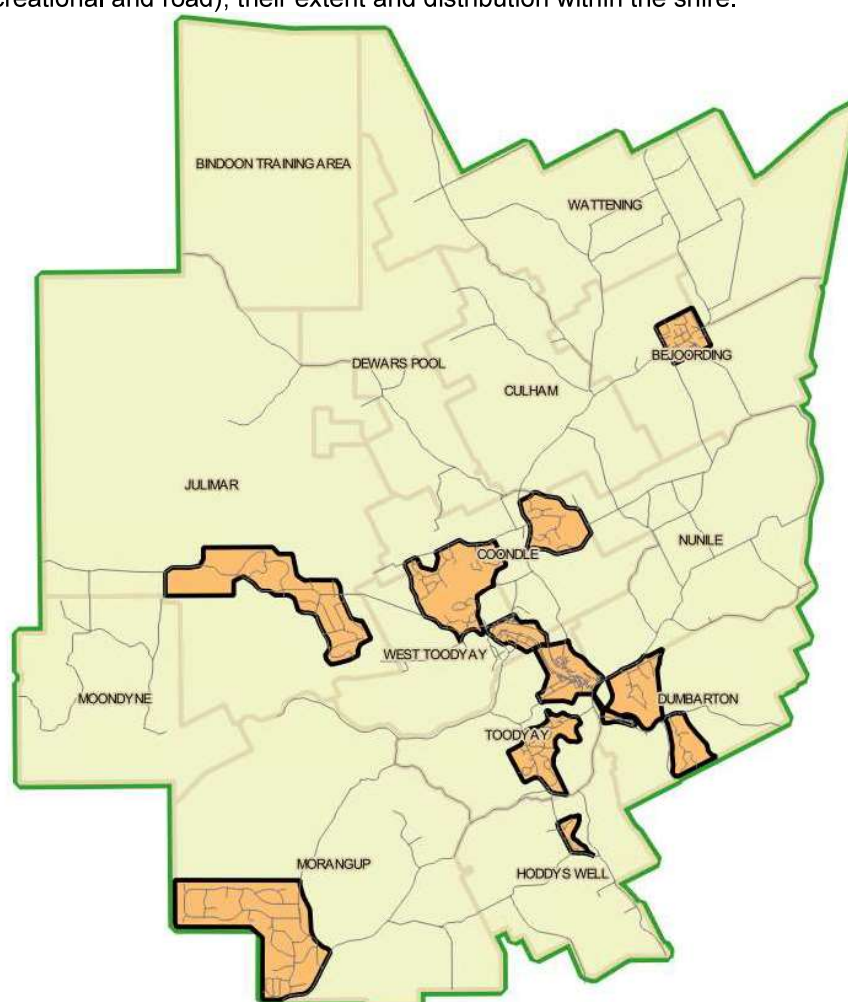


Figure 1 - Shire of Toodyay Subdivisions

Secondary Focus

Also included in the scope is a variety of related subjects, but not limited to:

- Potential Shire easement liabilities,
- Other infrastructure i.e. fire emergency water supplies,
- Other risk reducing programs i.e. mitigation and public education
- Appropriate tasking and utilisation of Shire resources i.e. systems and staff

Additional considerations

Where applicable, the scope includes analysis by way of numerical and spatial techniques with the aim of providing equal footing for comparison and prioritisation of options and providing metrics to outcomes.

Identification, review and inclusion of findings of relevant reports and case studies applicable to the scope and context of the report.

Not all themes of the '2015 Report' are specifically addressed as part of this review, based on relevancy to the primary or secondary focuses above. However, where a recommendation was made, Appendix A contains a summary response, progress, or position.

1.4 Definitions and Glossary

BFB	Bush Fire Brigade
CESM	Community and Emergency Services Manager
DC	Department of Communities
EAW	Emergency Access Way (also referred to as 'Egress')
EMO	Emergency Management Officer
FSAR	Fire Service Access Route (also referred to as 'Access')
LGGS	Local Government Grants Scheme
MAF	Mitigation Activity Fund
MOU	Memorandum of Understanding
PPRR	Preparedness, Prevention, Response and Recovery
R2R	Resource to Risk Document
RMO	Reserves Management Officer
Strategic Fire-break	This is an historical term which relates to the former Shire fire-break program. This term is no longer in use and as such is not used in this document to avoid confusion
UCL	Uncleared Land
UMR	Unmanaged Reserve
2015 Report	'Strategic Review of Bushfire Policy' conducted by Bushfire Prone Planning in 2015

2. Egress from Sub-Divisions - Analysis

As mentioned earlier in this report, the majority of the Shire's subdivision areas predate contemporary bush fire planning considerations. The current Guidelines for Planning in Bushfire Prone Areas (Version 1.4, December 2021) places a strong emphasis on road network connectivity, to provide multiple directions of egress in an emergency. Many of the Shire's subdivision areas were not designed with this principle in mind – such subdivision proposals would unlikely gain planning approvals utilising current planning controls. This highlights the challenges that Toodyay faces in rectifying these designs to a safer standard.

While the purpose of the Guidelines is for the planning and development of new subdivisions, they represent the best guidance for retrospectively applying its principles to existing subdivisions. In support of utilising the Guidelines in this fashion, Recommendation 39c of the Perth Hills 2011 Report (Keelty, 2011, Page 20) states:

“State and local Governments: Examine options to retrospectively bring these areas into compliance with Planning for Bushfire Protection Guidelines”.

Given ‘The Guidelines’ are being applied retrospectively, it is not viable to connect every no-through road in the shire, given the complexities of dealing with legacy decisions. Therefore, evacuation alignments are proposed where there is a need and viable options to achieve evacuation objectives.

2.1 Methodology of Analysis

Since the Shire received the ‘2015 Report’, Shire staff have extensively traversed subdivision areas to assess relevant local conditions including topography, terrain features, vegetation type and density and confirm the overall bush fire risk in each locality.

These on ground assessments have been backed up with extensive desktop analysis, which factors the relevant performance principles of Element 3: Vehicular access, as per ‘The Guidelines’ (Page 73).

This analysis was undertaken following development of a numerical and spatial algorithm, which analyses a plotted route based on the below performance principles, with the intent of reducing the initial subjectiveness and opinion-based theory for any given alignment.

For each performance principle considered, a score is assigned which either increases or decreases the final output number. This provides a numerically comparable outcome for all assessed routes, by removing the complexities in independently considering numerous competing performance principles.

Additional performance principles have been considered which are not part of ‘The Guidelines’ but relevant in a retrofitting scenario. These are also numerically scored and where possible, reference other existing standards, such as Local Planning Scheme Number 4.

For the purpose of interpreting final calculated scores, a lower number represents a more favourable outcome. Therefore

These principles are further explained in Table 1 below.

PERFORMANCE PRINCIPLE DESCRIPTION		ANALYSIS APPLICATION
A3.3 – No-through Roads	Cul-de-sacs should be avoided in Bush fire Prone Areas.	A beneficial numerical weighting is assigned incrementally for, each cul-de-sac removed by a proposed alignment.
A3.2b – Length	EAW should be no longer than 500 metres in connecting to a public road.	A non-beneficial numerical weighting is assigned incrementally based on any length over 500 metres. NOTE: If a solution is met by building a road (as opposed to an EAW), technically the A3.6 requirement would not apply by the Guidelines. However, regardless of the construction standard, shorter alignments are still considered preferable for other reasons, such as cost correlation. Therefore, all alignments factor length, including those recommended in this report for construction as roads.
A3.2b – Maximum Gradient	Maximum gradient should not exceed 1:7 for a sealed road or 1:10 for an unsealed road.	A non-beneficial numerical weighting is assigned incrementally for each 50 metre length of gradient in excess in 1:10. Using the more stringent of the grade requirements of 'The Guidelines' ensures that routes of steep gradients are not promoted by the analysis and that the extra cost of sealing steeper grades is reflected in the scoring.
Bush fire Prone Vegetation	One of the key considerations in overall subdivision assessment via the guidelines, is provision of the appropriate separation distances to bush fire prone vegetation.	A non-beneficial numerical weighting is assigned incrementally based on the percentage length of the alignment contained within bush fire prone vegetation.
NON-GUIDELINES PERFORMANCE PRINCIPLE DESCRIPTION		ANALYSIS APPLICATION
Directness of alignment	An alignment, which significantly changes directions, has the potential to intersect the path of the	A non-beneficial numerical weighting is assigned incrementally based on the degree a route deviates from a reference straight line, directly connecting start to end.

	fire and disorientate the user.	
Number of properties benefited	This looks at the number of residents (via property count) whose risk would be reduced by the proposed alignment.	A beneficial numerical weighting is assigned incrementally for each property that the alignment services.
Number of Properties Backtracking	This considers how many properties would need to backtrack within the internal subdivision road network to access the proposed alignment. A lesser number would indicate a more optimal positioning of the alignment.	A non-beneficial numerical weighting is assigned incrementally for each property that needs to backtrack within the internal subdivision road network to access the proposed alignment.
Number of Hazards Mitigated	This considers how the number of hazards for which this alignment may provide egress. For example, does the alignment also service flood, in addition to bush fire.	A beneficial numerical weighting is assigned incrementally for each hazard the proposed alignment provides egress for. NOTE: The calculations do not consider wide impact area hazards, such as storm or earthquake as they would apply equally in all cases.
Land Tenure	This considers the number and type of land tenures crossed by the alignment, which could affect the ease of implementation.	A non-beneficial numerical weighting is assigned incrementally to the number of non-road reserve tenures crossed or utilised. Shire owned or Shire managed crown land has been assigned half the weighting, to that of privately owned, non-Shire managed land.
Existing Building Setback	This considers the alignment's proximity to existing dwellings, utilising the relevant setback requirements of the Shire's planning policies' and for the potentially impacted properties' zoning.	A non-beneficial numerical weighting is assigned incrementally for each occurrence of a residence falling within the setback requirement.
Downstream Evacuation Options (end of proposed Alignments)	Applying the Guidelines concept of providing multiple access routes (A3.2a), this measure looks favourably where multiple egress options exist at the end of a proposed alignment.	A beneficial numerical weighting is assigned incrementally for each option (direction) of travel, once reaching the existing road network.

		For example: Egress, which intersects an existing through road, will provide multiple options for the user.	
Other identified issues		This accounts for existing issues with the proposed alignment and may include, but not limited to: Tangible impact on existing traffic flows, with the potential to trigger other road network upgrades. Impact of existing infrastructure (i.e. power poles/lines) Traversing of known water course (added construction considerations/costs)	A non-beneficial numerical weighting is assigned incrementally for each identified issue. It does not attempt to quantify an issue as more or less major than another issue.

Table 1- Performance Principles Descriptions and Applications

2.2 Analysis Outcome Scores

Included in the analysis are alignments recommended in the '2015 Report', and additional or alternate alignments identified. Thus in some instances, multiple alignments were evaluated to serve the same objective, in others only a single alignment was evaluated. An objective, for instance, is an outcome, i.e. *an additional evacuation option from a given subdivision area*.

Table 2 below is ordered by the best scoring route for a given objective, with grouped alternate alignments for ease of comparison and is a handy navigation index for recommendations and map references. In all 38 alignments were considered to meet 22 objectives.

Objective Ranking (Relative)	Alignment Reference (2015 Ref)	Rank	Alignment Description	Recommendation & Map Ref	Priority
1	13.1	1/38	Drummond - Burt	Rec 20	6 MEDIUM
	13.2	2	Burt - Drummond	Rec 21	6 MEDIUM
2	18.1 (6A)	3/38	McDonald - Extracts	Rec 29	9 LOW
3	1.1	4/38	Malkup Brook - Harders Chitty	Rec 6/7	1 HIGH
	1.2 (1B)	10	Malkup Brook - Harders Chitty		
	1.3 (1C)	24	Parkland - Harders Chitty		
4	10.1	5/38	North - Collett	Rec 18	5 HIGH
	10.2	8	North - Fitzgerald	Rec 18	5 HIGH
5	6.1	6/38	McIntosh - Leeming	Rec 11	3 HIGH
	6.3	7	McIntosh - McPherson	Rec 11	3 HIGH
	6.2	9	Coondle - Leeming	Rec 12/13	3 MEDIUM
	6.5 (2D)	12	Leake - Charlton		
	6.6 (2C)	14	Alan Twine - Church Gully		
	6.4	23	Coondle - Church Gully		
6	7.1 (5C)	11/38	Wilkerson - Dreyer	Rec 14	4 MEDIUM
7	14.1	13/38	Settlers - Telegraph	Rec 22	6 LOW
8	2.1	15/38	Sand Spring - Malkup Brook	Rec 5	1 LOW
9	21.1 (7A)	16/38	Panorama - Hoddy Well	Rec 32	11 MEDIUM
10	9.1	17/38	Clarke - River	Rec 17	5 LOW
	9.2	32	Clarke - River		
11	3.1 (5F)	18/38	Horseshoe - Jarrah	Rec 8	2 LOW
12	20.1	19/38	Twilight - Toodyay	Rec 31	11 MEDIUM
	20.2	29	Twilight - Clackline		
13	12.1	20/38	Nottingham - Nottingham	Rec 19	6 HIGH
14	5.1	21/38	Fawell - Church Gully	Rec 10	3 MEDIUM
15	4.1 (5I)	22/38	Horseshoe - Waters	Rec 9	2 MEDIUM
	4.2	30	Timber Creek - Waters		
16	8.1 (5B)	25/38	Ridley - White Gum	Rec 15	4 HIGH
	8.3	31	Wilkerson - Picnic Hill	Rec 16	4 LOW
	8.2 (5D)	35	Wilkerson - Waters	Rec 16	4 LOW
17	16.1	26/38	Sesselis - Folewood	Rec 25/26	8 LOW
18	22.1 (4J)	27/38	Red Brook - Toodyay	Rec 33	12 MEDIUM
19	15.1	28/38	Whitelakes - Proposed Bypass	Rec 23/24	7 MEDIUM
	15.2	34	Whitelakes - Dumbarton		
20	17.1	33/38	Pindi - Toodyay	Rec 27	8 LOW
21	11.1	36/38	Francis - Wilkerson	Rec 16	5 LOW
22	19.1	37/38	Drumree - Katrine	Rec 30	10 MEDIUM
	19.2	38	Drumree - Dumbarton	Rec 30	10 MEDIUM

Table 2 – Overall Objective Analysis Rankings

The analysis results table introduces recommendations to action a selection of the proposed alignments. It is important to comprehend the various implementation strategies or toolkit, as this assists in understanding the contextual analysis of each subdivisions area as discussed in Section 4.

3. Toolkit

Prior to looking at each subdivision areas requirements and possible solutions (Section 4), it is imperative to understand the different construction standards, methods of achievement and land tenure approaches, which may be employed in implementing recommendations in this report.

These options may be referred to as **The Toolkit**. This term has been adopted to explain the tools applicable to the trade.

3.1 Construction Standards

There are two standards of construction which can be applied to achieve suitable egress supporting safer evacuation.

These are:

1. Construction as Public Road
2. Construction as Emergency Access Way

Please note: 'The Guidelines' also discuss standards of a Fire Service Access Route (FSAR). These are designed for use by fire response crews in combating a fire and should not be considered suitable for evacuation planning, due to distinct differences in their siting requirements and construction standards.

The preference is to build roads, as this improves the overall connectivity of the road network, removing the need for an Emergency Access Way. This is supported by 'The Guidelines' (December 2021, Page 79) which states:

"An emergency access way is not a preferred alternative to through public road access and should only be considered acceptable where it has been demonstrated that it will provide the safety and performance needs of emergency services and the community, including consideration for future needs, and that public road access to satisfy A3.2a cannot be achieved due to site constraints, such as an established road network with no opportunity to provide a public road for secondary access. Acceptance of an emergency access way should also consider the ability to accommodate reasonable worst-case vehicle volumes."

In short, where a road can be built for the purpose of egress, then it is the preferred option over an Emergency Access Way.

Advantage of a constructed road include:

1. Residents are naturally aware and more familiar with roads that are part of the normal road network due to regular 'peace time' use, which is conducive to enhanced understanding and safer use in a time of panic.
2. Newly constructed roads would be maintained as part of the road asset protection budget and schedule. This would remove similar duplicated maintenance actions and structures by other business areas.

3. The use of a road is not in itself misuse that would apply to an Emergency Access Way. Any misuse of a road (i.e. speeding, hooning) would fall under the jurisdiction of the Road Traffic Act 1974 and therefore responsibility of WA Police. The Shire currently receives correspondence and phone calls on an annual basis regarding the misuse of Emergency Access Ways & Fire Service Access Routes, with limited ability to 'police' the issues effectively. This would reduce Shire officer time in responding to such concerns.
4. The construction standards of an Emergency Access Way are extremely high and not dissimilar to that of a public road. For example, the minimum width requirement for an Emergency Access Way is 6-metre trafficable by a two-wheel drive vehicle. A typical shire road is constructed at 7-metres trafficable width. Existing Emergency Access Ways contain major drainage engineering, guideposts and signage approximating a road standard. Therefore there is little financial justification to favour Emergency Access Way over the construction of roads. This was highlighted by previous versions of 'The Guidelines' which contained road standards as a comparison to an Emergency Access Way. While the most recent version of the Guidelines separates out road standards by referencing IPWEA suit of standards, the similarities in the standards remain.
5. Acceptable solution A3.2a of 'The Guidelines' (Page 73) states "Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access)". Hence, enforcing the requirement for road connectivity. Furthermore, the acceptable solution states: 'Emergency Access Ways should only be used where "Site constraints or alternate design option does not exist". Thus, it is incumbent on the Shire to exhaust all road-building options prior to considering an Emergency Access Way.
6. The use of a road is ubiquitously understood, the same cannot be said for an Emergency Access Way partly due to the choice of terminology promoted by 'The Guidelines'. The main ambiguity is the choice of the word 'access' for a piece of infrastructure designed to facilitate egress or evacuation. To get around this, when signing Emergency Access Ways (a requirement of 'The Guidelines'), the Shire has included a sub-heading of 'Alternate Evacuation Route' to try and overcome any ambiguity for the public. Recommendation 1, advocates for the Shire to provide feedback, when invited, to any subsequent review of 'The Guidelines' in support of less ambiguous terminology denoting an 'Emergency Access Way' and that the Shire continue to dual label such routes with the term 'Alternate Evacuation Route' in the interim.

The only disadvantages of a road relates to tenure requirements being more specific (i.e. Road Reserve or 'Right of Way'), as opposed to an Emergency Access Way, which may be built on Shire reserves not designated as a road reserve, or appropriately specified easements. However, given that most Emergency Access Way options, which exist on Shire-controlled tenure, have already been built, the majority of new alignments would require appropriate tenure to be negotiated and secured regardless of construction standard pursued. Therefore, similar tenure related efforts would be required in either eventuality.

In summary, the concept of an Emergency Access Way exists to address deficiencies in the road network. It is therefore preferable to improve the connectivity of the road network, rather than the Band-Aid solution of an Emergency Access Way.

Given the consideration above, the vast majority of evacuation alignment recommendations in this report are recommended to be achieved as roads.

3.2 Construction Options (Projects versus Planning):

There are two major approaches to achieving construction of evacuation routes. The applicable construction approaches are dependent on urgency of need, current land tenures and the likely hood of future adjacent subdivisional development in the area.

The two approaches are:

1. Shire led construction projects versus;
2. Developer installed connectivity (Planning)

The simplest way to meet an evacuation objective is for the Shire to manage and fund the construction of an evacuation alignment directly. This provides the greatest control over timelines in achieving the outcome.

Shire funding may be augmented with grant funding, to increase the spending capacity and hence the number of objectives achievable in a given timeframe.

The Shire has previously utilised NDRP (Natural Disaster Resilience Program) funding to achieve a number of existing Emergency Access Ways.

The most likely current funding program is the NDRR (National Disaster Risk Reduction), which has grant rounds to run in 2022/2023, 2023/2024 and 2024/2025. No commitment beyond the 2024/2025 round have been confirmed. The Shire may be eligible under this program. Eligible grants may receive up to \$250,000 when matched by the same figure in cash or in-kind (i.e. 50% contribution), by the applicant. Thus, the Shire with a high-level of investment, projects of up to \$500,000 could be achieved annually by leveraging this grant.

The Shire has an Access and Egress reserve fund where money has been transferred as per the amounts shown below.

- 2016/2017 - \$50,000
- 2017/2018 - \$100,000
- 2018/2019 - \$50,000
- 2019/2020 - \$30,000
- 2020/2021 - Nil
- 2021/2022 - Nil

The balance of this reserve as of April 2022 is \$234,319.00, with the difference to the sum of the above being interest.

As evident above, in-kind contributions are an important aspect of securing grant funding. Therefore, Recommendation 2 is, that the Shire recommits to tangible and appropriate contributions to this reserve, every financial year on an ongoing basis to capitalise on grant opportunities to assist in improving connectivity.

The current balance could leverage a near maximum grant amount under the NDRR funding scheme in the 2023/2024 Financial Year. It is however critical that the reserve is replenished in an ongoing strategic manner to support subsequent future opportunities.

An officer's project brief for 2022/2023 consideration requests \$100,000 to be contributed to this reserve fund and foreshadows an additional \$100,000 in subsequent years. This would replenish the fund for an additional maximum NDRR application in the 2024/2025 round (the last currently confirmed opportunity) under the scheme.

Additionally, the Shire should consider any offers by business stakeholders, wishing to contribute to their community and the ability to direct such contributions towards meeting the objectives of this report.

However, given the high number of evacuation risks that exist, directly funding all projects, even when augmented by grant funding, as the sole approach, is not realistic. Such an approach would need extensive timeframes and thus, alternative options should be considered.

The '2015 Report' contained a recommendation advocating for the Shire to support subdivision proposals where increased connectivity is provisioned by the developer providing "a clear material, public benefit and increased community safety".

Such an approach aims to encourage development and support proposals, which contain road links from existing subdivision areas, in doing so providing an alternative direction of egress. This removes the need for the Shire to fund tenure acquisition and construction costs for a number of proposed alignments.

Subdivisions are likely to be long-term propositions and separate control of implementation timeframes from the Shire. However, this is likely to produce the best outcome in the long term, as it transfers financial and project management overheads, which would have otherwise been borne by the Shire over a potentially similar period.

This report identifies land parcels, which would likely support future subdivision proposals, which augment and reduce risk in existing subdivision areas. In the majority of such cases, the recommendations within this report advocate planning for developer lead implementation. Allowing areas to be subdivided would also require enforcing minimum fire emergency water as per 'The Guidelines', this could present opportunities for extra capacity to be provided to assist subdivision areas which are currently under capacity. (Refer to Section 5 for further analysis of Fire Emergency Water provisions).

Recommendation 3 advocates for a list of identified lots to be entered into applicable policies, strategies and procedures in support of individual alignment recommendations in this document. This includes but is not limited to Local Planning scheme, Local Planning Strategy and the next iteration of the Toodyay Strategic Community Plan. Appendix B contains a map displaying these lots.

The option for the Shire to purchase land and become the developer of a subdivision also exists. While becoming the developer would ensure tighter controls over implementation timelines, it should be recognised that such a function does not represent the Shire's core business. Acting as the developer also transfers subdivision project associated risk to the organisation and therefore is not a supported variation of the developer led approach.

Any recommendation containing a developer led subdivision solution, does not exclude the Shire from considering construction as a Shire led project as discussed at the start of this section. This should not be confused with the Shire as developer (subdivider) approach above.

In summary, owing to the above, the recommendations contained within this report advocate for solutions which implement both of the above approaches, most suitable to the risk and locality. By utilising a combination of approaches, the Shire seeks to obtain the best of both worlds by acting promptly on high need projects with little subdivision opportunities, while protecting Shire finances, in delivering solutions in areas which may benefit from future adjacent development.

3.3 Tenure

As mentioned previously, securing the correct tenure to implement recommendations of this report will be required in a number of instances. The tenure requirements differ for roads and Emergency Access Ways.

Land tenure use for each construction standard is summarized in Table 3:

	Road	EAW
Road Reserve	●	●
Right of Way *	●	●
Shire Managed Reserve		●
Shire Freehold Land		●
Easement *		●

Table 3 - Land Tenure Use

* These land tenures are assigned usage parameters within supporting land title documentation. The use of any or formation of any of these tenures would require the correct usage parameters for the intended purpose.

As evident in Table 3, Emergency Access Ways may be built on a wider range of tenures, than a road. However, as per Section 3.1 of this report and supported by 'The Guidelines' (Page 73), Emergency Access Ways should only be explored if all other options have been exhausted.

Conversion of Shire owned or managed tenure to road reserve for the purpose of a road represents less obstacles than obtaining road reserve from private freehold land. While an easement may seem like a more attractive way to secure tenure over private land, this would not support a road. Additionally, it is important to consider the other negative aspects of easements in the context of evacuation.

These are:

1. Easements for the purpose of evacuation by their nature increase the access to a piece of land. This impacts the easement grantors (the land holder) negatively in the following ways:
 - a) It reduces the landholders' ability to secure their property by way of fencing
 - b) The lack of ability to secure a property impacts the ability to keep pets or livestock on said land.

This results in the common practice of the easement becoming double fenced, meaning the grantor loses effective use over the easement portion of land. The other common approach of grantors, when presented with this problem, is to fence or gate across the easement, against the purpose as specified in the deed of easement (obviously, an Emergency Access Way would require being trafficable without impediments at all times to serve its function, as support by A3.2b of 'The Guidelines'). Neither outcome is preferable. The former is not preferable for the grantor (landowner) and the latter is not preferable for the grantee (in this case, the Shire). Figure 2 below illustrates the above mentioned actions typically taken by land holders of easements.

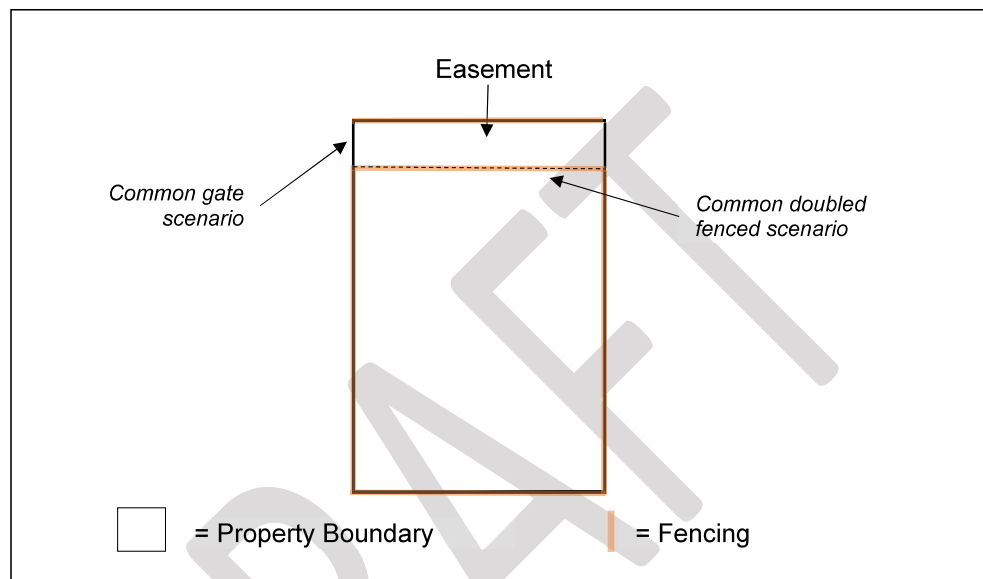


Figure 2 - Easement Example including common fencing and gate issues

The only practical solution to the above, is in the form of drive over or knock down gates (often designed as once use), that may be driven over in an emergency. However, these are not seen as a suitable solution, as misuse would result in likely vandalism, requiring repetitive replacement by the Shire. Furthermore, pet or livestock containment may be immediately jeopardised at that point in time. Additionally, some residents may not understand the concept and use of a drive over or knock down gate and not use the evacuation route when required -defeating the objective of the evacuation route.

2. The challenges presented in Point 1 above are multiplied where easement alignments span across multiple properties (multiple grantors). As one grantor taking independent action against the deed of easement (i.e. installing a gate) renders the entire alignment impassable and creates an unsafe dead end entrapment situation for evacuees.

Therefore, easements that go across multiple land tenures are not generally supported in the recommendations of this report.

A good example of an easement spanning multiple properties, which were otherwise impassable, is explored in the Easement Case Studies (Refer Appendix C and D).

3. The final consideration is that easements are a multi-party arrangement with requirements on both parties. Some negative experiences noted by the Shire include low levels of comprehension of the concept of an easement, and its requirements on the grantor. The other being misuse of the easement by the public which can be seen by the grantor as the Shire not upholding its easement responsibilities (as the grantee), therefore providing an avenue of complaint and potential liability to the Shire under the deed of easement. Both of the above mean added complexity when managing the relationship with the grantor which does not exist with Shire managed or owned land titles. Thus, easements by their nature come with a higher level of risk in delivering this critical community infrastructure.

As easement often results in practical loss of land to the grantor (due to double fencing), landholders may see little value in granting an easement and thus, subdividing a strip of road reserve with appropriate compensation to the landholder, would likely represent a more attractive and ultimately successful offer.

Should land tenure not be able to be negotiated, the Shire has powers to adversely acquire land where there is a community interest. Such an approach to land tenure has the potential to cause negative perception of the Shire within the community. This report advocates for negotiation over adverse possession with the latter only being considered as a last resort, where the needs of the community outweigh the opposition of the landholder.

Combined with the complexities and construction standard limitations posed by an easement, few recommendations of this report supports easements and EAW's as the preferred solution.

Thus, the Shire should adopt the mantra of provisioning something that functions as a road, as a road as its default position (Refer Recommendation 4).

4. Sub-Divisions Assessments

4.1 Greater Julimar Sub-Division

To be read in conjunction with Map 1

The Greater Julimar subdivision area encompasses the developments of Julimar Springs, Julimar Farms Estate, Malkup Brook Estate, Parkland Ridge Estate in the south and Timberden Estate and Marri Glades in the north.

Access is via Julimar Road, running east-west and intersecting the developed area. Internal road layouts are predominantly oriented north-south, connecting with Julimar Road.

To the north of the subdivisions is the Julimar State Forest. Within the subdivision area, there is a mixture of vegetation, with large portions dominated by Marri and Banksia (Dryandra) vegetation types. This vegetation type commonly supports the highest fuel loads assessed in the shire with a fuel arrangement which is conducive to fast moving crowning fires.

Predominant summer wind conditions persist from the north-west, meaning a fire is most likely to impact from the north to south. The portion of the subdivision north of Julimar Road is therefore at less risk as its road network connects in southerly directions to Julimar Road, via Timberden Drive, Nerramine Drive, Marri Road and Blue Gum Way.

Unfortunately, the opposite is true for the larger portion of the subdivision south of Julimar Road, where the road network connects in a northerly direction, via Parkland Drive and Sand Spring Road, but currently there is no connectivity or means of evacuation to the south to address the risk. This is one of the Shire's largest subdivisions, stretching up to 5km south, from its only arterial road connection and includes approximately 160 properties.

The closest point in the Shire's road network to the southern end of the Greater Julimar subdivision is Harders Chitty Road, approximately 1.5 kilometres to the southeast. Harders Chitty Road is in itself a no-through road and connection would provide evacuation options, in either direction in differing scenarios.

Previously the Shire has installed an egress (Emergency Access Way) route from the ends of Donegan View and Sinclair Place to Julimar Road. The '2015 Report' recommended this to be downgraded to a Fire Service Access Route, as the northerly travel on this route offered no alternate direction, and therefore no benefit in an evacuation. Hence, this route has not been considered in this report's analysis of suitable evacuation options.

In 2017, the Shire installed a small internal Emergency Access Way (Alignment 2.1); linking the end of Sand Spring Road across Malkup Brook (via floodway) to Malkup Brook Road, with the expectation, that future development of a southern evacuation route would augment this pre-existing investment. Recommendation 5 is that the Shire continues to maintain this alignment as an Emergency Access Way. Consideration of a potential future upgrade to a road should be reassessed, upon analysing traffic flows post extension of Harders Chitty Road (see below).

Thus, there is a compelling case to consider options to provide a southerly connection with Harders Chitty Road. As per the analysis, the preferred option is Alignment 1.1 Malkup Brook Road - Harders Chitty Road as per Recommendation 6.

Alignment 1.1 scores favourably due to its relatively flat gradient with only a short 50m portion of this 1.5km alignment exceeding a 1:10 gradient of an unsealed road. The afore mentioned 50m

portion did not exceed the maximum 1:7 gradient permitted by 'The Guidelines' for a sealed road. Therefore, this alignment fully complies with the gradient requirements of 'The Guidelines'. Alignment 1.1 was also the best alignment in this area for avoiding Bush fire Prone vegetation and also represents a relatively direct route and compliments the positioning of the existing Emergency Access Way 2.1 (linking Sand Spring Road to Malkup Brook Road). The indicated alignment positioning is on the eastern side of Malkup Brook, thus avoiding a significant watercourse crossing.

Alignment 1.2 which was promoted by the '2015 Report', traverses a significant amount of bush fire prone vegetation, contains a steep gully and a swampy area. It also contains a portion of steep gradient that exceeds the 1:7 maximum gradient of 'The Guidelines'.

Alignment 1.3 was unreasonably long, indirect, steep and would significantly impact an existing residence. Significant portions of this route exceed the 1:7 maximum gradient of 'The Guidelines'. No recommendations were made for these alignments.

Recommendation 6 promotes the construction of Alignment 1.1, a road linking Malkup Brook Road and Harders Chitty Road, as a Shire led project. This is the preferred method to deliver this critical piece of infrastructure on timelines over which the Shire would have more control. Recommendation 7 should be considered as an alternate to Recommendation 6, which could achieve this alignment by allowing rezoning and subsequent subdivision proposals over Lot 604/P062188 and Lot 606/P062118 or Lot 605/P062188.

Additional Access Consideration

The Shire is currently in the process of drafting a new 'Resource to Risk', a guiding document in conjunction with the Department of Fire and Emergency Services. The Resource to Risk document analyses risks, aims, and acts as a business case for resources consummate to the risk.

As part of the 'Resource to Risk' process, analysis was conducted to evaluate response time of fire appliances against a given requirement. The analysis identified that a pocket of properties within the southern Julimar subdivision fell short of the minimum requirement of six appliances able to arrive within 20 minutes of turnout.

Noting this requirement and the need for a southern egress in Julimar, the analysis was re-run, including the proposed Alignment 1.1 Malkup Brook Road - Harders Chitty Road. This greatly improved the number of fire appliances able to reach the southern end of the Julimar subdivision in the specified timeframe.

The below comparison (Refer Figure 2 and 3) thematically show the number of appliances, which can reach the Julimar Subdivision area within 20 minutes of turnout from station. As is evident, the six-appliance minimum is currently not met in the southern portion of the subdivision, with some areas only receiving the local Julimar BFB appliances from within the subdivision area (as per Figure 2). Figure 3 for comparison, shows that Alignment 1.1, if built as a road provides the minimum six appliances by lessening the travel time of Coondle-Nunile BFB and Toodyay Central BFB. Please note: this would also benefit response times of other emergency services such as WAPOL & St John Ambulance, further enhancing community benefit.

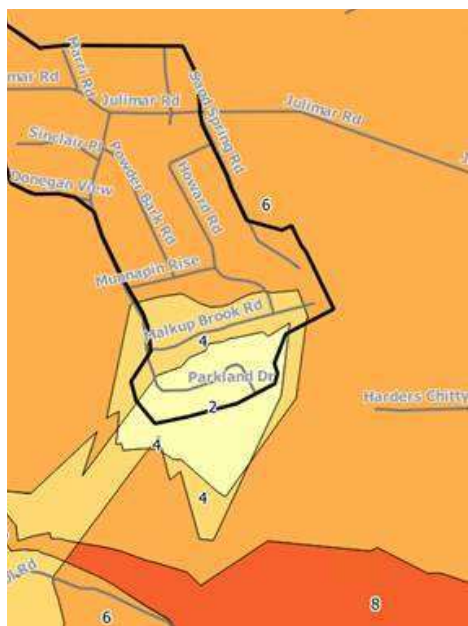


Figure 3 – R2R Assessment without Alignment 1.1 access



Figure 4 - R2R Requirement with Alignment 1.1 access

Thus, the Alignment 1.1 Malkup Brook-Harders Chitty Road constructed as a road, would not only allow for a southerly evacuation for residents on a constructed and familiar road, but also allow access for fire appliances to safely access the area in a timelier manner.

DFES would likely look favourably on resourcing requirements for the Shire, where it is demonstrated that the Shire is also taking proactive steps in minimising risks. It also allows for any extra resource request to DFES to focus on areas, which cannot be addressed via enhancements to the road network.

Recommendation 6 should be considered as having the highest priority of any recommendation contained in this report. Hence, Recommendation 6 is preferred over Recommendation 7.

4.2 Coondle (West)

To be read in conjunction with Map 2

The Coondle west sub-division encompasses two discrete road networks accessing Coondle West Road from different points.

The westerly road network encompasses the developments of Sanctuary Park, Park Views Estate and Forest Edge. These estates are well linked internally with multiple north and west linkages to Coondle West Road, providing satisfactory evacuation options in multiple directions.

Conversely, the easterly network, being the development of Woodland Heights, has only a single access north to Coondle West Road. The internal road layout consists of a major loop (Timber Creek Crescent) and the long cul-de-sac of Horseshoe Road. This locality is characterised by extremely steep and rocky terrain.

The entire Coondle west area contains large pockets of forest and woodland vegetation on private and public tenure.

The Woodland Heights development includes a narrow perimeter Shire reserve. The east and west portions of this reserve contain Fire Service Access Routes maintained by the Shire. The location and alignment of this reserve, combined with inaccessible terrain on the southern boundary, result in limited opportunities for evacuation planning, or for that matter, any other form of bush fire mitigation.

An Emergency Access Way (Alignment 3.1) linking these two networks exists from the end of Horseshoe Road in a general westerly direction to Jarrah Court. This Emergency Access Way sits on portions of Shire reserve and internally along the southern boundary of DBCA land (with permission).

The existing Emergency Access Way provides enough benefit to justify its retention (Refer Recommendation 8), however planning for a southern evacuation route to Waters Road would provide a better alternative taking into account the likelihood of fire approaching from the north-west, given predominant summer wind conditions.

Two alignments have been assessed as southern evacuation possibilities, Alignment 4.1 Horseshoe Road – Waters Road and Alignment 4.2 Timber Creek Crescent to Waters Road, with the former being the preferred option, despite multiple land tenures along its proposed path. This alignment features topography that is more favourable and requires less properties/residents to back track in order to access it. Alignment 4.2 also has an extremely steep section, which would be undesirable from engineering and safety standpoints.

While roads are generally considered the preferred option, it should be noted this would likely have a substantial impact on regular traffic flows along Waters Road and Picnic Hill Road east to and from Bindi Bindi-Toodyay Road. The portion of Picnic Hill Road between Bindi Bindi Road-Toodyay is a narrow road reserve containing two flood ways and a shallow-angle rail crossing.

Significant upgrades of this section of Picnic Hill Road would likely be required to handle changed traffic flows. This could be seen as undesirable or as an opportunity, by providing an enhanced business case for future infrastructure upgrade.

Therefore, Recommendation 9 advocates for Alignment 4.1 as either an Emergency Access Way or a road.

4.3 Coondle (East)

To be read in conjunction with Map 3

The Coondle East sub-division encompasses the developments of Toodyay Highlands, Royd Nook and Balgaling Views. For the purpose of this report, it may be considered the rural residential zoning east of Bindi Bindi-Toodyay Road.

The subdivision is former grazing land, thus while not heavily vegetated relative to other portions of the shire, it contains high grass fuel loads on hilly terrain, which is conducive to fast moving bush fires. The subdivision has a general west facing aspect meaning that the current direction of evacuation is towards a fire intensity of greatest risk (an intense uphill moving fire).

Access to the majority of the estate is from the west, via Bindi Bindi-Toodyay Road that runs on a north-south axis. The majority of properties are accessed either directly or indirectly via Coondle Drive, in a crescent formation intersecting Bindi Bindi-Toodyay Road at both ends. Likewise, the combination of Church Gully Road and Balgaling Road form an outer crescent of a similar nature but do not intersect with Coondle Drive. A minority of properties are accessed from Church Gully and Balgaling Road. The properties that rely on Coondle Drive for access and egress, are most at risk due to being severely limited by the lack of evacuation options. A need for easterly egress is required.

An Emergency Access Way (Alignment 5.1) is installed from the north end of Fawell Road and joins with Church Gully Road in the north (Refer Photo 1). This Emergency Access Way sits on a ten (10) metre wide road reserve. The narrow nature and sharp elbows do not support the required radius to meet the corner radius of the guidelines. Recommendation 10 is that this EAW is upgraded, either to meet standard, but preferably as a road, as minor land acquisitions would be required in either approach.



Photo 1- Emergency Access Way - Fawell Road - Church Gully Road (03/06/2022)

While this Emergency Access Way has enough value to be retained and upgraded, it does not in itself absolve the risk to the greater subdivision area, due to the high level of properties that would need to back track to reach it and its general direction facing the predominant prevailing summer winds (most likely direction of fire impact).

Options for easterly connectivity to Church Gully Road are explored below.

Fortunately, there are relatively good options owing to the large and appropriately 'rural residential' zoned Lot 9500/P059240. This large lot sits at the south-eastern extent of the subdivision and is possibly the best candidate for subdivision development contained in this report.

At its north-western extent, the existing McIntosh Road terminates on the boundary of this lot. Likewise, McPherson Avenue terminates on the southern boundary of this lot. This presents an opportunity (Alignment 6.3) to link these two roads across this lot. However, this does not directly fulfil the easterly egress need for this area.

At the eastern extent of Lot 9500/P059240 is the intersection of Leeming Road, Church Gully Road and Balgaling Road, which provides good egress options if linked. Thus, Alignment 6.1 explores the option of linking McIntosh Road to Leeming Road.

Currently understood development plans would indicate that Alignments 6.1 and 6.3 would be achieved by intersecting roads within a future development. Recommendation 11 advocates that the Shire favourably consider subdivision proposals linking McIntosh and Leeming Road (Alignment 6.1); this may or may not include the additional linking of McPherson Avenue.

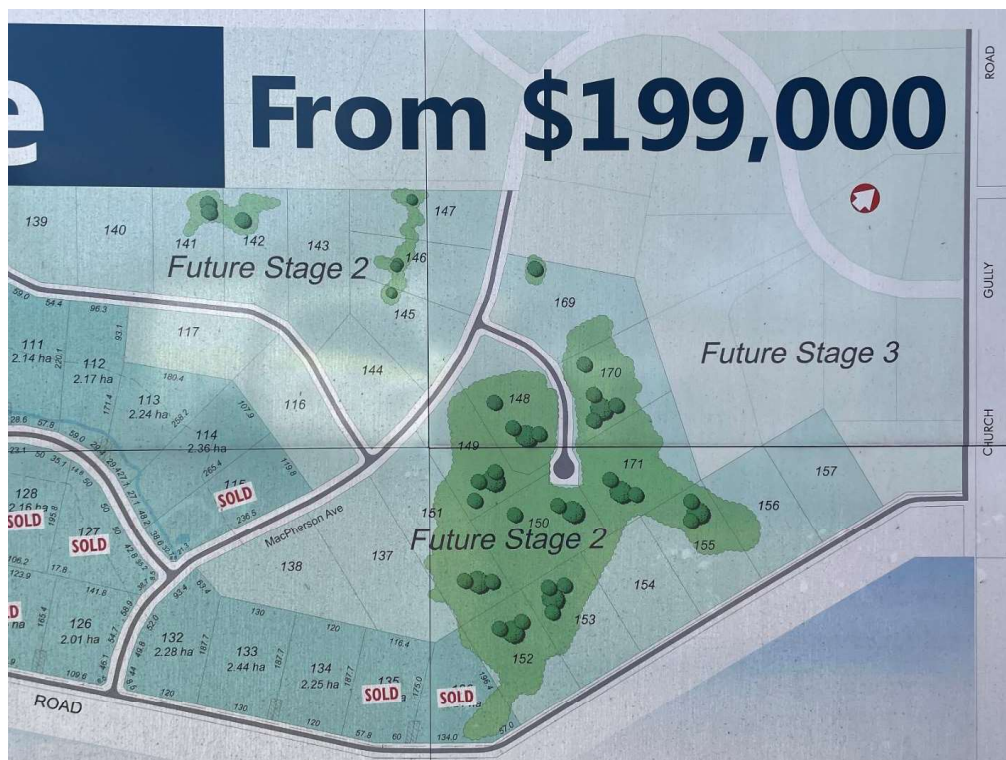


Photo 2 – Real Estate Sign on Balgaling Road (03/06/2022)

An opportunity exists to further enhance connectivity (Refer Recommendation 12) by considering a direct link from Coondle Drive to Leeming Road (Alignment 6.2). This alignment represents the optimal location for the commencement of an easterly egress with the absolute minimum of properties that need to be backtracked in an evacuation. However, 210 Coondle Drive (Lot 518/P012216) would need to be traversed in some way to provide this link. This could be achieved without encroaching on the current resident on this property and should be considered as an additional requirement to the subdivision of Lot 9500/P059240 as per Recommendation 11.

Furthermore, an opportunity to offer a land swap for the required road reserve tenure exists via the eastern portion of adjacent Shire reserve 39747 (Lot 101/P12216) (Refer Figure 5), which the property currently bounds on three sides. Until recently, this reserve was used to house a gravity fed fire emergency water tank, which has recently been superseded by a new tank in the vicinity. Given the location and size of this reserve, it offers no benefit to the Shire or community in its current state. Recommendation 13 advocates for the Shire to negotiate this land swap with Lot 518/P012216 to provide additional road reserve frontage to Lot 9500/P059240 in order to facilitate Alignment 6.2, the subject of Recommendation 12. Thus, Recommendation 13, represents a Shire led action in support of a potential future developer led action.

Further supporting the land swap is the final considered Alignment 6.4 from Coondle Drive to Church Gully Road, which would be accessed via the created road reserve. However this is not the preferred option in this area as it would not likely have a reciprocal benefit to a developer and would likely result in a Shire constructed project. Given the other options that exist in this area, no particular recommendation is made at this time with respect to Alignment 6.4.

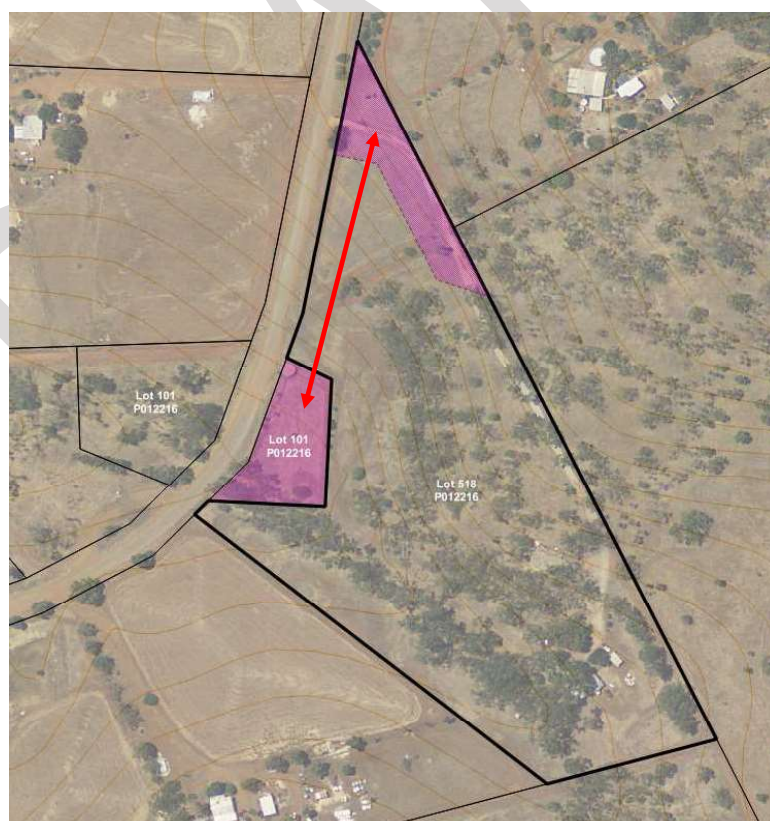


Figure 5 – Coondle Drive Land Swap Depiction – Land areas shaded are equal

Two other alignments considered in the '2015 Report' were reanalysed (Alignments 6.5 and 6.6) in forming recommendations for this objective, the alignments both ranked lower than 6.1, 6.2, 6.3 and are not desirable due to the direct and indirect impact on numerous properties. No recommendations are made for these alignments.

While Alignment 6.6 had merit in positioning and final scoring, no recommendation is made owing to the multiple tenures and the other viable options.

Thus, this area provides up to four (4) viable alignments (Alignments 6.1, 6.2, 6.3 and 6.4). With all but alignment 6.4 being suitable for incorporation in future subdivision plans. As mentioned, Alignment 6.4 would not likely have a reciprocal benefit to a sub-divider and is the least favoured of this group.

4.4 West Toodyay (Rugged Hills)

To be read in conjunction with Map 4

The suburb of West Toodyay is considered in two parts in this report; the greater Rugged Hills subdivisions area which falls outside of the gazetted West Toodyay Town site; and the area within the West Toodyay Town site. The former is discussed within this section and the latter in the following section.

The greater Rugged Hills subdivision area encompasses the developments of Rugged Hills and Brookdale Estate.

There are two discrete road networks. The westerly road network is the minority, made up of two no-through roads, Dreyer Road and Davies Road. The easterly portion is more extensive in size and length, containing multiple no-through roads (Wilkerson Road, Weir Road and Flexuosa Place, along with Ridley Circle. The latter is a looped road, which in itself is accessed via the indirect, meandering alignment of Wilkerson Road.

Taking from its name, the Rugged Hills subdivision area contains steep terrain. Travelling from Julimar Road, both the elevation and vegetation density increases as one navigates deeper (north) into the subdivision. This places many properties, particularly those on Wilkerson Road and Ridley Circle at extreme risk of an intense uphill moving fire, blocking the only egress direction.

An Emergency Access Way (Alignment 7.1) links the two above mentioned road networks by connecting the ends of Wilkerson and Dreyer Roads. This was a recommendation of the '2015 Report', which the Shire has now installed. While this improves opportunities for properties in the immediate vicinity, it offers little benefit to the majority of properties on Wilkerson Road and all those on Ridley Circle.

This existing Emergency Access Way has proven a useful link to residents, to the point that its misuse has been the cause of concern by some residents during the fire season when the gates at either end are unlocked. The Shire should recognise the practicality of this alignment and remove misuse concerns by considering upgrading to a road (Refer Recommendation 14). This may require investigation for any necessary conversion of the current 'Right-of-Way' tenure to a conventional road reserve vested with the Crown.

For the balance of properties, a northerly (or easterly) direction of egress is required. Options in this locality are limited and challenging when dealing with this legacy subdivision, however three alignments have been considered due to the extreme risk faced in this subdivisions area:

- Alignment 8.1 Ridley Circle north to White Gum Way; and
- Alignment 8.2 Wilkerson Road north-east to Waters Road
- Alignment 8.3 Wilkerson Road (east) to Picnic Hill Road

The Shire does not have tenure for any of these alignments. Alignment 8.1 contains one private (Lot 9002/P037111) and one government (DBCA) tenure. Alignment 8.2 would require negotiation with two private tenures. 8.3 leverages a portion of landlocked, unconstructed road reserve, but still requires negotiation on three private tenures.

Alignment 8.1 is considered shorter, more direct, over relatively flat terrain with fewer properties required to backtrack, compared to alignment 8.2 and 8.3, which both have steep sections and are less direct. This is reflected in the more favourable overall score for alignment 8.1 and forms Recommendation 15.

The purpose of the DBCA tenure traversed by Alignment 8.1 is nature reserve. Thus, environmental sensitivities could accompany this proposed alignment. This was the primary concern of DBCA when the Shire first raised this proposition in 2011. The exact nature and parameters of the previous approach to DBCA is not well understood. Acknowledging that negotiation will be required in this case, the Shire should be flexible with its views on constructing as an Emergency Access Way versus a road in any subsequent correspondence with DBCA on this matter. Regardless of construction method, this alignment would likely require fencing either side to protect the interests of the nature reserve.

Despite the preference for 8.1, the Shire should also consider carefully, any future subdivision proposals on Lot 151/P18487 (Refer Recommendation 16), in providing land tenure to support either Alignment 8.2 or 8.3 should it be required in the future. This report does not specifically recommend the construction of Alignments 8.2 or 8.3 at this time. This is a future proofing action.

4.5 West Toodyay (Town site)

To be read in conjunction with Map 5

South of the river

The West Toodyay town site is a historical subdivision area encompassing portions north and south of the Avon River. The southern portion is bounded by the Avon River on three sides with Julimar and River Road providing good egress in three directions for some properties. However, the road network comprising Clarkson, Beaufort and Clarke Streets is severely constrained by the rail loop, which approximates the path of the river. For the most part this rail loop is grade separated either in deep cuttings or on steeply built batters. The only point where the rail line is near natural ground level is in the vicinity of Fitzgerald Street and Wellington Street. Existing road reserve exists either side of the rail corridor for both of these streets. Two alignments were analysed:

- Alignment 9.1 - Clarke to River (via unconstructed Wellington Street)
- Alignment 9.2 - Clarke to River (via unconstructed Wellington Street, Fitzgerald Street and Grey Street)

Alignment 9.1 ranked more favourably owing to its shorter length and direct nature. Alignment 9.2 scored less favourably due to its longer length, indirect nature and rail crossing line of sight limitation. The line of sight for Alignment 9.1 is better owing to it being further from the rail cutting.

The above said, the need for a rail crossing represents a potentially large barrier to achieving either of these alignments. Requirements and standards related to rail crossings have not been investigated as part of this report. Thus, Recommendation 17 does not promote construction at this point in time in favour of further investigation of issues regarding any potential rail crossing.

North of the river

The portion north of the river features small land holdings along (but not necessarily serviced by) Toodyay West Road. Many properties are accessed by narrow, no-through roads, which lack connectivity. The major fire risk is contained within the vegetation along the Avon River compromising the arterial Toodyay West Road. This portion of the Avon River and by location, Toodyay West Road, is also subject to flooding. In the 2017 floods, the water level came within 0.1metres of flooding Toodyay West Road in the vicinity of Cottage Street.

This means properties, which have sole reliance on, or via Toodyay West Road may have their egress impacted by two hazards. This is most pronounced by properties serviced by Cottage, Small and North Streets. North Street runs approximately parallel to Toodyay West Road, but as currently constructed, forms a double-ended no-through road. Two unconstructed road reserves meet the eastern end of the constructed portion of North Street and thus provide opportunity to link to an additional road network.

Two alignments have been considered:

- 10.1 Extension of North Street to Collett Way, via existing road reserve.
- 10.2 Extension of Fitzgerald Terrace to North Street, via existing road reserve.

As per the analysis ranking, both routes scored favourably with very little separating them on score. Although construction of either alignment would fulfil the objective, Alignment 10.1 is the preferred alignment, owing to:

- The removal of a second no-through road (Collett Way).
- The alignment represents a direct straight line.
- Would better facilitate egress from any future development north of North Street.
- Avoids the tight angled intersection created when turning from Collett Street west, into Fitzgerald Terrace if constructed as Alignment 10.2.
- The '2015 Report' also advocated for the construction of North Street to be 'reopened as a two-way road in this area'. The report however did not formalise this assessment with a recommendation, possibly an oversight.

Thus, Recommendation 18 advocates for the construction of North Street to Collett Way (Alignment 10.1), as a road as the preferred option, with construction of Fitzgerald Terrace to North Street (Alignment 10.2) as an alternate option in meeting the local objective.

Please note: This recommendation does not advocate for the construction of North Street east from Collett Way through to Picnic Hill Road.

Also located north of the river in West Toodyay is Francis Street, a no-through road that is approximately 400 metres long. Only four properties are serviced from Francis Street and the

primary driver for the investigation of this cul-de-sac is due to ratepayer concerns raised with officers. Alignment 10.1 shows a direct connection to Wilkerson Road (Rugged Hills). This alignment attracted an unfavourable score due to terrain, vegetation and lack of properties it benefited. It should be noted that this alignment connects itself to a currently compromised road network.

However, as per Recommendation 16, the Shire should consider carefully any future subdivision proposals on Lot 151/P18487 to incorporate the connections to Francis Street in its design.

4.6 Toodyay Town site

To be read in conjunction with Map 6

The Toodyay Town site consists of both legacy and currently developing subdivision areas. Although representing an established built up area, the town site should not be considered as immune from bush fire. Thus, consideration should be given to improvements in legacy subdivision areas, as well as future expansion of the town site that provides connectivity to multiple directions of egress.

A number of options have been identified for the Shire's town site.

4.6.1 Nottingham Road

On the south-west border of town, Nottingham Road currently exists in two constructed portions and two unconstructed portions. One of the constructed portions, results in a double no-through road, with a single point of access to Folewood Road via Retford Road. The other has good connectivity to the greater town site network via Julimar Road.

At present, the two constructed portions of Nottingham Road are linked by an Emergency Access Way (Refer Photo 3) road reserve. The existing Emergency Access Way Alignment 12.1, has proven a useful link to residents, to the point that its misuse has been the cause of concern by some residents despite the seasonal management via gates.

The Shire should recognise the practicality of this alignment by honouring the intent of the road reserve and remove misuse concerns by considering upgrading to a road (Refer Recommendation 19).

Upgrading to a road would require drainage considerations near the intersection with Lukin Street, some widening of the trafficable surface and spray seal to reduce ongoing maintenance to this sloping alignment.

Due to the alignment's short length and existing levels of construction, this represents a financially simple, shovel ready project.

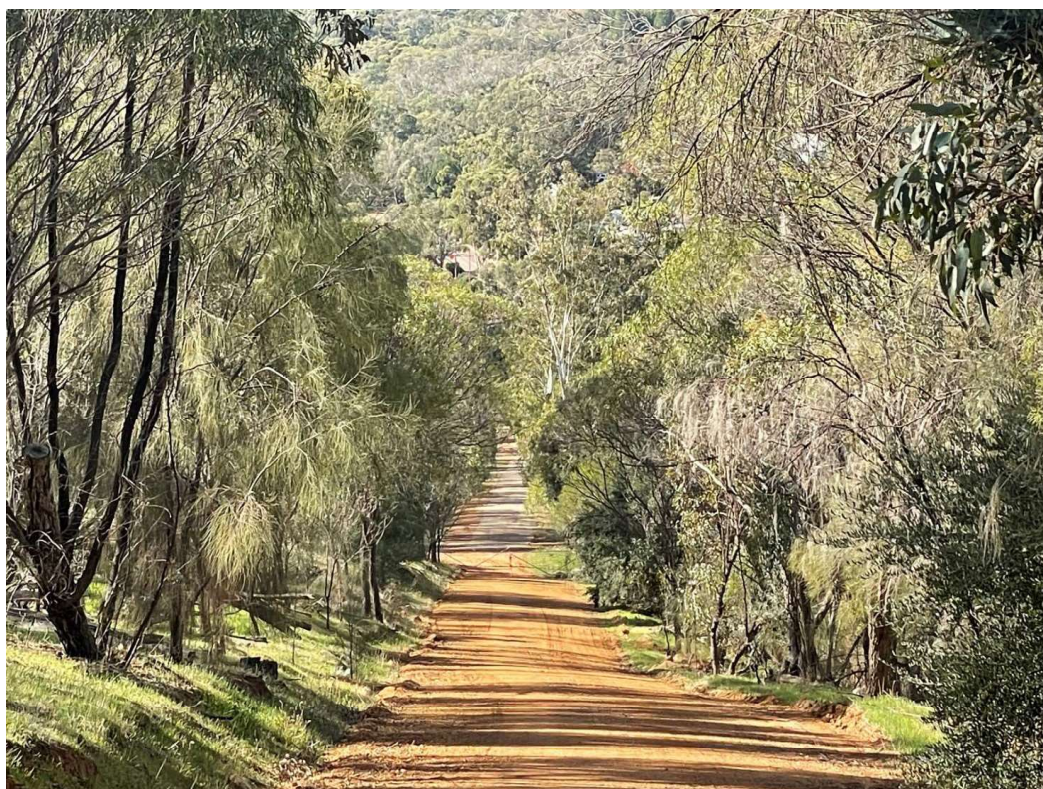


Photo 3 - Nottingham Road Emergency Access Way

4.6.2 River Hills Estate

River Hills estate is a relatively new development, north of the river within the Toodyay town site.

The estate is currently developing in a westerly direction. The Shire's recreation precinct and Toodyay district High School are key infrastructure in the area. Current access/egress is in the east via Drummond Street (East), to Goomalling-Toodyay Road. Drummond Street is immediately adjacent to the river and is associated with heavy fuels and fire risk.

Despite this representing a recent development, several issues exist with regards to egress and internal connectivity.

This is partly due to the staged nature of the development, for which temporary intra-stage egress has not been provided (a recommendation of the 'The Guidelines', Page 79).

This has been further complicated by the Shire's purchase of Lot 9508/P077718, for the Recreation Precinct, which has the effect of altering the original development plans. In particular, the internal connectivity of the proposed network. Specifically the originally proposed alignments of Drummond Street and Burt Parkway have been affected by this land purchase.

While the Recreation Precinct now occupies the land originally proposed for the extension of and possible linking with Drummond Street (east to west), opportunity to extend Burt Parkway eastwards as per its original planned extent still exists.

Provision of this link as a road would provide internal linkage between the developed part of the subdivision and the recreation precinct, utilising Alignment 13.1, away from the heavy fuels of the river. Unfortunately, as the Shire now owns this land, thus with the exception of selling the southern portion of Lot 9508/P077718 for further development, the responsibility and cost of providing this link will likely rest with the Shire (Refer Recommendation 20).

However, this link has no value when considering the lack of downstream-formalised egress to the west to Drummond Street (West).

Currently informal egress exists via a dirt track linking Drummond Street (West) to Burt Parkway via road reserve; however, this should not be considered to be maintained to the standard of an Emergency Access Way due to seasonal conditions.

This section of track is prone to water logging and may remain un-trafficable to two wheel vehicles well into the bush fire season. South of the unconstructed road reserve is crown land with private land to the north. The Shire should consider carefully and be supportive of, any future subdivision proposals on Lot 9011/P062847 and Lot 9010/P062847 if the future development results in construction of Drummond Street (West) to Burt Parkway as a road. Both these lots currently have the required residential zoning (Refer Recommendation 21).

Despite Alignment 13.1 ranking the highest among any alignment considered in this report, the dependency on Alignment 13.2 means that required expenditure can be deferred to coincide with future development supporting Alignment 13.2. Thus, Recommendation 20 receives a lower priority than some other recommendations in this report at this time. This will afford the Shire time to consider a plan for the southern portion of Lot 9508/P077718 and how to incorporate this link.

4.6.3 Settlers Ridge

At the north-east end of town is the development of Settlers Ridge with its only egress and access in a southerly direction. At its northern extent the subdivision, the road of Settlers Ridge terminates on the developments boundary with Lot of 1/D074943.

The Shire should consider carefully and be supportive of any future subdivision proposals on Lot 1/D074943, provided that the future development results in construction of a northerly link (such as to support Alignment 14.1) to Telegraph Road. This lot currently has the required residential zoning (Refer Recommendation 22).

4.7 Walkey Heights and Wicklow (Dumbarton)

To be read in conjunction with Map 7

The subdivision south of Goomalling-Toodyay Road includes Walkey Heights and Wicklow Estate.

Road Network access is only from the north via Whitfield and Boyagerring Roads. Much like the southern Julimar Estates, this area does not have egress in an alternative direction to the south.

The properties closer to Goomalling-Toodyay Road are located on relatively flat land with properties located further south along Whitfield Road and Whitelakes Drive at a higher elevation. The landscape is open grasslands with sparsely located trees. This greater subdivision was not considered in the '2015 Report'.

There is currently a Fire Service Access Route from Goomalling-Toodyay Road to the western end of Whitelakes Road on a 3km easement. It is likely this was put in place to pass planning regulations at the time, however it does not offer a practical means of evacuation as it leads back to the same road from which the subdivision area is accessed (does not provide alternate directions of egress). A portion of this alignment however, does feature in one of two assessed alignments in this subdivision.

The general elevated nature of this estate makes it vulnerable from fast moving fires in many directions. A predominantly southern egress is sought.

This area has a major obstacle to the south, being the Avon River, limiting options to a south-easterly alignment to Dumbarton Road (Alignment 15.2) and a south-westerly alignment to the proposed development of the 'Toodyay Bypass' (Alignment 15.1).

These two alignments both present challenges of a different nature – Alignment 15.2 poses significant engineering challenges over steep terrain, while Alignment 15.1 relies on a connection to a proposed, uncommitted and unconstructed arterial road.

Lot 9001/P405299 over which Alignment 15.1 traverses, is zoned favourably for future subdivision, which could be leveraged in providing this future link combined with the advent of the Toodyay Bypass.

Alignment 15.2 would require negotiation over multiple land tenures with unrealistic further subdivision potential.

Considering the above, Alignment 15.1 obtained the most favourable scoring. This adds weight for the business case for the construction of the Toodyay Bypass and should be promoted in any Strategies or lobbying for the bypass's construction. (Refer Recommendation 23).

Additionally, Recommendation 24 supports the favourable consideration of a subdivision proposal on Lot 9001/P405299. This is subject to the construction of the Toodyay Bypass (in particular the section spanning the Avon River) and the linking of the Bypass to Whitelakes Road. Completion of any proposed subdivision expansion prior to the completion of this section of the Toodyay Bypass would be deemed irresponsible and would only serve to increase the number of properties and lives with compromised evacuation and safety.

In the meantime, the Shire should focus its efforts on other priority recommendations of this report. No alternative recommendation to pursue Alignment 15.2 is supported while the prospect of the proposed Toodyay Bypass is still on the table.

4.8 Greater Majestic Heights (Toodyay)

To be read in conjunction with Map 8

The greater Majestic Heights area includes the developments of Majestic Heights, Majestic Waters, Lozanda Heights and Vernon Hills. The area is reasonably well connected via Sandplain

Road and Racecourse Road allowing egress in multiple directions to Toodyay Road and Folewood Road. There are however a number of looped roads and cul-de-sacs on the periphery of the greater area, which represent localised one way in and out scenarios.

The area has a mix of rolling and rugged terrain, with Wandoo woodlands the predominant vegetation type in the area.

To the east of the subdivision area, is substantially vegetated, steep and rugged terrain. This area receives localised morning easterly winds during summer putting this estate at risk from a fire originating in the Avon Valley (railway line, Toodyay Road, farming land use).

Two alignments serving different objectives are considered in this report:

- Alignment 16.1 - Extension of Sesselis Road to Folewood Road.
- Alignment 17.1 - Pindi Place to Toodyay Road.

4.8.1 Sesselis Road

Sesselis Road is a 1km long road serving approximately fifteen properties, with the majority of the properties with an easterly exposure to fire. A road reserve exists between the currently constructed portions of Sesselis Road north to Folewood Road.

This would provide an alternate direction of access in this locality. The road reserve narrows in the vicinity of 195 Folewood Road (Lot 45/P223149) and a wider reservation in this portion may be required.

Construction of this connection would provide an attractive alternative to access the greater subdivision for travellers accessing the Toodyay town site. Therefore, this proposal does have the potential to substantially change traffic flows along Sesselis Road. An Emergency Access Way is not recommended in this case, owing to the Shire's past experience in constructing convenient access as Emergency Access Ways in other areas.

Recommendation 25 advocates for the construction of this alignment as a road, however acknowledges that there are higher priorities contained within this report. Recommendation 26 provides an alternative recommendation to consider favourably the subdivision proposal over Lot 1469/P247186 and if necessary Lot 1431/P247190, which results in the linking of Sesselis Road to Folewood Road.

4.8.2 Pindi Place (Wandoo Circle)

At the south-west extent of the greater subdivisions area is the local network of Wandoo Circle (loop road) and Pindi Place cul-de sac. This network connects to Sandplain Road in the east.

Pindi Place terminates on the western boundary of the subdivided area and therefore represents an opportunity on which to base future egress options via the adjoining 5459 Toodyay Road (Lot 3412/P415291).

The predominant land use for this lot is extractive industries, however the Shire should consider carefully, and be supportive, of any future subdivision proposals on Lot 3412/P415291, provided

that the future development results in construction of a road network connecting Pindi Place to Toodyay Road. (Refer Recommendation 27).

4.8.3 Non-Egress Consideration

Although the focus of this report is evacuation route options, an otherwise supported fire-break recommendation of the '2015 Report' did not adequately consider land tenure with respect to access for maintenance.

The fire-break in question runs around the rear of a group of properties on Hibbertia Place and Drummondi Drive. The '2015 report' reference for this track was 3H and has been retained on Map 8. The '2015 report' advocated for the retention and maintenance of Track 3H as a fire-break, which is supported by the officer. However, due to terrain, the best access to the portion of this fire-break which resides on Shire owned land, is via private property for which the Shire does not have legal access over.

Land acquisition is not required in this case, however an easement over Lot 40/D056678 should be sought to connect the current dead-end (safety risk to firefighters) back to the road network (Refer Recommendation 28). Ensuring this fire-break is easily accessed for maintenance and removal of the dead end is essential.

4.9 Glencoe Estate and Extracts (Toodyay Town site)

To be read in conjunction with Map 9

Glencoe Estate is a small residential estate residing immediately west of the Extracts industrial complex, both areas are bounded by the Avon River to the north and Northam-Toodyay Road to the south.

The land slopes gently downwards from Northam-Toodyay Road to the river, has limited vegetation with a collection of slightly spread out houses and vacant blocks awaiting development.

Each area has its own point of entry from Northam-Toodyay Road, but there after the two networks are not internally linked.

Despite the two areas having no-through roads and with one entry point each, the cul-de-sacs of Macdonald Retreat and Extracts Place separated via a narrow linear reserve representing less than 50m in width. An informal track between these two cul-de-sacs exist in a trafficable condition as per Photograph 4 below.



Photo 4 – Google Maps Street View from Extracts Place viewing the end of MacDonald Retreat.

Although any action in this area is of low priority, it is recommended (Refer Recommendation 29) that Alignment 18.1 be considered for a spray seal from cul-de-sac kerb to cul-de-sac kerb, aligned to the next resealing of Macdonald Retreat or Extracts place to formalise this link as an Emergency Access Way.

4.10 Mountain Park (Dumbarton)

To be read in conjunction with Map 10

The Mountain Park development in Dumbarton is yet another example of a one way in, one way out subdivision.

All roads in the development end with cul-de-sacs with a single access egress north to Dumbarton Road via Nairn Drive.

The area is bound by the Avon River to the west, the Shire of Toodyay and Shire of Northam local government boundary to the south and farmland to the east. Only one road (Drumree Drive) terminates at the edge of the subdivision area, however this is on the afore mentioned shire boundary.

Ruling out a crossing over the Avon River due to complexities, two alternative alignments have been assessed. Both alignments come with their own significant challenges.

These alignments are:

- Alignment 19.1 - Drumree Drive, north east along and within the shire boundary to Dumbarton Road.
- Alignment 19.2 - Drumree Drive, south to Katrine Road (within the Shire of Northam)

Alignment 19.1 being wholly in the Shire of Northam, would require consultation and support from an external stakeholder. The most practical way of achieving this link, would be for the Shire of Northam to support development on Lots 8/D005700 and 56/P0179915 to provide for the

construction and ongoing maintenance of a road, linking Drumree Drive to Katrine Road. However, the terrain on these lots would likely detract from the financial viability of sub-divisions in this area.

Alignment 19.2 avoids the complexities of an external jurisdiction, but achieving this alignment would require significant expansion of the subdivision area to the east to support the development of this alignment.

Both Alignments 19.1 and 19.2 are excessive in length, at approximately 4km each. Therefore, an Emergency Access Way does not form a desirable alternative in these cases.

As is evident by the analysis scoring, both options did not obtain favourable scoring and thus, a recommendation to seek construction is not made within this report, however, further analysis of the viability of future development in the Dumbarton area should be conducted by appropriately skilled personal to validate, or otherwise, the viability of such concepts. This should include correspondence with the Shire of Northam. (Refer Recommendation 30). Either way, this is unlikely to be a near term priority, relative to other egress options within the shire.

4.11 Moondyne Park (Hoddy Well)

To be read in conjunction with Map 11

Moondyne Park Estate is a subdivision in Hoddys Well and has two separated, no-through road networks (Panorama View & Twilight Brae) that access the area from the west, via Salt Valley Road.

Although the subdivision has a buffer zone of open paddocks and sporadic trees to the west and south, beyond that is a corridor of dense bushland, stretching from Toodyay Road to the south of Salt Valley Road. Certain properties to the east of Panorama View and south of Twilight Brae contain and are bounded by significant bushland.

The '2015 Report' stated that there was limited need to install Emergency Access Ways in this area, which is broadly supported by the officer when considering other priorities within the shire. However, opportunity still exists for connectivity for residents within this area and thus three alignments were assessed.

With respect to Twilight Brae, two options were considered:

- Alignment 20.1 Twilight Brae north to Toodyay Road
- Alignment 20.2 Twilight Brae east to Toodyay – Clackline Road (Considered in the '2015 Report')

The analysis scoring significantly favoured Alignment 20.1 due to reduced number of land tenures and separation of bush fire prone vegetation.

The end of Twilight Brae meets 5748 Toodyay Road (Lot 600/P042855). This lot is currently zoned Rural Living which would permit further subdivision and thus, as per Recommendation 31, the Shire should consider any future subdivision proposal on this lot provided it connects Twilight Brae to Toodyay Road. The Shire should also considered options for rezoning to Rural Residential, should this make the proposal more viable for the proponent.

Alignment 20.2 was assessed based on its inclusion in the '2015 Report' but is not considered a suitable alternative to the above.

With respect to Panorama View, a single alignment (Alignment 21.1) was considered from the end of Panorama View to Hoddy Well Road. The '2015 Report' also analysed this route (as it existed at the time as informal egress) and advocated for its upgrade to an Emergency Access Way standard. The '2015 Report' did not consider the lack of land tenure over Lot 135/P032527 to support the recommendation.

This omission was identified by Shire officers while further analysing the recommendation in question. Unfortunately, despite efforts by the Shire, land tenure in the form of an easement was unable to be secured. This resulted in the removal of the previously existing informal egress in this area.

The Shire should consider re-visiting land tenure over Lot 135/P032527 and/or Lot 136/P032527; for this alignment, either by way of an easement to support an Emergency Access Way or subdivision of a strip of land, for a road. This forms Recommendation 32.

4.12 Greater Morangup

To be read in conjunction with Map 12

The estates included in the Greater Morangup Subdivision area are Gidgegannup Springs, Regal Hills, Rolling Green Estate and McGellin Estate.

Access is via Morangup Road from the north and south, and Dryandra Road from the south, both intersecting with Toodyay Road. The estates west of Morangup Road, all have looped roads as the major artery (McKnoe Drive, Louisa Circle and Red Brook Circle respectively) with a number of connected no-through roads.

The most glaring example of this is the fifteen kilometre long McKnoe Drive, which penetrates some seven kilometres west of Morangup Road and terminating on the same road, less than one kilometre from where it started.

The predominant vegetation in the area consists of Marri and Banksia (Dryandra) which can result in high fuel loads. The estate is bounded by substantially DBCA reserves to the east, north and west. A portion of the western boundary is private tenure, but still heavily vegetated.

The scale of the subdivision combined with location and density of vegetation and lack of westerly egress options, puts this community at risk in a large fire event.

The nearest road to the west is North-East Road in Gidgegannup, some 3.8km as the crow flies from the end of South Place, a small cul-de-sac off McKnoe Drive. North-East Road in Gidgegannup could itself benefit with an easterly egress in the opposite direction towards the Morangup Road network.

However, in investigating this potential two-way egress option, two distinct challenges are immediately apparent. The first challenge is the western boundary of the greater Morangup subdivision area, which forms the local government boundary with the City of Swan. The second and more pronounced challenge is the unfavourably steep and heavily vegetated terrain to the west and south of South Place.

Officers have also considered an alignment south, from South Place to the northern end of the constructed portion of Utah Road, a distance of some 4.5km. A very similar situation exists.

Rudimentary analysis of gradients alone have been undertaken which indicate that both routes have gradients in the vicinity of 1:4 to 1:5, over extensive lengths (around one kilometre or more), which well exceed the 1:7 gradient maximum permitted for Emergency Access Ways in 'The Guidelines' Performance Principle 3.2b (Page 76). For context using a local example, the portion of Stirlingia Drive between Hatfield Place to Sesselis Road in Toodyay, represents a gradient of 1:7.4.

Any deviation to these alignments which seek to follow flatter ground or more favourable terrain, would result in alignments so indirect and lengthy, they would fail to meet their original objective of efficient evacuation routes.

It is regrettable that despite the need and risk, no viable solution is apparent in this case due to the expected astronomical financial and engineering undertaking that would be required. The '2015 Report' noted that such a route was impractical and this reports high level analysis has backed this up and as such, the alignments above have not been scored or ranked as per others in this report, nor are these alignments indicated on Map 12, to avoid confusion.

Despite the setback above, an opportunity to improve egress exists in the southern portion of the greater subdivision area, namely the contained road network of Red Brook Circle, Blackboy Way and Brook Close.

Currently this is a one way in – one way out road network, serving 69 properties with a single easterly egress to Dryandra Road. Toodyay Road bounds the southern portion of the development and thus an opportunity for a short link to provide an alternative direction of egress to the south as per Alignment 22.1, linking the southeast corner of Red Brook Circle to Toodyay Road.

Such a link would improve access to and from the subdivision, to a point it would likely become the primary means of accessing Red Brook Circle, thus should be built as a road, to avoid the inevitable misuse of an Emergency Access Way (which was the recommendation of the '2015 Report'). Land tenure however would be required to be negotiated.

A standard twenty metre road reserve could be achieved without encroaching on the applicable 30 metre building setback for Rural Residential zoned land, by favourable negotiations with either Lot 229/P018296 or a combination of Lot 229/P018296 and Lot 230/P018244. (Refer Recommendation 33).

Consultation with Mainroads WA for a suitable intersection design with their asset (Toodyay Road) would be required under this proposal.

As analysed in depth in Appendix D (Case Study: McKnoe Drive Easement), an extensive easement network within the subdivision does not provide practical options, for either firefighting operations or evacuation, therefore these easements do not factor into any egress alignment related recommendations.

4.13 Bejoording

For completeness, the town site of Bejoording (subdivision area) has been assessed as part of this report. Given that multiple arterial roads intersect near its centre, its favourable flat geometry and minimal forest fuel loads, no additional evacuation egress is required.

5. Fire Emergency Water

Strategic provision of water is essential for effective firefighting operations, with time to access the most critical factor. Thus, water must be available nearby or easily transported to areas of risk. The reticulated water supply in Toodyay is geographically limited. The Shire's only standpipe, near the end of Toodyay-Northam Road, is located near to town and within the only portion of the Shire to feature Water Corporation fire hydrants. The Shire of Toodyay recently worked with the Water Corporation on a fire hydrant infill program. This included, at the request of the Shire, an expansion of the fire hydrant network along Julimar Road which provided a single, strategic hydrant within the West Toodyay town site. While this addition provides benefit in its local area, alternate solutions are relied upon for most sub-division areas which are situated further afield.

Alternate solutions are most practical and commonly found in the form of dedicated fire emergency water tanks. 'The Guidelines' contain standards regarding positioning and capacity of emergency firefighting water for subdivision areas. 'The Guidelines', while intended for future development may be viewed as the best reference for achieving retrofitted fire emergency water supplies in high-risk areas.

'The Guidelines' have two main criteria:

1. Located within a 20-minute turnaround time (from entrance to a property).
Note: For the purpose of analysis the Shire has factored fill time into this figure as this was the standard up to version 1.3 of the 'Guidelines'.
2. 50,000ltr per 25 lots (or part thereof).

The Shire's fire emergency water networks consist of 27 sites with total capacity of 2.61 million litres.

Table 4 below contains statistics of aggregated statistics for subdivision areas across the Shire in relation to the above criteria:

				Compliance
Total Number of Lots (Subdivision Areas)	1,948	Number of Lots with 20min turnaround time	1,932	99.18%
Required Capacity (ltrs)	3.90m	Current Capacity (liters)	1.32m	33.84%

Table 4 - Aggregated Fire Emergency Water statistics for subdivision areas

Note 1: Not all sites are located in subdivision areas – this explains the difference between totals mentioned above and those contained in the above table.

Note 2: The above figures do not include town site properties (reticulated service), or Shire Depot coverage/capacity. The latter has been excluded as its large capacity, which is used for other purposes besides Fire Emergency Water, would unreasonably distort the above figures.

Note 3: Capacity figures do not include additional capacity provided by bore fed sites in feed rates.

Note 4: These are aggregated figures. Performance of an individual subdivision area may be better or worse than the aggregate.

As is evident from the above table, reasonable coverage is achieved based on the turnaround time criteria. Figure 6 below shows the coverage of all fire emergency water locations within the shire with exception of three Avon Valley tank sites which do not reside on the road network data set required for analysis - their purpose is to supply water in the difficult to access Avon Valley.

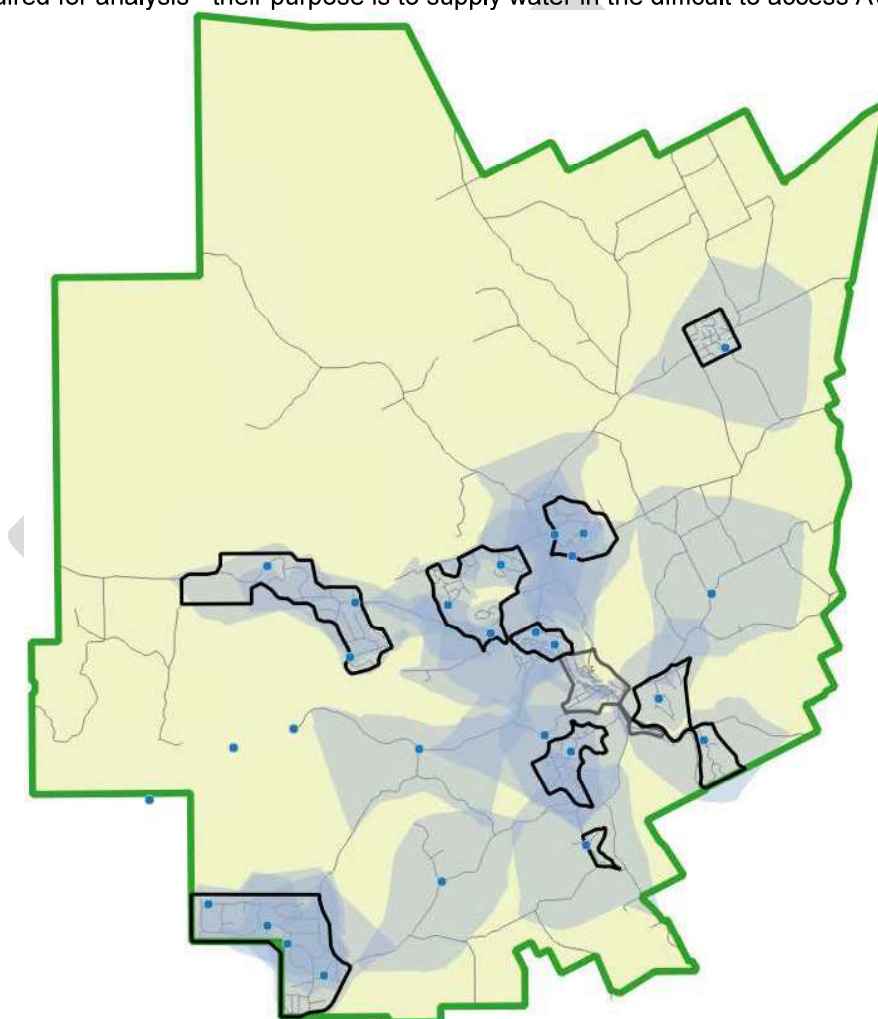


Figure 6 - Fire Emergency Water – 20 minute Turnaround Coverage.

While not considered as critical as strategic placement, capacity remains the Shire's biggest gap to the standards of 'The Guidelines'. Achieving capacity standards would require, continued major investment to achieve.

'The Guidelines' allow for alternate solutions in meeting fire emergency water source specifications. While not specifically mentioned as an alternate solution in 'The Guidelines', the Shire has implemented a 'hub' system within each major sub-division area to augment water supplies. The hub system at each of Coondle-Nunile, Julimar, Bejoording and Morangup bush fire brigade facilities, provide capacity of between 94,000 and 141,000lt, pressurized by high flow electric pumps with backup power and drafting plumbing redundancies. This allows for non-potable water carts (BFS, DBCA and private contractors) to efficiently transfer water from, to and within an incident without reliance on the Shire's sole standpipe. This aims to reduce the capacity draw of firefighting applies on static 'satellite' tanks in the area during an incident.

The Shire's fire emergency water network has been made possible by contributions from both direct and grant augmented funding from the Shire, Department of Water and DFES over an extended period.

The Shire should continue to consider and seek funding for further enhancements to its fire emergency water supplies (Recommendation 34). This includes increasing capacity at existing sites in subdivision areas and infill in rural areas with large travel times (northern half of Shire).

Fittings

The Shire of Toodyay typically fits its fire emergency water facility with the following fittings:

- 2-inch Camlock Female; and
- 3-inch Camlock Male; and
- (in the case of a pressurized hub site) 2.5-inch British Instantaneous Coupling Female.

This configuration has been adopted as it allows the majority of fire appliances to connect to these facilities without need for an adaptor.

However, standards for fire emergency water facilities have long been focused on metropolitan requirements. This has been a recent point of discussion at the state level DFES Bush fire Operation Committee. 'The Guidelines' have introduced standard fittings in their current iteration, these appeared to remain metropolitan focused and do not align (allow connection) with a bush fire appliance either directly or by standard equipment issued by DFES who specify, build, and supply fire appliances to local government Bush Fire Services.

'The Guidelines' current fitting requirement for non-commercial use is:

- 2-inch Camlock Male; or
- 4-inch Camlock Male.

The Shire of Toodyay has stowed additional fittings on its appliances to ensure that appliances can connect to a wide range of tank fittings they may come across on private land or out of shire. The Shire should also consider the ability of out of Shire appliances to be able to connect to its water supply during large incidents.

Thus, given the current 'Toodyay standard' allows at least some appliances to connect directly to tanks without the need for adaptors not supplied as standard by DFES, and the lack of alignment between DFES appliance specifications and those of the 'The Guidelines', caution is advised in making changes to the Shire's standard tank fittings at this time.

Recommendation 35 advocates for the raising of the issue with relevant stakeholders DFES/Department of Planning, with the view of making relevant changes when the appropriate alignment occurs.

Signage

The Shire's current water tank network is currently sign posted by 'FIRE Emergency Water' street blade style signs. The placement of signs should not be considered comprehensive or constant. No signage is located on/at the fire emergency water facilities themselves. While local fire crew have a good understanding of tanks in their immediate area, this knowledge is less reliable for crews outside of their local area, and almost non-existent for crews from outside of the shire. Signage to assist fire crews in locating fire emergency water facilities should be installed in such a way to effectively direct crews from arterial roads or points of entry in high-risk areas.

Recommendation 36, advocates for a review and upgrade of signage to the following standard:

- White on Red 'Fire Emergency Water' street blade style signage is placed at intersection of arterial roads leading into subdivision areas, and then at each intersection thereafter.
- Each sign should point in the direction of travel to the fire emergency water facility and contain distance information.
- Where an interim turn (intersection) needs to be navigated the distance should be contained in brackets ().
- White on Red rectangular signage at the fire emergency water facility: ' Fire Emergency Water - Emergency Use Only – Do Not Obstruct'

Table 5 below demonstrate the proposed signage:

Intersection signage where further navigational turn is required	
Intersection signage – where no further navigational turn is required	
Road Side Signage directly opposite tank facility location	
Facility Usage Signage Attached to tank	

Table 5 - Proposed Fire Emergency Water Signage

6. Shire Easement Liability

Recently the Shire became aware of an easement for which it had maintenance responsibilities under the Land Administration Act 1997. This highlighted a gap in the Shire's understanding of easements in which it is party to and the specific obligations of those easements. Lack of understanding represents a risk where the Shire may be liable for not meeting its legal obligations specified in a Deed of Easement.

Landgate's (2021) simple definition of an easement is defined as "*a right attached to a parcel of land which allows the proprietor of the parcel to use the land of another in a particular manner or to restrict its use to a particular extent.*"

An easement does not change ownership of land, but provides rights to another party for a specified use. The use and obligations of both the grantor and grantee are specified in a Deed of Easement, which becomes a legal instrument under the Land Administration Act 1997.

Understanding what easements the Shire is party to (as a grantor or grantee) and its obligations under each Deed of Easement are key to reducing the risk of liability stemming from un-serviced obligations.

Easements in benefit of the Shire are common in the area of fire management, however easements may exist for other purposes which may contain similar liabilities. Thus, the concept of better understanding the Shire's easement liabilities in this section of the report should not be contextualised as being solely fire related.

Appendix C, Harvester Drive Easement Case Study, details the above mentioned example where the Shire had obligations under the Deed of Easements. While checks have been performed on other easements known to the Shire's Emergency Management staff, data obtained via Landgate indicate a high probability of the existence of additional easements of which the Shire does not understand;

- a) The existence of such an easement,
- b) Whether it is party to such an easement,
- c) Any obligations with respect to such an easement

In the example of Appendix C, Harvester Drive Easement Case Study, the Shire, for a period of approximately ten years, was not meeting its obligations for fire-break maintenance required by the Deed of Easement. Had a bush fire impacted the area and led to loss of property and/or loss of life, the Shire may have been exposed to legal claims of landholders/residents or insurance companies. The reason the Shire was not maintaining the subject easement, was due to lack of knowledge of their responsibilities.

Increasing knowledge is the key to reducing risk. Thus, Recommendation 37 advocates that the Shire allocate appropriate resourcing to undertake a project to identify and record easement 'Grantors', 'Grantees' and responsibilities for all easements within the shire. Where a Shire responsibility is recorded, the appropriate Shire department should review if it is meeting its obligations under the Deed of Easement and, where appropriate, seek to meet said obligations or extinguish the easement, if it is deemed to have no benefit to the Shire.

To understand the full extent of the Shire's responsibility, easement documents (Deed of Easement) would need to be purchased and key details such as 'Grantor', 'Grantee' and

responsibilities recorded. Once recorded, such data could be made available internally via GIS to assist with staff understanding of obligations or answering queries.

Unfortunately, Landgate's spatial dataset that depicts the extent and key particulars of an easement is not complete. However, where this data is incomplete a lower level representation is provided by simple identification of a property, encumbered by an easement or easements. Attribute data for spatially depicted easements may also be incomplete. Thus, the approach required to ascertain individual easement responsibilities would differ depending on the completeness of Landgate dataset in relation to a given easement.

In the case where an easement document number is identified within the Landgate Data, the document can be directly purchased.

Where an Easement Document Number is not identified in the Landgate Dataset, the Certificate of Title would need to be purchased first, in order to obtain the Easement Document Number for purchase of a Deed of Easement.

The Shire can obtain the above mentioned documents on demand via Landgate's online facility. The current cost for a Certificate of Title or Easement Documents search is \$27.20.

The Shire has analysed the Landgate dataset for completeness and provides the following statistics and cost projections.

			Certificate of Title Document Purchase	Easement Document Purchase	Total Cost
Number of Easement Documents identified in Landgate Dataset	274	These Easement documents can be purchased directly	N/A	\$7,452.80	\$7,452.80
Properties without Easement Document Numbers	271	These Easements would require a Certificate of Title search prior to obtainment of the Easement Document.	\$7,371.20	\$3,699.20*	\$11,070.40
		Totals	\$7,371.20	\$11,152.00	\$18,523.20

Table 6 - Projected costings of obtaining Landgate documents

* The estimated Easement Document Purchase total is based on the premise that some of the 271 properties without Easement Document Numbers would share common easements, thus reducing the number of Easement documents that need to be obtained. The extent of Common Easements on these properties cannot be quantified. Thus, a figure of 50% has been used for the above estimate. All cost estimates above are GST inclusive.

The above estimates only represent document costs and do not factor in staff administration hours. Staff Administration time has been estimated at 30 minutes to process each Easement document. This includes obtaining, interpreting and recording the relevant information. This equates to 28 days or approximately 6 weeks (One Staff Member full time).

Given the inherent complexities surrounding easements which have been highlighted in both this Section and Section 3 – Toolkit, the Shire should also seek to limit the number of easements to which it is party to in the future. This will reduce the risk of potential future liabilities resulting from the creation of easements. Thus, the Shire should additionally consider adopting a position of opposing development proposals, which attempt to establish easements across multiple properties in the context of fire. Furthermore, when applying subdivision perimeter vehicular access solutions, higher-level controls such as the use of a perimeter road or Shire managed tenure should be favoured (See Recommendation 38).

7. Mitigation

7.1 Background

Bush fire mitigation is an important activity that can reduce the spread and severity of a bush fire.

Mitigation amounts to maintenance of vegetation and thus, should be considered an ongoing need, similar to the grading of a road. Retreatment ranges from one year to fifteen years, depending on the vegetation type. As a rule of thumb, vegetation loads of over six tonne per hectare make bush fire hard to control. Grass fuel types can achieve six tonne per hectare annually, where Marri/Jarraah typically add one tonne per hectare annually. Wandoo woodlands add its fuel loads at approximately half this rate.

Mitigation is a shared responsibility where all landholders play their part, including Local Governments, other relevant agencies and private landholders.

7.2 Mitigation Activity Fund (MAF)

In more recent times (i.e. the past five years), mitigation has become a major focus of the State, with increased funding to local governments via the Mitigation Activity Fund (MAF), which itself is funded by the Emergency Services Levy (collected by the Shire on behalf of the State). MAF enables mitigation works on Crown land that is managed by the Local Government, this includes reserves, road reserves and Unallocated Crown Land (UCL) and Unmanaged Reserves (UMR). MAF does not support works on private land or land directly owned by the Shire.

Over the last four financial years, the Shire has received and invested approximately 2.5 million dollars for mitigation activities via MAF. This funding has enabled the Shire to do work primarily in and around high-risk subdivision areas, which have received little mitigation attention since their inception, in some cases forty years ago. The Shire has now largely cleared its backlog and is progressively moving its upcoming MAF program to a "maintenance program".

Despite the increased funding via MAF, the Shire needs to continue and consider increasing its mitigation investment on its directly owned tenure. An example of this is the balance of the

Recreation Precinct land, which has been left in an unmanaged state (Refer Photos 5 and 6), despite its proximity to public and private assets. The Shire should consider reviewing its mitigation requirements on its private tenure and structuring a mitigation program and budget to meet the needs (Recommendation 39).



Photo 5 - View of Shire land adjacent to Recreation Precinct



Photo 6 - View from Shire land between Recreation Precinct and local Residential area

7.3 Tools and Techniques

As outlined above, different vegetation types have different fuel load behaviours and characteristics requiring a range of mitigation approaches to address fuel loads and meet the needs of the local environment. Thus, the Shire has adopted an approach of identifying and applying the most appropriate mitigation method to ensure the best mitigation and environmental outcomes.

Methods used successfully within the Shire include forestry mulching, chemical application, biological (grazing), slashing and prescribed burning.

Despite the wide range of mitigation approaches available, the '2015 Report' almost exclusively promoted 'Planned burning', as the most effective treatment method. In fact, Recommendation 9.6.4 of the '2015 Report' stated:

"The Shire should strongly consider a wide ranging strategic hazard reduction burning program as the most effective way to manage fuel loads".

This does not align with the Shire's experiences in dealing with its land tenures, which vary greatly in terms of vegetation, size, shape, function and terrain. The Shire does not support a one-size fits all approach, instead favouring the method to support the objectives and constraints of the site.

A summary of mitigation methods is provided below in Table 7.

METHOD & SUITABILITY	PROs	CONs
FORESTRY MULCHING Machinery based approach using a spinning toothed drum to change the structure of the vegetation, via a mulching action. Mulched material is left in situ reducing a fire's access to well structured fuel. It is an effective mitigation method. Particular useful on dense shrub fuel types. Such as Banksia (dryandra). The Shire has used this method on selected road verges and reserves.	The in situ mulch, which is left behind, provides a natural barrier against weed growth and erosion. Can be conducted in a wide range of weather or seasonal conditions. This method can be selective to avoid key vegetation such as grass trees or trees, as well as assets such as fences or utilities. Encourages regrowth of more diverse species from seed bank in soil. This technique is gaining recognition within the industry, resulting in more contractors able to conduct this type of work.	Can be expensive, particularly when dealing with small areas.

	Does not have the patrol and follow up requirements of hazard reduction burning.	
<u>CHEMICAL (Spraying)</u> Suitable on grass fuels such as road verges or grass reserves.	Relatively cheap and quick. Correctly timed spray can reduce grass going to seed and therefor reducing grass growth for the next season. Wide availability of contractors.	Limited application window. Relies on a consistent and timely budget settlement process.
<u>MECHANICAL</u> Machine Clean-up (Used on degraded reserves to improve the land such that a follow up mitigation strategy (slashing/spraying) can be carried out in a cost effective manner in the future).	Wider timeframe to be able to conduct compared to spraying. More cost effective than mulching in the context of clean-up. Generally regarded as a one off process followed up by chemical method. Wide availability of contractors.	Produces heaped waist that requires secondary attention (burning).
<u>BIOLOGICAL</u> The use of stock animals such as sheep to reduce grass fuel levels on already degraded grassland reserves.	Cheap (high demand sheep owners to obtain grazing opportunities for their stock) Can occur over a wide time frame. Suitable for grass land areas featuring rugged/steep terrain.	Animal welfare considerations (These responsibilities often deferred to stock owner). Need for adequate fencing to be established. It restricts the public use of land during the treatment.
<u>BURNING</u> Useful on larger, natural bushland reserves. The Shire has very few of reserves of this nature at a scale where burning would be considered the most effective method.	It is the most natural mitigation method (Mimics nature).	Requires largest personnel commitment of any method. Requires machinery preparation and standby. Potentially long patrolling requirements, which can last several days. Only cost effective with scale.

		Can be controversial with the public and potentially impactful to public (i.e. smoke). Can lead to weed invasion requiring following treatments (chemical) in some environments.
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Table 7- Mitigation Methods used within the Shire of Toodyay

As is evident above, there are a range of options available, many of which have advantages over burning.

7.4 Mitigation Workforce considerations

7.4.1 In-house (Staff and Volunteers)

Further to the '2015 Report's support of Hazard reduction burning, the report also strongly advocated for the use of volunteer bush fire brigades in being the major workforce for burning on both public and private land. This report does not advocate such a position, as the major method of resourcing hazard reduction burning. There are a number of supporting reasons.

Bush fire brigades should not be considered as pseudo Shire workforce given their unpaid nature. The same extends to any expectations that they form a workforce to placate private landholders. This is a position which featured strongly in every BFAC member who responded to a call for comment on the '2015 Report'. In short, the volunteers do not appreciate the assumption made on their behalf by the '2015 Report'.

It should be remembered, that currently the Shire's bush fire volunteers are trained to control and extinguish wildfire, not to conduct hazard reduction burning. While there is some overlap of both knowledge and equipment, these two activities should in no way be considered the same skill set.

Beyond the fire appliances, the Bush Fire Service is not equipped with the appropriate machinery or other equipment (i.e. blower vacs) required for best practise hazard reduction burning.

A similar situation is true with respect to training and knowledge. While training is in theory able to be provided, the Shire should consider the relevant upkeep of knowledge and competency in this high-risk, scientific based activity. For knowledge to be retained at the required level, frequent application of skills would be required in a diverse range of fuel types, with respect to volunteers this is hindered by their time-poor nature and ability to be available when weather conditions are suitable for burning.

With respect to the Shire's own tenure responsibilities, the limited number of sites where hazard reduction burning is the preferred method, the resultant frequency would not be sufficient to adequately keep personnel upskilled.

Staff are also an option; however, there are a limited number of appropriate staff, let alone the impact on other scheduled activities, given the highly weather dependant nature of hazard reduction burning. Again, sufficient scale would be a barrier to retention of knowledge within Shire staff.

Further to the issues surrounding the use of volunteers for hazard reduction burning, additional concerns exist regarding the appropriate use of government resources for the benefit of private landholders and anti-competitive nature of such practise which undermines the current fledgling hazard reduction burning and mitigation industry and its prospects into the future.

While fuel loads on private land do represent a concern in the management of bush fire and the Shire has the ability under the Bush Fires Act 1954, to compel landholders to reduce fuel loads, an approach which advocates for education and one that supports industry development is a preferred position.

The '2015 Report's notion that an individual brigade could conduct 10 – 15 burns annually is an unrealistic assumption of brigade capabilities in a rural setting. The combined 'free time' of brigade members to conduct burns would not be sufficient to have a tangible overall impact on bush fire management, when considering servicing private land tenure. Provision of such a resource to private landholders would undermine the concept of the landholder's responsibility in managing their own land, and, likely result in a reduction of landholders currently self-managing fuel loads without burdening the Shire's Bush Fire Service. It also undermines the prospects of a viable private, local mitigation industry.

7.4.2 The role of industry

Since 2015, the Shire has conducted the majority of its mitigation activities via appropriately skilled practitioners. Specifically in respect to hazard reduction burning, this has resulted in improved ecological outcomes, minimised impact on Shire staff schedules, while supporting local contractors. Despite the '2015 Report' advocating the use of contractors as being "prohibitively expensive", the Shire has been able to fund such activities through a combination of its own funds and grant funding opportunities. While MAF has been the primary contributor to contractor led hazard reduction burning, it should be noted that MAF did not exist at the time of the '2015 Report'.

While the private fire response and mitigation industry has faced insurance driven obstacles over the last couple of years (to the point where hazard reduction burning services are currently not commercially available), discussions between the mitigation industry, insurance industry and government are currently occurring and the prospect of re-establishing this aspect of the industry should not be ruled out long term. Thus, the Shire should not dramatically alter its course from contractors being the preferred option at this time.

Together with the challenges of the alternative (in-house) approaches discussed above, and the Shire's relatively low requirement for hazard reduction burning (in part due to past diversification of mitigation methods) the Shire can afford to monitor this situation before an alternate approach needs to be considered or enacted.

7.5 Incentivising Mitigation

The '2015 Report' supported (but not by Recommendation) the incentivising private landholders to mitigate their properties.

While encouraging mitigation through public education is essential, the concept of offering incentives masks the current legislative framework designed to ensure mitigation compliance.

The incentive for a landholder to mitigate is for their own safety and protection of their own assets and to avoid penalty for non-compliance with notices issued under the Bush Fires Act 1954.

Providing incentives for compliance would be a drain on Shire resources financially and administratively. The opposite is true for a financial education based approach and utilises existing legislation framework for which the Shire has responsibility to administer.

Community education should be used to increase awareness of risk and responsibility of private landholders to encourage positive mitigation outcomes. This education should be frank with respect to penalties for non-compliance. The Shire should not be afraid of enforcing penalties as a secondary tool for education.

8. Community Engagement

Recommendation 6 of the Perth Hills Bushfire Review (2011) stated:

The Fire and Emergency Services Authority, in partnership with local government conduct more focused pre-season bush fire education, which emphasises:

- Water supply is not guaranteed during a bush fire
- Power supply is not guaranteed during a bush fire
- Water 'bombing' by aircraft cannot be guaranteed in a bush fire
- Saving life will be a priority over saving property so expect to be evacuated
- Once evacuated, access to affected areas may not be possible for several days
- SMS warning are advice only and may not be timely.

The reasoning behind Recommendation 6 was that the Special Inquiry found that there was a poor understanding in the community about some of these key messages, including unrealistic expectations of fire response – believing fire trucks and aerial bombers would be available to protect every property. This ultimately led to a sense of complacency and a lack of preparation.

This serves as an example of how important it is to constantly engage and educate residents about the realities of bush fire risk and preparedness. Whether considering those in the community that value and voluntarily seek out bush fire preparedness information, or those whose properties display a level of apathy towards it, the challenge lies in keeping the momentum and awareness of bush fire risk in general and especially between catastrophic events.

The Victorian Bush fire Report (2009) included the below Figure 7 demonstrating the cycle of stages after a major bush fire event and where complacency sets in between catastrophic events as below.

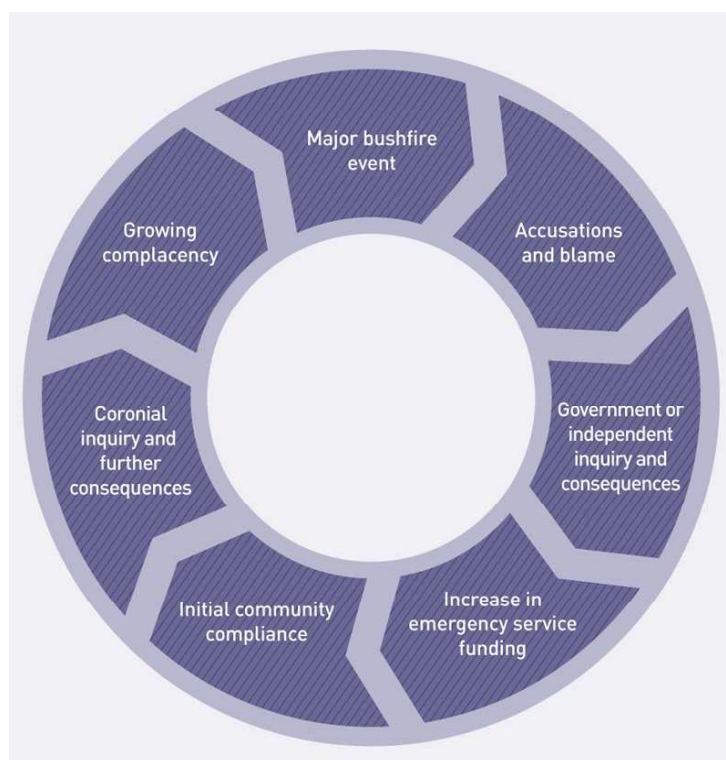


Figure 7 - Complacency cycle between Catastrophic Bushfires

Currently Toodyay can be described as being in the stage of 'Growing complacency', with the completed associated investigations, reports and inquiries from the last the major bush fire event occurring over a decade ago, in 2009. More than ever, now is the time to dramatically increase the awareness of bush fire risk and maintain the concept as a current one.

Resourcing for the task of community engagement has been limited until now, with the recent advent of the Emergency Management Officer (EMO) position. Part of the EMO's role will be to boost community engagement through a number of mediums and create a schedule of constant and consistent messaging, in a proactive manner. This involves supporting bush fire volunteer led initiatives.

A baseline community engagement program should developed as part of business as usual, leveraging low cost mediums such as social media and Shire News in the Toodyay Herald. While not consistently available, grant funding in community segment space can assist with more costly mediums/projects. Development of such projects which can leverage these grant opportunities should be developed.

AWARE Grant funding (All West Australians Reducing Emergencies Program) is the most regular source of funding that can be used for community engagement, however at times funding availability can be limited in both overall funding pool and constancy of project eligibility. The Shire would benefit from having 'shovel ready community engagement projects' prepared for when AWARE funding opportunities arise, to further enhance the Shire's ability to effectively communicate with landholders.

The theme of enhancing communication and education with landholders was one heavily supported by comments provided by the BFAC members. BFAC comments also referenced that despite a level of complacency among some in the community that will never be completely overcome, nor will the task of community engagement ever be complete.

Another consensus of the BFAC consultation for this report was that not only is increased community engagement needed, but that a more frank and direct approach about the realities of bush fire emergencies is required. The public need to be made aware of these realities in a way that engages and slightly confronts them, so as to have the message understood 'loud and clear'. This sentiment is supported by the 2009 Victorian Bushfires Report (2010):

"It is essential that there be a continued focus on providing frank and meaningful advice about the risks and what is required to adequately prepare for and survive a bushfire."

This concept of a frank and meaningful approach to community engagement forms Recommendation 40 and strives to adopt a position of reality when it comes to communicating the risks of bush fire emergencies.

9. GIS

The '2015 Report' Recommendation 9.1.1 endorsed developing a Geographic Information System (GIS) database to map risk and resources.

For the wider organisation, GIS is a new concept and in the future will form a fresh way of functioning, answering operational questions and communicating with the public.

This report supports the implementation of a GIS system for the organisation, allowing for all areas of the business to use spatial concept to help understand and analyse their work areas more efficiently.

To date, the Shire's use of GIS has been a piecemeal approach of predominately-free systems, leveraged by staff members with an interest in exploring spatial solutions.

In recent times the Shire has engaged a market leading GIS software provider, ESRI to supply software which will enable the Shire to take a more common and holistic approach to GIS. This project is in its formative stage and the Shire's use of GIS in general and for emergency services/management will only increase as the knowledge and experience of the organisation grows, and be able to make data driven decisions.

Since 2015, the Shire has collected spatial data with respect to mitigation activities, fire emergency water assets and Emergency Access Way and Fire Service Access Route alignments and associated infrastructure. The Shire has also employed spatial analysis software (Feature Manipulation Engine) to enable an innovative fire permits system. This software has been used to perform the spatial analysis contained within this report.

Additionally the Shire has begun using GIS solutions to support the issuing of individual Fire break Notices (variations) and compliance inspection program.

In addition, the Shire also utilises the DFES Bush fire Risk Mitigation GIS System to communicate mitigation plans and subsequent activities to DFES. Future DFES plans for this system include bulk actions that allow for data from a user's system to be transferred into BRMS. This represents

an opportunity for further use of GIS within the Shire to create, analyse and store data for efficient input into BRMS. This would remove time-consuming manual tasks currently undertaken on regular basis.

As part of the establishment of the Emergency Management Officer role (discussed in Section 10), the Shire has for the first time dedicated a resource to the progression of GIS within the organisation.

Maturity to a corporate system remains a longer-term goal; an example of an exploratory project was under taken within the fire management area.

The Rangers have now moved away from a paper based Fire-break Inspection system and commenced the 2021/2022 Fire-break Inspection Season utilising a specialised app and software, for a more efficient, trackable and sustainable process.

This system allows the Rangers to record the results of Inspections electronically via an app (Refer Figure 8), attach photographs, enter comments relating to the properties requirements and submit. The Administration creates an outgoing letter from templates and the ratepayer promptly receives the correspondence.

The use of GIS allows the Rangers/Administration to:

- Easily conduct inspections and re-inspections
- Easily find the details of the inspections
- Retain a visual history of what areas/properties were inspected in any given year
- View the result of the Inspections on a map at a glance
- Plan what areas/properties to inspect next

GIS is a rapidly growing tool and the Shire's GIS provider ESRI, have a suite of products at the Shire's disposal. In the future, the Shire will transition any GIS functions/Mapping being used in free programs to the Shire's centralised ESRI location.

Some of the future GIS prospects for Emergency Services related solutions include:

- Fire Signage (location, age, condition)
- Verge Spray Program
- Schedule of Mitigation works
- Community Engagement
- Second generation electronic fire permit issuing system
- Future Strategic Planning

While no recommendations are specifically made in this section, the Shire should acknowledge that the progression to a corporate to a GIS system will be a long road, given it cannot justify a dedicate professional. The Shire's path to knowledge via the upskilling of the EMO and other staff is a process, which will take time. Sufficient training opportunities should be afforded to staff to assist in the expansion of knowledge.

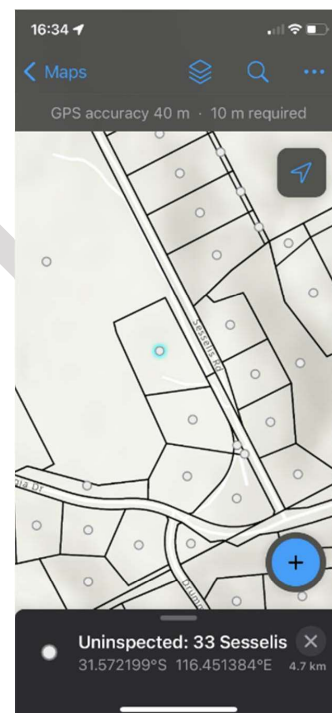


Figure 8 - GIS driven Fire-break Inspection Application

10. Staffing

The Shire of Toodyay holds significant responsibility in managing risk in regards to Bush fire and Emergency Management Preparedness, Prevention, Response and Recovery (PPRR). These are the four pillars of integrated Emergency Management.

Currently the Shire has three roles, which broadly cover three of the four pillars. While these roles have significant overlap, each role can be categorised with primarily dealing the following pillars:

- CESM - Response
- RMO - Prevention
- EMO - Preparedness

The fourth pillar of Recovery is an organisational responsibility led by the Local Recovery Co-ordinator as per the State Emergency Committee Guidelines. The Local Recovery Co-ordinator (and deputy co-ordinator) responsibilities are designated to Shire staff Council. The function of Recovery does not in itself commence until an incident occurs, however, planning for recovery may be considered as part of an overlap with Preparedness pillar.

Each position, including that of the Local Recovery Co-ordinator is considered in more detail below.

10.1 Community Emergency Services Manager (CESM)

The Community Emergency Services Manager (CESM) role is a partnership between DFES, Shire of Toodyay and Shire of Goomalling.

The CESM position is majority funded by DFES, with minority funding coming in from the Shire of Toodyay and Shire of Goomalling.

Responsibilities of this role are largely dictated by the DFES specified Memorandum of Understanding (MOU) and associated Business Plan. The existence of DFES and the Shire of Goomalling as partners effectively equates to the CESM role being part time, with respect to time allocation to the Shire of Toodyay, despite being employed being full time by the Shire of Toodyay.

The role of the CESM may be considered the broadest in its responsibilities to all pillars of Emergency Management. However, the primary focus is the operational functions of both Shires' Bush Fire Services. This includes volunteer management, training, administration and operational response among other tasks. In addition, the business plan also has expectations of bush fire mitigation, emergency management and community engagement.

Despite the term Manager in the title, the CESM by the MOU, is not considered a manager of a department/staff, but a manager of oversight in the greater sphere of Emergency Management to which the entire organisation has responsibility.

Given Toodyay's extreme exposure to bush fire, the combined actions required to meet the needs of the business plan, legislation and the expectations of the community, has resulted in the Shire providing additional resource to this business area.

10.2 Reserve Management Officer (RMO)

In April 2014, Council received a report proposing the advent of a new position titled 'Fire and Land Management Officer', for the main purpose of fieldwork and bush fire mitigation required to manage Shire land holdings.

Deliberations began regarding the details of the position, and, in a special council meeting on October 21, 2014; the position was confirmed and retitled as 'Reserves Management Officer'. The change in title reflected a broadening of the proposed roles responsibilities away from Fire Management, to include aspects such as amenity of reserves.

This position has existed for over seven years without review. Despite no changes occurring to the roles position description, over this time additional the role has assumed additional non-fire management related tasks. This includes but is not limited to acting for Ranger Services, environmental administration, in particular the obtainment of vegetation clearing permits to support the Shire's road construction and dangerous tree inspections.

The combination of the broadened reserve program focus initially adopted by Council, plus the advent of additional non-fire management tasks means this position is now well removed from the original intent.

Over this period bush fire management, via mitigation has become an increasing focus for the state with substantial funding for projects now available to the Shire. Thus, the Shire has been dealing with an increased workload within the fire management area, which the RMO role has not been able to fully absorb due to competing non-fire management expectations. This has resulted in increased workloads to the CESM.

Given the RMO role and its current derivative has not been formally been reviewed since its inception, Recommendation 41 advocates that the role's position description is reviewed with the intent of refocusing duties and responsibilities to fire management and mitigation as its primary objective.

10.3 Emergency Management Officer (EMO)

The most recent investment by the Shire in the emergency services space was in the form of creating the 'Emergency Management Officer' (EMO) role. This role commenced in November 2021, in recognition of the growing challenges and workload faced within the area of bush fire emergency management, and preparedness.

Key functions of this role include emergency management preparedness, Local Emergency Management Committee (LEMC) management, emergency and fire related administration and support, community engagement/education and assist the Local Recovery Co-ordinators.

The Emergency Management Role also provides support to Ranger Services for fire related compliance inspections, and to champion and progress the use of GIS further across the organisation. The role also assists with aspects of volunteer training, helping the Shire meet its workplace health and safety obligations for the Bush Fire Service.

The position, which works closely with the CESM and RMO, also provides diversification of Emergency Management knowledge within the organisation, as well as backfill of the CESM role for periods of leave or secondment.

With the CESM's primary focus on response related activities, historically emergency management, encompassing preparedness planning and community engagement, has not received the attention required for the Shire's demographic and risk profile. The EMO role allows for a dedicated resource in this space to increase knowledge and improve preparedness and community awareness. It also allows for greater scope for the role to leverage increasing funding opportunities available in this industry.

In summary, the creation of this position represents a maturing of the Shire's understanding of its obligations and its response to managing risk in the community.

10.4 Local Recovery Co-ordinator, Welfare Liaison Officers and supporting staff

The Recovery pillar of emergency management requires additional resourcing during and following a major incident.

The two key roles are Local Recovery Co-ordinator as required by the Emergency Management Act 2005, Section 41(4) and Local Government Welfare Liaison Officer. The responsibility of these roles are outlined in the Shire of Toodyay Local Emergency Management Arrangement (2021) Refer Table 8 below.

Local Recovery Coordinator	To ensure the development and maintenance of effective recovery management arrangements for the local government. In conjunction with the local recovery committee to implement a post incident recovery action plan and manage the recovery phase of the incident.
Local Government Welfare Liaison Officer	During an evacuation assist Dept. Communities by providing advice information and resources (a) open and establish a welfare centre at the nominated facility until the arrival of DC; (b) establish the registration process of evacuees until the arrival of DC; (c) provide advice, information and resources in support of the facility; and (d) assist with maintenance requirements for the facility.

Table 8 - Excerpt of LRC and WLO roles from Shire of Toodyay Local Emergency Management Arrangements

As is evident in the above table, these are two different, yet critically important roles in recovery. Due to this importance, it is essentially that these roles are not held solely by an individual. At least two appropriate personnel should be appointed to each of these positions, to provide appropriate coverage and if required, added capacity and/or endurance to the recovery effort, remembering that an event in its early stages, recovery may require around the clock operations.

The Local Recovery Co-ordinator should be seen as strategic leadership role and as such is ideally suited to staff members with appropriate purchasing authority and ability to direct staff – thus, senior management positions should ideally hold these roles.

The Welfare Liaison Officer is ideally suited to staff members who live locally, to reduce lead-time, in establishing an evacuation centre.

Both the Local Recovery Co-ordinator and Welfare Liaison Officer will need to be support by other Shire staff for the duration.

Historically, the Shire of Toodyay has only appointed two staff members to the Local Recovery Co-ordinator position that also unofficially incorporated the functions of the Welfare Liaison Officer. During the last seven years only one Senior Management person has fulfilled the Local Recovery Co-ordinator role.

Currently, the Shire has no Senior Management Group personnel in the Local Recovery Coordinator role and no formally dedicated Welfare Liaison Officers. However, the personnel nominated in the Local Recovery Coordinator are in reality are expected to carry out the Welfare Liaison Officer function.

Neither officer has authority to direct staff or expend funds. The Shire should consider its current appointments as being too few and at an inappropriate level to meet the effective requirements of the Emergency Management Act and its own Local Emergency Management Arrangements. Further consideration is required in correctly preparing and resourcing the recovery function. As such the following recommendations are made:

Recommendation 42 - The Shire reallocate its current Local Recovery Co-ordinator appointments to Welfare Liaison Officers and reassign the responsibilities of Local Recovery Co-ordinators to two or more senior management staff and embed Local Recovery Co-ordinator responsibilities into position descriptions of these roles.

Justification: This would result in the broadening recovery actions across additional staff and ensure the legislative requirements for the Local Recovery Co-ordinator continue to be met at senior management level for officer bearers of the identified roles.

Recommendation 43 - All Shire staff positions descriptions contain a responsibility to support emergency management recovery/efforts.

Justification: This ensures all staff understand the organisations requirements to manage recovery and clearly states the intent of the organisation to call upon staff in recovery when required.

Recommendation 44 - That all Shire staff are required to undertake a level of WALGA Emergency Management training, in line with their expected involvement. This is:

- Senior Management Group and Welfare Liaison Officers - *Recovery Co-ordinators Course for Local Government*
- Shire Ranger Services - *Animal Welfare in Emergencies*
- All other staff – *Emergency Management Fundamentals*

Elected Members should also be offered the opportunity to attend training to ensure they understand their organisation's recovery responsibilities.

Justification: This will ensure that staff (and Elected Members) are trained appropriately to carry out their role, be it Local Recovery Co-ordinator, Welfare Liaison Officer or support thereof.

11. Recommendations

Recommendation and Type		Recommendation
Recommendation 1	Position Statement	The Shire should advocate for more appropriate terminology for 'Emergency Access Way' in 'The Guidelines' and continue to dual label such routes with the term 'Alternate Evacuation Route' in the interim.
Recommendation 2	Strategic Planning	The Shire recommitments to tangible and appropriate contributions to Egress and Access Reserve fund annually.
Recommendation 3	Strategic Planning	The Shire should enter into applicable planning, policies, strategies and procedures the following Lots in support of future subdivision proposals and enquiries: 1/D074943, 151/P018487, 3412/P415291, 9001/P405299, 9500/P059240, 9011/P062847, 606/P062188, 9010/P062847, 9508/P077718, 604/P062188, 1469/P247186, 1431/P247190, 600/P042855, 605/P062188
Recommendation 4	Position Statement	The Shire should adopt a default position of provisioning egress as a road.
Recommendation 5	Shire Project	The Shire should maintain Alignment 2.1 (Emergency Access Way linking Sand Spring Road to Malkup Brook Road) and consider potential upgrade to a road upon analysis of traffic flows post implementation of Recommendation 5.
Recommendation 6	Shire Project	The Shire should: • Negotiate road reserve land tenure from 604/P062188 and 606/P062188 and if necessary 605/P062188; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Construct Alignment 1.1, a road linking Malkup Brook Road and Harders Chitty Road.
Recommendation 7	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 604/P062188 and 606/P062118 or 605/P062188, which results in Alignment 1.1 linking Malkup Brook Road and Harders Chitty Road as a road. Recommendation 7

Recommendation 8	Shire Project	should be considered as an alternate to Recommendation 6. The Shire should maintain Alignment 3.1 (Emergency Access Way linking Horseshoe Road to Jarrah Court.
Recommendation 9	Shire Project	The Shire should: • Negotiate road reserve or easement land tenure from 280/P224200 and 72/P224630 and if necessary 190/P224215; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Construct Alignment 4.1, as a road or Emergency Access Way, linking Horseshoe Road and Waters Road.
Recommendation 10	Shire Project	The Shire should: • Negotiate road reserve land tenure from 17/P15443 and 86/P224582; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Either upgrade Alignment 5.1 to a compliant Emergency Access Way standard, or upgrade to a road, linking Fawell Road and Church Gully Road.
Recommendation 11	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 9500/P059240, which results in Alignment 6.1 linking McIntosh and Leeming Road or (Church Gully Road) as a road. This should include, but is not dictated by, the additional Alignment 6.3 linking of McPherson Avenue. This Recommendation should be considered with, but not bound by Recommendation 12.
Recommendation 12	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 9500/P059240, which results in Alignment 6.2 linking Coondle Drive and Leeming Road (or Church Gully Road) as a road. This Recommendation should be considered with, but not bound by Recommendation 11.
Recommendation 13	Shire Project	The Shire should negotiate road reserve tenure over 518/P012216 either directly or via a land swap utilising the eastern portion of 101/P012216

		(Reserve 39747). This recommendation has relevance to Recommendation 12.
Recommendation 14	Shire Project	The Shire should upgrade the existing Alignment 7.1 (Emergency Access Way) to a road linking Dryer Road and Wilkerson Road. This may require the conversion of current 'Right of Way' tenure to road reserve.
Recommendation 15	Shire Project	The Shire should: • Negotiate road reserve or easement land tenure over 22049/P2011942 (Rugged Hills Nature Reserve from Department of Biodiversity, Conservation and Attractions; and • Negotiate road reserve land tenure over 9002/P037111; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Construct Alignment 8.1, a road or Emergency Access Way linking Ridley Circle to White Gum Ridge.
Recommendation 16	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 151/P018487 where it provides the relevant land tenure to support possible future recommendations for Alignments 8.2 and 8.3 and 11.1 as a road.
Recommendation 17	Strategic Planning	The Shire should undertake further analysis of the viability of over rail egress in the West Toodyay area, in the vicinity of Fitzgerald Street or Wellington Street.
Recommendation 18	Shire Project	The Shire should construct Alignment 10.1 linking North Street and Collett Way as a road, with the alternative option of constructing Alignment 10.2 linking Fitzgerald Terrace as a road.
Recommendation 19	Shire Project	The Shire should upgrade the existing Alignment 12.1 (Emergency Access Way) to a road linking Nottingham Road (East) to Nottingham Road (West).
Recommendation 20	Shire Project/ Strategic Planning	The Shire should create road reserve over 9508/P077718 and construct Alignment 13.1 linking Drummond Street (East) to Burt Parkway as a road or consider the development of this alignment by other means.
Recommendation 21	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 9010/P062847 and

		9011/P062847 which results in Alignment 13.2 linking Burt Parkway to Drummond Street (west) as a road.
Recommendation 22	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 1/D074943, which results in Alignment 14.1 linking Settlers Ridge to Telegraph Road as a road.
Recommendation 23	Strategic Planning	The Shire should record the egress opportunity facilitated by the proposed Toodyay bypass into its business case promoting the bypass's construction and consult with stakeholders so they are aware of this need.
Recommendation 24	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 9001/P405299, which results in Alignment 15.1 linking Whitelakes Drive to the proposed bypass as a road, on a timeline, which ensures such development occurs in conjunction with, or after the advent of the bypass.
Recommendation 25	Shire Project	The Shire should: • Negotiate road reserve land tenure from 45/P223149 and/or 1431/P247190; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to To either build Alignment 16.1 as a road linking Sesselis Road and Folewood Road.
Recommendation 26	Strategic Planning	The Shire should favourably consider any future subdivision proposal of Lot 1469/P247186 and if necessary Lot 1431/P247190, which result in the linking of Sesselis Road to Folewood Road.
Recommendation 27	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 3412/P415291, which results in Alignment 17.1 linking Pindi Place to Toodyay Road as a road.
Recommendation 28	Shire Project	The Shire should negotiate an easement over 40/D056678 to provide maintenance and emergency firefighting access to existing Shire fire-break which terminates at the rear of this lot.
Recommendation 29	Shire Project	The Shire should upgrade the current track (Alignment 18.1) linking Extracts Place and Macdonald Retreat to an Emergency Access Way.

Recommendation 30	Strategic Planning	The Shire should undertake further analysis of the viability of future development in the Dumbarton area, via appropriate skilled personal and in conjunction with relevant stakeholders to assess the viability of egress concepts for the area.
Recommendation 31	Strategic Planning	The Shire should favourably consider any future subdivision proposal of 600/P042855, which results in Alignment 20.1 linking Twilight Brae to Toodyay Road, as a road.
Recommendation 32	Shire Project	The Shire should: • Negotiate road reserve or easement land tenure from 135/P032527 and/or 136/P032527; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Either build Alignment 21.1 as a road or Emergency Access Way linking Panorama View to Hoddy Well Road.
Recommendation 33	Shire Project	The Shire should: • Negotiate road reserve land tenure from 230/P018244 and/or 229/P018296; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to To either build Alignment 22.1 as a road linking Red Brook Circle to Toodyay Road.
Recommendation 34	Position Statement	The Shire should continue to consider and seek funding for further improvements to its fire emergency water supplies. Enhancements should focus on increasing capacity in subdivision areas (as per 'The Guidelines') or servicing rural areas currently un-serviced.
Recommendation 35	Strategic Planning	The Shire should engage with DFES and Department of Planning and advocate for the alignment of the tank fitting requirements of 'The Guidelines' and standard design/stowage of fire appliances supplied by DFES. The Shire should considered changing its tank fittings in accordance with a satisfactory outcome.

Recommendation 36	Shire Project	The Shire should invest in upgrading signage for its fire emergency water facilities. This should include directional street signage, distance notation and signage of the facilities themselves.
Recommendation 37	Shire Project	The Shire allocate appropriate resourcing to undertake a project to identify and record easement 'Grantors', 'Grantees' and responsibilities for all easements within the shire. Where a Shire responsibility is recorded, the appropriate Shire department should review if it is meeting its obligations under the Deed of Easement and, where appropriate, seek to meet said obligations or extinguish the easement, if it is deemed to have no benefit to the Shire.
Recommendation 38	Position Statement	The Shire should consider adopting a position of opposing development proposals, which attempt to establish easements across multiple properties. Furthermore, when applying subdivision perimeter vehicular access solutions, higher-level controls such as the use of perimeter road or Shire managed tenure should be favoured.
Recommendation 39	Shire Project	The Shire should review mitigation requirements on its directly owned land tenure and structure an appropriate mitigation program and annual budget to meet this need.
Recommendation 40	Position Statement	The Shire should adopt a position of frank and meaningful community engagement communication and the residents of Toodyay.
Recommendation 41	Strategic Planning	The Shire should review the RMO with the intent of refocusing duties and responsibilities to Fire Management and Mitigation as its primary objective.
Recommendation 42		The Shire reallocate its current Local Recovery Co-ordinator appointments to Welfare Liaison Officers and reassign the responsibilities of Local Recovery Co-ordinators to two or more senior management staff and embed Local Recovery Co-ordinator responsibilities into position descriptions of these roles.
Recommendation 43	Position Statement	The Shire embeds Emergency Management tasks within all employee position descriptions.
Recommendation 44	Position Statement	The Shire should require all staff to undertake a level of WALGA Emergency Management training, in line with their expected involvement, being:

- Senior Management Group and Welfare Liaison Officers - *Recovery Co-ordinators Course for Local Government*
- Shire Ranger Services - *Animal Welfare in Emergencies*
- All other staff – *Emergency Management Fundamentals*

Additionally Elected Members should be offered relevant Emergency Management training.

DRAFT

12. References

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13. Appendices

Appendix A – Position/Status of ‘2015 Report’ Recommendations

‘2015 Report’ Section 9 Recommendations

Recommendation	Position	Current Status
9.1.1 The Shire should develop a Geographic Information Systems (GIS) database allowing the mapping of risks and resources and subsequent appropriate development of fire policy and procedure;	Agree.	Partially Implemented. The Shire has obtained GIS software. The Shire has created a position with part-time responsibility for GIS. A range of bush fire themes has been mapped/analysed. (Refer Section 7).
9.1.2 The Shire should consider whether its bush fire policy deals adequately with all aspects of Prevention, Preparedness, Response and Recovery, in relation to strategic level bush fire planning.	Agree	Partially Implemented Extensive mitigation via MAF program (Refer Section 9). LEMA Document updated. R2R Review being undertaken. Contents of this report.
9.2.1 In general the Shire of Toodyay should abandon its policy of installing strategic fire-breaks around the outside of all estate areas;	Agree	Implemented
9.2.2 Instead the annual Fire-break Notice should be enforced annually and equally, and all private and public blocks in the Shire should have properly installed and maintained perimeter fire-breaks to allow fire service access for firefighting;	Agree	Implemented
9.2.3 The Shire should classify all breaks under one of three classifications:	Partial Agree	Implemented

a) "Emergency Access Ways" primarily designed to allow the movement of civilians away from major fire events; b) "Fire Service Access Routes" primarily designed to allow emergency services access for firefighting activities; and c) "Fire-breaks" or perimeter fire-breaks that can be used for a range of standard firefighting activities as appropriate. Each of these should be constructed to the relevant national standard as outlined in <i>Planning for Bushfire Protection Guidelines 2nd Edition</i>;	As per this report EAW terminology is considered ambiguous (Refer Recommendation 1).	
9.2.4 Emergency Access Ways and Fire Service Access Routes should only be installed on public land, or where an easement has been granted for their construction. These types of tracks should not be constructed on private land;	Partial Agree As per this report and 'The Guidelines', a position of roads as the preferable construction solution is promoted.	Implemented
9.2.5 The Shire should consider allowing the sub-division of blocks where that sub-division would allow the installation of Emergency Access Ways that will provide a clear material public benefit and increase community safety;	Agree	To be implemented (Refer to Recommendation 3)
9.2.6 The Shire should include a maintenance budget within its annual budgeting process to allow for the maintenance and upkeep of existing tracks;	Agree	Implemented
9.2.7 The Shire should install new tracks or re-categorise existing ones as defined in section 5 of this report.	Refer to Following table in this Appendix.	
9.3 The existence of large rural estates with only one point of access or egress is a clear risk to the safety of residents living within those estates. To alleviate this risk the Shire should prioritise the installation of Emergency Access Ways to provide a second point of egress in the following areas: 1. South from the Julimar estates; 2. South from Regal Hills in Morangup; 3. North or east from Rugged Hills;	Partially Agree Consideration of alternate routes required. Roads should be prioritised over Emergency Access Ways, as per 'The Guidelines' (Refer Section 3.1).	Not Implemented Reviewed in depth in this report (Refer Section 4). Refer Recommendation 4.

4. Southeast from Woodland heights; and 5. The Shire should consider how a westerly or southerly point of egress can be achieved for the Gidgegannup Springs estate in Morangup. In either case this would probably require the installation of a new road.		
9.4.1 Construction of emergency signage should conform with standards outlined in <i>Planning for Bushfire Protection Guidelines 2nd Edition</i> (2010: 37) for size, location and language used;	Not Applicable Current edition 1.4 of 'The Guidelines', while requiring signage, do not contain a specification for said signage.	
9.4.2 Signage should be consistent throughout the Shire;	Agree	Implemented
9.4.3 The word "egress" should be removed from all emergency signs in the Shire of Toodyay	Agree	Implemented
9.5.1 The Shire of Toodyay should undertake strategic mapping of all water supplies, with specific reference of location in relation to assets and turn-around times for use by fire appliances;	Agree	Implemented Refer Section 5.
9.5.2 The Shire should adopt a dual policy of using static water tanks, and mobile water tankers to ensure water supplies during fire incidents;	Partial Agree This relates to operational <u>procedures</u> .	Implemented
9.5.3 A water tank should be installed at the north-western end of Gidgegannup Estate in Morangup;	Agree	Implemented
9.5.4 All water tanks should be fitted with standard couplings as defined by DFES.	Partially Agree Currently the couplings defined for static water sources do not match equipment specification of DFES defined bush fire fighting appliances. Refer Section 5.	Not Yet Implemented Refer Recommendation 34
9.6.1 The Shire should engage in the assessment and mapping of fuel age and fuel loads throughout the Shire;	Agree	Implemented

9.6.2 The Shire should develop programs to reduce fuel loads to manageable levels, particularly in the vicinity of public and private assets;	Agree	Implemented
9.6.3 The Shire should compel residents to reduce heavy fuel loads on private land where those fuel loads comprise a public risk;	Agree in Principle	Partially Implemented Via Shire's Fire-break Notice.
9.6.4 The Shire should strongly consider a wide ranging strategic hazard reduction burning program as the most effective way to manage fuel loads.	Disagree The Shire advocates for the mitigation method that is most suitable to the site, conditions and objectives. This may or may not include burning. Burning should not be considered in its own right the best or most effective in any given situation, therefore, the position of disagree above. (Refer Section 9).	Not Implemented Burning planned and undertaken where deemed appropriate.
The Shire should work to find methods of communicating effectively with the public in the following areas: 9.7.1 The necessity for people living in areas of extreme fire danger to have a preparedness plan for what they will do in the event of a fire, what are their options for evacuation, how to prepare their properties for the passage of fire and where to source up to date information during a fire incident;	Agree	Ongoing A part-time Shire resource has been dedicated to emergency community engagement. The Shire has undertaken a number of actions in this area, however community engagement should be considered a job that is never complete.
9.7.2 The danger caused by heavy fuel loads, the necessity of hazard reduction programs and why appropriately carried out hazard reduction burning benefits rather than damages the bush;		
9.7.3 The fact that Bush Fire Brigades are staffed by volunteers who need the support of their community to be effective;		
9.7.4 Information related to enforcement of fire regulations in the Shire (e.g. requirements to install fire-breaks and reduce fuel loads);		

9.7.5 Information about how to use Emergency Access Ways in the event of a fire.		
9.8.1 The Shire should investigate ways it can support volunteer Bush Fire Brigades in recruiting and retaining quality volunteer firefighters;	Agree	Ongoing The Shire has undertaken a number of actions in this area, however supporting volunteers should be considered an ongoing action.
9.8.2 The Shire should examine ways it communicates with Brigades and ensure important information is being received and understood by Brigade members;		
9.8.3 The Shire should organise events that include volunteers, outside of standard working hours (i.e. outside of the hours of Monday to Friday 9-5) to allow the maximum volunteer participation.	Agree	Implemented (always has been)

2015 Report List of Existing and Proposed Tracks

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
1A	East end of Donegan View north to Julimar Road	Fire Service Access Route	1. Maintain as current 2. Remove "Egress signs" 3. Consider installation of gates	Medium	Yes	Yes	No Action	Reason no Action: Anticipated downgrade based on construction of Egress south to Harders Chitty Road.
1B	South from the end of Markup Brook Road to the west end of Harders Chitty Road	Emergency Access Way	1. Install a suitable Emergency Way 2. Maintain annually	High	Yes	No	No Action	Refer Section 4 for alternative alignment to achieve this outcome.
1C	East from the end of Parkland Drive to the west end of Harders Chitty Road	Emergency Access Way	1. Install a suitable Emergency Way 2. Maintain annually	High	Yes	No	No Action	
2A	North end Fawell Road north to Church Gully Road	Emergency Access Way	1. Install measures to deal with degradation from water run-off 2. Consider upgrade to full road	Medium	Yes	Yes	Installed	Upgrade to EAW or road standard (Recommendation 9)
2B	East from Fawell Road to Church Gully Road	Fire Service Access Route	1. Maintain as current 2. Installation of suitable	Medium	No	No	Reserve	Maintain as Reserve. Managed access and Fuel Load to fire-break notice.

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Track Code	Location	Standard of Track?	Work Required? gates and signs	Priority	Support Objective	Support Alignment	Status	Intention
2C	East from the end of Alan Twine Drive to intersect with Church Gully Road	Emergency Access Way	1. Install a suitable Emergency Access Way 2. Maintain annually	Low	Yes	No	Not Installed	Not supported. Alternatives recommended in this report (Refer Section 4).
2D	South from the end of Leake Road to intersect with Charlton Boulevard	Emergency Access Way	1. Install a suitable Emergency Way 2. Maintain annually	High	Yes	No	Not Installed	Not supported. Alternatives recommended in this report (Refer Section 4).
3A	Abandon plans to install fire-break south from Stirlingia Drive	N/A	N/A	N/A	Yes	N/A		
3B	Abandon plans to install fire-break north from Drummond Drive	N/A	N/A	N/A	Yes	N/A		
3C	Abandon plans to install fire-break to east of and parallel to Stirlingia Drive	N/A	N/A	N/A	Yes	N/A		
3D	East-west internally in Shire Reserve 28748	Fire-break	1. Downgrade to fire-break	N/A	Yes	Yes	Installed, Maintained as Fire-break.	

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
3E	External to properties east of Sessells Road	Fire-break	2. Maintain annually by Shire 1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	No	Individual Fire-break Notice/Variation suitable to terrain.	
3F	North of properties on Hemindra Place and Stirlingia Drive	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	Individual Fire-break Notice/Variation suitable to terrain.	
3G	North of Properties on Adenanthus Road	Firebreak	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	Individual Fire-break Notice/Variation suitable to terrain.	
3H	External to properties on Hibbertia Place	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes	Installed to the extent of Shire tenure.	Pursue easement over 40/D056678 to connect existing fire-break to Drummondi Drive (Recommendation 27)
3I	West from Sandplain Road to east end Wandoo Circle	Fire Service Access Route	1. Maintain as current 2. Installation of suitable gates and signs	Medium	Yes	Yes	Installed	Continue to maintain. Low priority on Gates/signage
3J	North from the west end of Wandoo Circle to the south-west end of Hovea Way	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes	Installed to the extent of Shire tenure. Noting that the majority of the alignment occurs on DBCA managed tenure.	

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
3K	South-east from Drummond Drive north of properties on Harvester Drive	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	Easement has been extinguished.	Property owners must comply with standard Shire Fire-break Notice.
3L	South from Drummond Drive to Sandplain Road	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	No Action required.	Property owners must comply with standard Shire Fire-break Notice. Noting majority of alignment is on DBCA land which is governed by alternative legislation.
3M	East of properties on Harvester Drive	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	No	No	Easement has been extinguished	Property owners must comply with standard Shire Fire-break Notice.
4A	Perimeter of Gidgegannup Springs Estate, Morangup	Fire Service Access Route	1. Maintain annually to ensure 9m wide break maintained. 2. Install gates and appropriate signage at intersections with roads 3. Remove vegetation at the centre of the track between public and private breaks	Medium	No	No	All properties must maintain Fire-breaks as per Shire Fire-break Notice	

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
4B	South from Hill Place to join Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium	See comments referring to Track 4A above (These are spur access points to 4A)			
4C	South from McKnoe Drive to meet Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium				
4D	South-west from South Place to meet Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium				
4E	North from North Place to meet Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium				
4F	North from McKnoe Drive to meet Track 4A	Fire Service Access Route	1. Install a Fire Service Access Track 2. Installation of suitable gates and signs	Medium				
4G	North from Short Place to meet Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable	Medium				

Track Code	Location	Standard of Track?	Work Required? gates and signs	Priority	Support Objective	Support Alignment	Status	Intention
4H	South from Track 4A to west end of Brook Close	Fire Service Access Route	1. Maintain annually to ensure 9m wide break maintained. 2. Install gates and appropriate signage at intersections with roads 3. Remove vegetation at the centre of the track between breaks	Medium	No	No		Alignment is within the City of Swan. All properties within Toodyay and City of Swan are required to comply with their respective fire-break notices. DFES did extensive mitigation works along this alignment during the Wooroloo 2021 fire.
4I	Around perimeter of Regal Hills Estate	Fire Service Access Route	1. Maintain annually to ensure 9m wide break maintained. 2. Install gates and appropriate signage at intersections with roads 3. Remove vegetation at the centre of the track	Medium	No	No	No Action Taken.	All properties must maintain fire-break as per Shire Fire-break Notice.

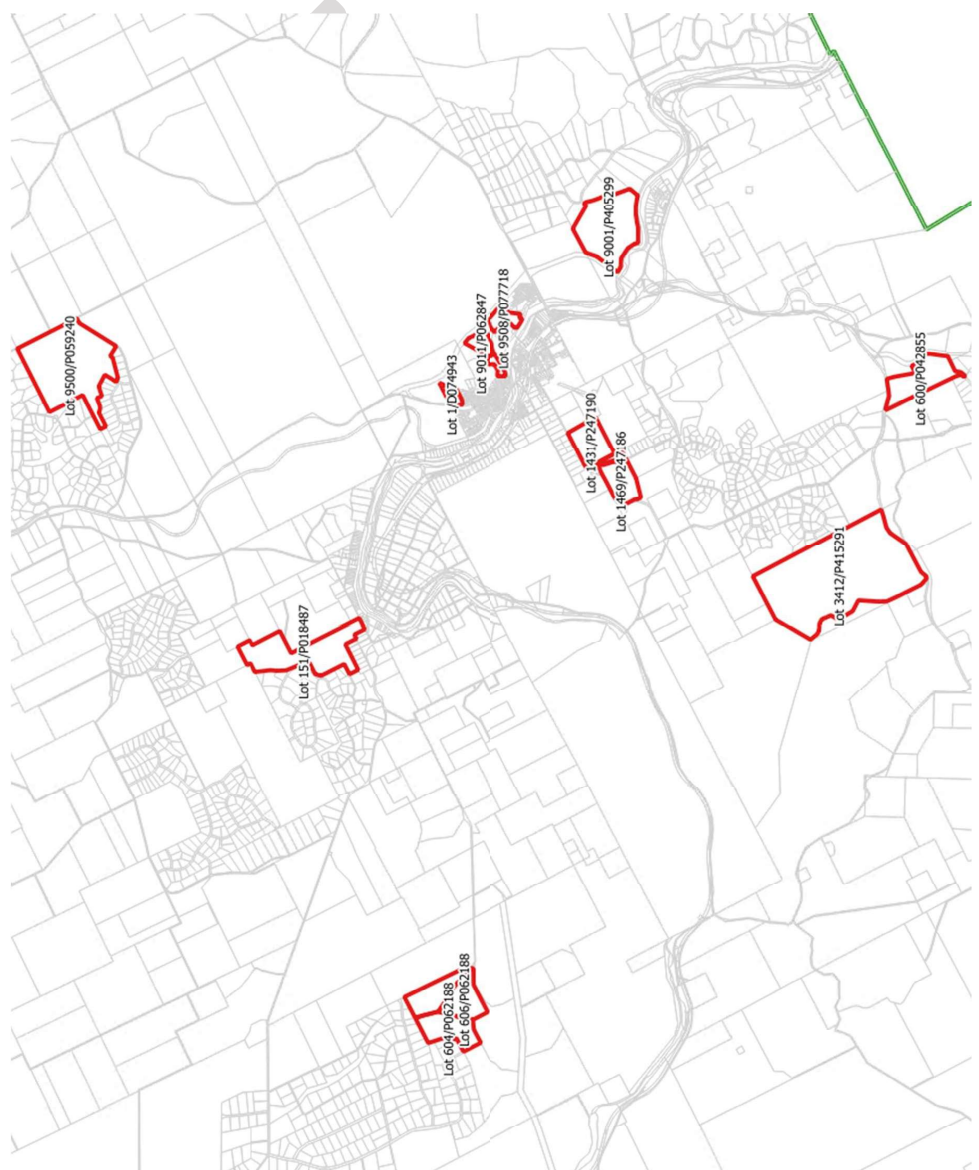
Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
4J	Southernmost point of Red Brook Circle out to Toodyay Road between lots 229 and 230	Emergency Access Way	between breaks 1. Install a suitable Emergency Access Way 2. Maintain annually	High	Yes – but as public road.	Yes	Not installed	Acquire land to construct as road as per Recommendation 32.
5A	West from Ridley Circle via lot 55 (between lots 212 and 213) to the north end of Davies Road	Fire Service Access Route	1. Maintain annually 2. Install gates and appropriate signage at intersections with roads	Medium	Yes	Yes – note: slight alignment amendment through reserve.	Maintained using MAF. Gates/signage not yet actioned	Continue to maintain. Low priority on Gates/signage
5B	North from Ridley Circle via lot 55 between lots 214 and 215, to the south end of White Gum Ridge	Emergency Access Way	1. Install a suitable Emergency Access Way 2. Maintain annually	High	Yes	Yes – note: slight extension to meet White Gum Ridge see Map 4.	No Action Taken	Acquire land to construct as road or EAW as per Recommendation 15.
5C	West from end of Wilkerson Road to east end of Dreyer Road	Emergency Access Way	1. Install a suitable Emergency Access Way 2. Maintain annually	High	Yes	Yes	Completed	Recommendation 14, consider upgrade to road.
5D	East from Wilkerson Road south of lot 219 to west	Emergency Access Way	1. Install a suitable Emergency Access Way	Low	Yes	Yes as alternative to 8.1 (5B).	No Action Taken	Consider land tenure as part of future proposals as per Recommendation 16.

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
	end of Waters Road		2. Maintain annually					
5E	East from White Gum Ridge to south of lot 171 along back of properties to south end of Jarrah Court	Fire Service Access Route	1. Install culverts 2. Maintain annually 3. Remove tight corner at east end	Medium	Yes	Yes	Existing tight corner issue addressed.	Continue to Maintain as FSAR
5F	East from Jarrah Court to north end of Horseshoe Road	Emergency Access Way	1. Upgrade to Emergency Access Way Standard 2. Make blind crest safe for users 3. Install water control measures	High	Yes	Yes	Upgrade works completed	Continue to Maintain as EAW.
5G	South from Track 5F to south end of Horseshoe Road adjacent to lot 95	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Medium	Yes	Yes	Upgrade works completed	Continue to Maintain as FSAR
5H	East from Track 5F to intersect with Horseshoe Road opposite Lot 17	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Low	Yes	Yes	Upgrade works completed	Continue to Maintain as FSAR.
5I	South from Timber Creek Crescent	Emergency Access Way	1. Install a suitable	High	Yes	No - but Yes with amendment	No Action Taken	Refer to Recommendation 9.

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
	between lots 35 and 36		Emergency Access Way 2. Maintain annually to Waters Road					
5J	South from Coondle Road West to east of properties on Timber Creek Crescent	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes (North - South portion only)	Complete (North - South portion only)	Maintain
5K	South from Katta Rise to Timber Creek Crescent	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Medium	Yes	Yes	Maintained	Continue to Maintain as FSAR, gate low priority.
5L	Between lots 30 and 31 Timber Creek Crescent	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Low	Yes	Yes	Maintained	Maintain as FSAR.
5M	Between lots 35 and 36 Timber Creek Crescent	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Low	Yes	Yes	Maintained	Maintain as FSAR.
5N	From Coondle Road West at the north to Caledonia Drive at the south	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	Completed	N/A
6A	Between the east end of MacDonald	Fire-break	1. Downgrade to fire-break	N/A	No	Yes	Maintained	Upgrade to EAW (Recommendation 28).

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
	Retreat and the west end of Extracts Place		2. Maintain annually by Shire					
6B	North from the Northam-Toodyay Road between the two estates to meet the Bilya Walk track	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes	Maintained	Maintain
7A	East and of Panorama View south through to Hoddy Well Road	Emergency Access Way	1. Upgrade to Emergency Access Way Standard 2. Install Signage 3. Install water control measures	Medium	Yes	Yes	Removed/ Closed	Refer Recommendation 31.
7B	East from Panorama View to Clackline-Toodyay Road	Emergency Access Way	1. Consider installing Emergency Access Way	Low	No	No	No Action Taken	Alternate alignment considered (Refer Recommendation 30)

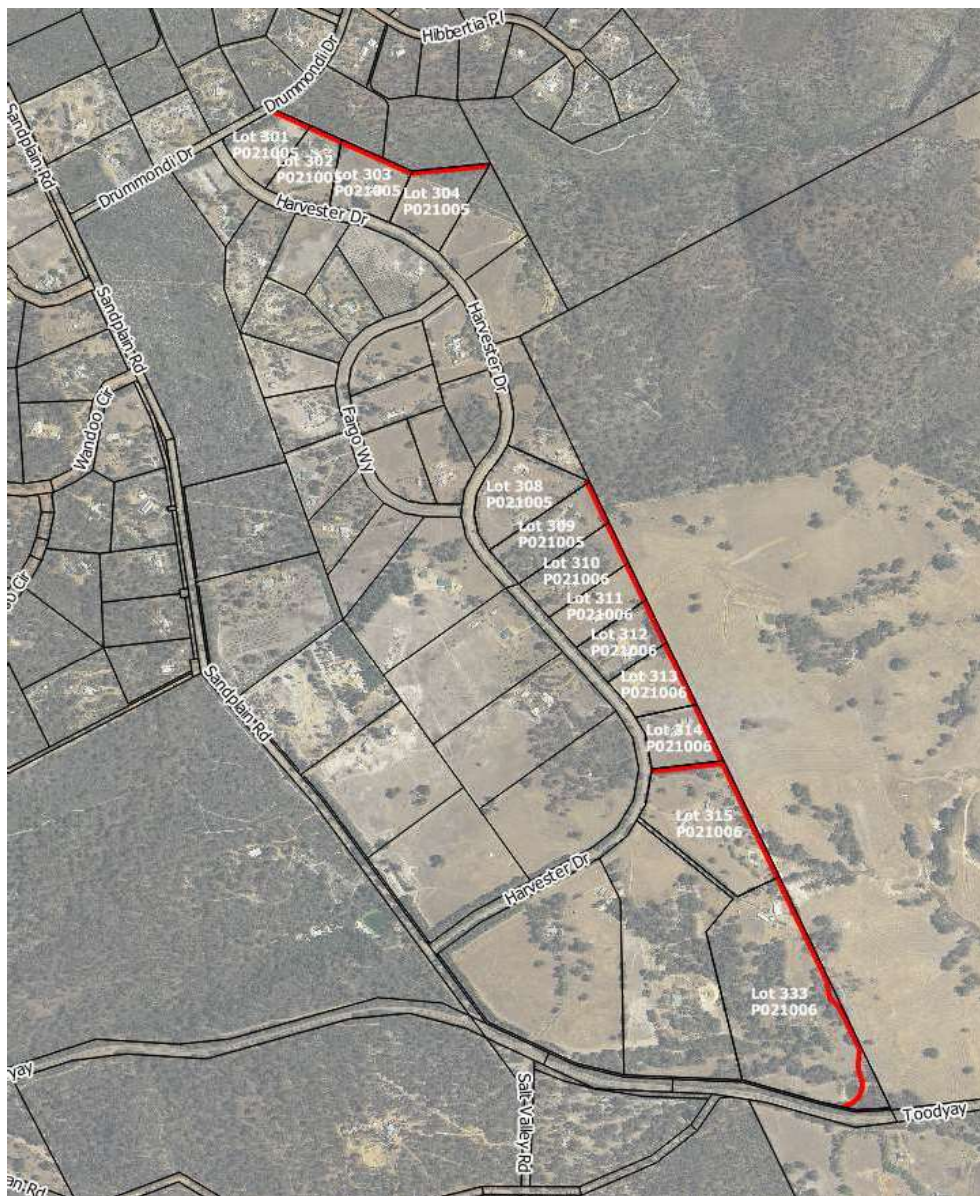
Appendix B – Map displaying lots with advantageous subdivision potential



Appendix C – Harvest Drive Easement Case Study

Background

This case study relates to easements G282738 and G282814. These easements combined ran along the rear of a number of properties on the eastern side of Harvester Drive.



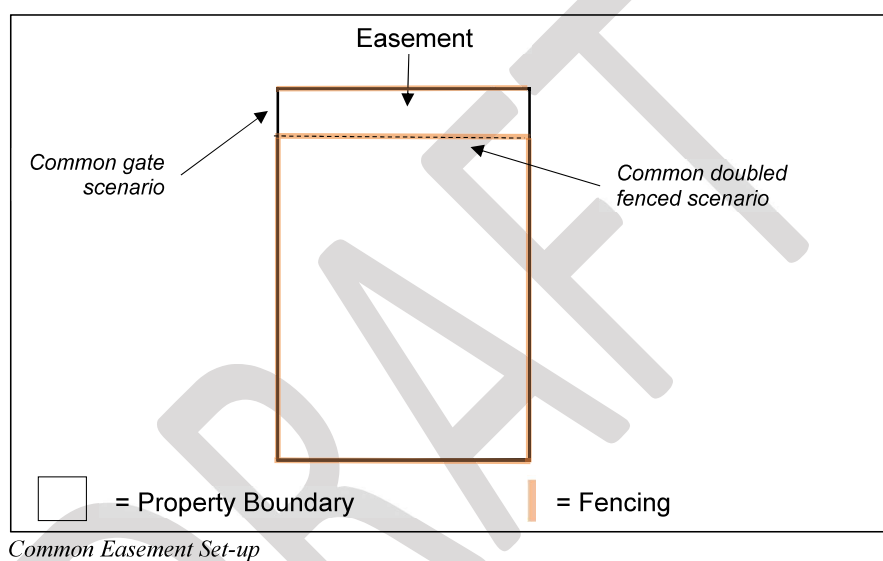
Harvester Drive Easement locations

The easement commenced in the north from Drummond Drive covering four properties and from Toodyay Road in the south covering nine properties (As pictured above). A further four properties existed without an easement, creating a gap between the north and south extent of the easements. Each easement extent did not provide access to Shire owned or managed land, thus each terminated in a dead end.

The easement was granted to the Shire for the purpose of a fire-break. The Deed of easement in this instance specified the Shire as being the party responsible for the fire-break maintenance.

The easement width was six metres.

For the most part, the majority of the easement was doubled fenced as displayed below.



ISSUES

Legislative Implications

In 2010 the Shire ended its practice of maintaining 'Strategic Fire-breaks' in favour of applying a fire-break notice where all landholders had responsibility on their land and as such, the Shire ceased maintaining the easements referred to in this case study. Therefore, the Shire unknowingly created a discrepancy between its obligations under the Deed of Easements and the responsibilities the Shire was issuing landholders under the Fire-break Notice. This placed the Land Administration Act 1997 and the Bush Fires Act 1954 at odds with each other, potentially exposing the Shire to liabilities under the former.

The Shire became aware of this issue in 2019.

Safety and Effectiveness

In considering meeting its maintenance requirements under the Land Administration Act 1997, the Shire considered the easement alignments with respect to practicality and safety.

A number of unfavourable factors were identified:

- The easements created dead ends, which are highly undesirable in an emergency scenario and can create entrapment situations for firefighting crews.
- The entrapment scenario was further compounded by the extensive use of double fencing which creates a 'lane way' effect where vehicles cannot turn around.
- Obstructions – There were numerous obstructions to easements. This included locked gates and side boundary fencing extending across easements, which represented Deed of Easement non-compliance by some landholders.
- Lack of strategic value – the alignment of the easements were parallel with the road network and served no strategic benefit, given the safety issues listed above. It is a safer and more practical option for a firefighters to access via the road network

The factors experienced above have contributed to the administration's position on easements in Section 3 – Toolkit, with respect to the appropriate and considered application of easements.

Action taken

In consideration of the potential liabilities and overall ineffectiveness of the easements' alignment, the administration recommended to Council (94/04/19 and 207/08/19) to pursue extinguishment of the easements in this case study. This approach removed the Shire's maintenance responsibility under the Deed of Easement and removed safety concerns of the alignment going forward.

The processes involved consultation with the grantors (landholders), their mortgage providers and legal representation to guide the required process and documentation. This required all thirteen landholders and their mortgage providers supporting and signing the extinguishment documentation.

The consultation process with landholders demonstrated a low comprehension of the concept of an easement, with relation to ownership and responsibilities of the landholder.

The extinguishment process took approximately two years, in part due to a mid-process change of extinguishment requirements by Landgate.

Cost was estimated at \$10,500, plus considerable Shire staff time in liaising between all parties.

The extinguishment was successfully completed in 2021.

In light of the above scenario, other known Deed of Easements were reviewed for their maintenance responsibilities. This found no other easements with similar maintenance requirements to those extinguished. However, the potential for liabilities with easements in benefit of, but otherwise unknown to the Shire could exist (See Section 6).

Lessons learned

1. The process of extinguishing easements represents a major time and cost overhead to the Shire. Extinguishment should only be considered where the benefit of removing liability exists.
2. The Shire needs to understand all easements for which it has responsibilities (and potential liabilities).
3. Easements spanning multiple properties have a high chance of being obstructed by one or more landholder.
4. Easements may be double fenced by landholders creating a 'lane way' scenario, impeding safe egress.
5. Easements which mimic the road layout offer little strategic value for fire fighter access.
6. Grantors (landholders) commonly have misconceptions about ownership and their obligations under the Deed of Easement.

Appendix D – McKnoe Drive Easement Case Study

Background

This case study relates to easement C746962 E. This easement runs around the extremities of the Gidgegannup Springs subdivision and includes a number of deviations to link back with the road network as per below. In total, the easement covers some fifty-nine properties and spanning a distance of more than 16 km.



McKnoe Drive Easement

The easement was granted to the Shire for the purpose of a fire fighting. The Deed of easement in this instance does not specify any particular party as having responsibility for maintenance.

The easement width was six metres.

Despite there being no specific maintenance responsibility to the Shire, the Shire utilised its own money and that of an NDRRP (Natural Disaster Risk Reduction Program) Grant, to perform maintenance for the purpose of fire fighting access. This included clearing of the alignment and installation of double gates at every side property boundary encountered. Landholders were subsequently responsible for maintaining this alignment under the Shire's Fire-break notice.

ISSUES

In preparing for the '2015 Report' an attempt to drive the alignment was made by Shire staff. A number of issues were encountered

- Due to the sheer volume of properties and gates involved, it soon became apparent that the effectiveness of this alignment in providing timely fire fighting access was non-existent.
- Many of the gates contained private padlocks further hindering progress and creating a potential entrapment scenario.
- Some properties had not maintained the alignment to a trafficable standard.
- Lack of strategic value – the alignment of the easement is parallel with the road network and serves no strategic benefit, given the safety issues listed above. It is a safer and more practical option for a firefighters to access via the road network

Combined, these issues led to the traversing of the alignment being abandoned after a number of hours.

The factors experienced above have contributed to the administration's position on easements in Section 3 – Toolkit, with respect to the appropriate and considered application of easements.

Action taken

- Enhancing Fire-break compliance inspections to address observed maintenance issues
- This easement has not been recommended for extinguishment, due to the Deed of Easement not specifying maintenance responsibilities (and potential liability) to the Shire.

Lessons learned

1. An easement traversing many properties is prone to obstruction by either gates, fencing or condition of trafficable surface. Meaning that the reliance of the alignment for critical access would be untimely and potentially unsafe.
2. Easements which mimic the road layout offer little strategic value for fire fighter access. Accessing properties utilising the road network is both safer and efficient.



Bush Fire Preparedness and Resilience Strategies

July 2022

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1. Introduction

The Shire of Toodyay, like every local government, has a civic responsibility for its community's safety. In 2015, the Shire of Toodyay engaged an external consultant to conduct a strategic review of bush fire related matters within the shire. This was seen as a step towards understanding the Shire's immediate bush fire planning and management issues and identify areas for improvement moving forward.

The Shire's knowledge in this area has matured since the '2015 Report' and seeks to provide a new report that leverages in-house knowledge. This approach then supports a seamless transition between reviewing and implementing any of recommendations subsequently endorsed by Council.

Actions to address certain recommendations of this report will require long-term, ongoing strategic commitment. This will require a wider organisational approach, involving Council, development and regulatory services, infrastructure and assets services and emergency management teams, in their areas of expertise to achieve successful outcomes.

Recently within the state of Western Australia, there has been a renewed focus on bush fire safety planning in response to a number of devastating fires.

This report examines a range of themes relating to bushfire. However, a major focus will be addressing historical sub-division design deficiencies related to evacuation, built before bush fire planning standards became more robust.

The contemporary planning standards have been used to both reject flawed subdivision proposals that did not provide adequate evacuation options (Shire of Mundaring, 2019) and applied retrospectively to address historical evacuation issues.

Recommendation 39c) of the Perth Hills 2011 Report (Keelty, M. (2011) endorsed 'examination options to retrospectively bring these areas into compliance with Planning for Bushfire Protection Guidelines'. An example of this was the 'Shady Hills Estate' in Bullsbrook where Council resolved to apply the standards retrospectively and provide the residents with an alternative evacuation option.

The above lobbies for consideration of the above so it doesn't haunt us in the future.

To assist in interpreting this report, the 2015 Report 'Strategic Review of Bushfire Policy' conducted by Bushfire Prone Planning is referred to as the 2015 Report throughout the body of this report.

Likewise, the Guidelines for Planning in Bushfire Prone Areas (Version 1.4) which are part of State Planning Policy 3.7 are referred to as The Guidelines.

For further terminology, please see the glossary contained at the end of this section.

1.1 Local Context

Most sub-division areas were developed during the 1980's when bush fire planning was virtually non-existent. Despite being a rural shire, the prevalence of residential subdivisions in Toodyay is largely due to the Shire's proximity to Perth. This makes Toodyay attractive to retirees and tree changers from the city, a demographic which is not overly familiar with bush fire risk or what to do in the event of one. Such demographic is less likely to stay and defend their property and would be more inclined to evacuate in line with State government messaging. Thus, the evacuation options within Toodyay subdivisions areas are of paramount concern.

Of the 26 State defined hazards, bush fire is the most likely to impact Toodyay, with the potential of high consequence (loss of life, homes, structures), all of which have occurred in Toodyay within living memory.

A recent Australia Fire Danger Rating System Project has identified the Shire of Toodyay as containing 45% forest fuel types. The majority of subdivision areas exist in these more heavily fuelled areas. These areas represent locations not suitable for farming (generally due to challenging terrain) which were subsequently subdivided.

While not in itself a local phenomenon, Toodyay should not consider itself exempt from the effects of climate change. This is resulting in more extreme weather events, reduced rainfall, and extended bush fire danger periods. This means the likelihood and severity of fires are only likely to increase as the effects of climate change continue to be felt.

As identified in the Bushfire Risk Management Program, the combination of demographics, location and adverse conditions place a significant proportion of the Toodyay population at extreme risk from bush fire.

Most notably, the 2007 Chatcup fire which claimed one life and the 2009 Toodyay bush fire which destroyed thirty-eight homes and affected some two hundred properties are examples of how a fast-moving fire impacts a subdivision area. Fortunately, the majority of the impacted area had relatively good egress options for residents – the outcome may not have been the same in other areas of the shire with less directional egress options.

Additional challenges for Toodyay include its limited reticulated water supply outside of the Toodyay town site. This represents challenges for bush fire response.

In summary, there are significant bush fire challenges facing the Shire of Toodyay which require careful consideration in addressing legacy and future issues.

1.2 A brief history of the 2015 Report

The 2015 Report 'Strategic Review of Bushfire Policy' was conducted by *Bushfire Prone Planning* as a due diligence review of the then, sizable program of completed and planned fire egress and access tracks. The review made several recommendations to refocus the Shire's efforts by utilisation of the Planning for Bushfire Protection Guidelines (2010) as a guiding doctrine.

Since then, the Shire's knowledge of these guidelines (now updated) has increased to the point that critical review of some of the recommendations made in the 2015 Report is possible.

This had led to identification of alternate preferred options, recommendations requiring additional or varied actions, and in some cases rejection of the recommendation due to factors not considered in 2015.

Geographically, the focus of the 2015 Report largely represented the Shire's existing egress/access program at the time, however, only focused on the major sub-division areas of Julimar, Coondle, Morangup, Moondyne Park and the greater Majestic Heights area.

Omissions included Mountain Park (Nairn Drive) and Walkey Heights (Whitfield Road), Toodyay townsite and West Toodyay townsite. The latter included the example of North Street, which was briefly mentioned, but not investigated to the same degree to facilitate an appropriate recommendation. This report will address these geographic gaps, as well as review subdivisions considered in the 2015 Report.

The 2015 Report made recommendations in two ways, some as listed sentences (Refer Strategic Review of Bushfire Policy, Section 9, Page 42) and also tabulated in an appendix, listing existing and proposed tracks with specific work recommended for each (Refer Strategic Review of Bushfire Policy, Page 46, Appendix One).

This report contains a position on each recommendation made in the 2015 Report in Appendix A. Recommendations of this report can be found in Section 11.

1.3 Scope

The scope of works for this report includes an in-depth review of the 2015 Report, with the objective of confirmation, amendment or removal of 2015 Report recommendations to deliver a refined set of recommendations for Council's consideration.

Themes considered are categorised as Primary or Secondary focus as outlined below:

Primary Focus

The primary focus is to analyse and identify deficiencies in subdivision area/road networks regarding safe egress in the event of a bush fire, or other applicable hazard.

Definition of subdivision area: For the purpose of this report a subdivision area will be defined as a grouping of lots which have the primary purpose of providing residence, being the following zones: Residential, Rural Residential and Rural Living

The map below shows the aggregated outline of these areas (including contained reserve land, i.e., recreational and road), their extent and distribution within the shire.

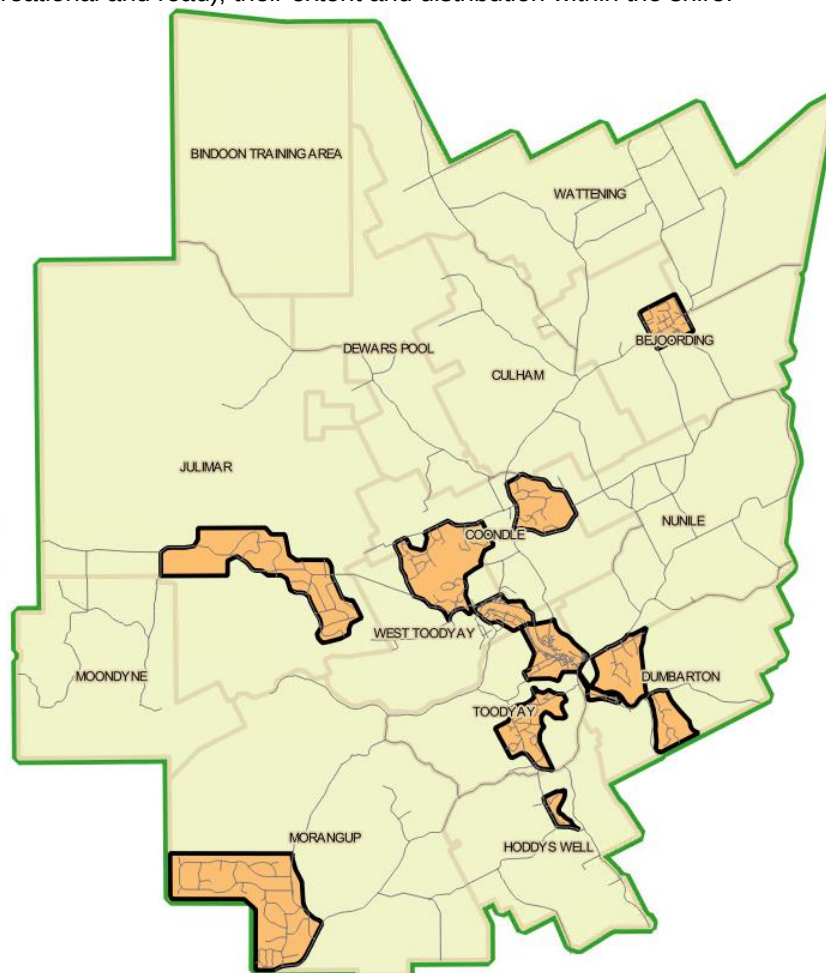


Figure 1 - Shire of Toodyay Subdivisions

Secondary Focus

Also included in the scope is a variety of related subjects, including but not limited to:

- Potential Shire easement liabilities,
- Other infrastructure i.e. fire emergency water supplies,
- Other risk reducing programs i.e. mitigation and public education
- Appropriate tasking and utilisation of Shire resources i.e. systems and staff

Additional considerations

Where applicable, the scope includes analysis by way of numerical and spatial techniques to provide results based on statistics, not human opinion.

Relevant bushfire reports and case studies applicable to the scope of works were identified, reviewed and findings referenced where appropriate in the context of this report.

Not all themes of the 2015 Report are specifically addressed as part of this review, based on relevancy to the primary or secondary focuses above. However, where a recommendation was made, Appendix A contains a summary response, progress, or position.

1.4 Definitions and Glossary

BFB	Bush Fire Brigade
BRMS	Bushfire Risk Management System
CESM	Community and Emergency Services Manager
EAW	Emergency Access Way (also referred to as 'Egress')
EMO	Emergency Management Officer
FSAR	Fire Service Access Route (also referred to as 'Access')
LGGS	Local Government Grants Scheme
MAF	Mitigation Activity Fund
R2R	Resource to Risk Document
RMO	Reserves Management Officer
2015 Report	'Strategic Review of Bushfire Policy' conducted by Bushfire Prone Planning in 2015
Strategic Firebreak	This is an historical term which relates to the former Shire firebreak program. This term is no longer in use and as such is not used in this document to avoid confusion
PPRR	Preparedness, Prevention, Response and Recovery
MOU	Memorandum of Understanding
UCL	Uncleared Land
UMR	Unmanaged Reserve
DC	Department of Communities

2. Egress from Sub-Divisions - Analysis

The majority of the Shire's subdivision areas predate contemporary bush fire planning considerations. The Guidelines place a strong emphasis on road network connectivity, to provide multiple directions of egress in an emergency. Many of the Shire's subdivision areas were not designed with this principle in mind – such subdivision proposals would be unlikely to gain planning approval utilising current planning controls. This highlights the challenges that Toodyay faces in rectifying these designs to a safer standard.

While the purpose of the Guidelines is for the planning and development of new subdivisions, they also represent the best guidance for retrospectively applying current principles to existing subdivisions. In support of utilising the Guidelines in this fashion, Recommendation 39c of the Perth Hills 2011 Report (Keelty, 2011, Page 20) states:

“State and local Governments: Examine options to retrospectively bring these areas into compliance with Planning for Bushfire Protection Guidelines”.

While The Guidelines have retrospectively been applied elsewhere, Shire officers note that it is not viable to connect every no-through road in the Shire, given the complexities of dealing with legacy decisions. Therefore, alignments are proposed where there is a need and viable options to achieve evacuation objectives.

2.1 Methodology of Analysis

Since the Shire received the 2015 Report, Shire officers have extensively traversed subdivision areas to assess relevant local conditions including topography, terrain features, vegetation type and density and confirm the overall bush fire risk in each locality.

These on ground assessments have been backed up with extensive desktop analysis, which factors in the relevant performance principles of Element 3: Vehicular access, as per 'The Guidelines' (Page 73).

This analysis was undertaken following development of a numerical and spatial algorithm, which analyses a plotted route based on the below performance principles, with the intent of reducing the initial subjectiveness and opinion-based theory for any given alignment.

For each performance principle considered, a score is assigned which either increases or decreases the final output number. This provides a numerically comparable outcome for all assessed routes, by removing the complexities in independently considering numerous competing performance principles.

Additional performance principles have been considered which are not part of The Guidelines but relevant in a retrofitting scenario. These are also numerically scored and where possible, reference other existing standards, such as Local Planning Scheme Number 4.

For the purpose of interpreting final calculated scores, a lower number represents a more favourable outcome.

These principles are further explained in Table 1 below.

PERFORMANCE PRINCIPLE DESCRIPTION		ANALYSIS APPLICATION
A3.3 – No-through Roads	Cul-de-sacs should be avoided in Bush fire Prone Areas.	A beneficial numerical weighting is assigned incrementally for each cul-de-sac removed by a proposed alignment.
A3.2b – Length	EAW should be no longer than 500 metres in connecting to a public road.	A non-beneficial numerical weighting is assigned incrementally based on any length over 500 metres. NOTE: If a solution is met by building a road (as opposed to an EAW), technically the A3.6 requirement would not apply according to the Guidelines. However, regardless of the construction standard, shorter alignments are still considered preferable for other reasons, such as cost correlation. Therefore, all alignments factor length, including those recommended in this report for construction as roads.
A3.2b – Maximum Gradient	Maximum gradient should not exceed 1:7 for a sealed road or 1:10 for an unsealed road.	A non-beneficial numerical weighting is assigned incrementally for each 50 metre length of gradient in excess in 1:10. Using the more stringent of the grade requirements of 'The Guidelines' ensures that routes of steep gradients are not promoted by the analysis and that the extra cost of sealing steeper grades is reflected in the scoring.
Bush fire Prone Vegetation	One of the key considerations in overall subdivision assessment via the Guidelines, is provision of the appropriate separation distances to bush fire prone vegetation.	A non-beneficial numerical weighting is assigned incrementally based on the percentage length of the alignment contained within bush fire prone vegetation.

NON-GUIDELINES PERFORMANCE PRINCIPLE DESCRIPTION		ANALYSIS APPLICATION
Directness of alignment	An alignment, which significantly changes directions, has the potential to intersect the path of the fire and disorientate the user.	A non-beneficial numerical weighting is assigned incrementally based on the degree a route deviates from a reference straight line, directly connecting start to end.

NON-GUIDELINES PERFORMANCE PRINCIPLE DESCRIPTION		ANALYSIS APPLICATION
Number of properties benefited	Analysis of the number of residents (via property count) whose risk would be reduced by the proposed alignment.	A beneficial numerical weighting is assigned incrementally for each property that the alignment services.
Number of Properties Backtracking	Considers how many properties would need to backtrack within the internal subdivision road network to access the proposed alignment. A lesser number would indicate a more optimal positioning of the alignment.	A non-beneficial numerical weighting is assigned incrementally for each property that needs to backtrack within the internal subdivision road network to access the proposed alignment.
Number of Hazards Mitigated	Considers how the number of hazards for which this alignment may provide egress. For example, does the alignment also service flood, in addition to bush fire.	A beneficial numerical weighting is assigned incrementally for each hazard the proposed alignment provides egress for. NOTE: The calculations do not consider wide impact area hazards, such as storm or earthquake as they would apply equally in all cases.
Land Tenure	Considers the number and type of land tenures crossed by the alignment, which could affect the ease of implementation.	A non-beneficial numerical weighting is assigned incrementally to the number of non-road reserve tenures crossed or utilised. Shire owned or Shire managed crown land has been assigned half the weighting, to that of privately owned, non-Shire managed land.
Existing Building Setback	Considers the alignment's proximity to existing dwellings, utilising the relevant setback requirements of the Shire's planning policies' and for the potentially impacted properties' zoning.	A non-beneficial numerical weighting is assigned incrementally for each occurrence of a residence falling within the setback requirement.
Downstream Evacuation Options (end of proposed Alignments)	Applying the Guidelines concept of providing multiple access routes (A3.2a), this measure looks favourably where multiple egress options exist at the end of a proposed alignment. For example: Egress which intersects an existing through road, will provide multiple options for the user.	A beneficial numerical weighting is assigned incrementally for each option (direction) of travel, once reaching the existing road network.
Other identified issues	This accounts for existing issues with the proposed alignment and may include, but not limited to:	A non-beneficial numerical weighting is assigned incrementally for each identified issue. It does not attempt to

NON-GUIDELINES PERFORMANCE PRINCIPLE DESCRIPTION		ANALYSIS APPLICATION
	- Tangible impact on existing traffic flows, with the potential to trigger other road network upgrades. - Impact of existing infrastructure (i.e. power poles/lines) - Traversing of known water course (added construction considerations/costs)	quantify an issue as more or less major than another issue.

Table 1- Performance Principles Descriptions and Applications

2.2 Analysis of Outcome Scores

Included in the analysis are alignments recommended in the 2015 Report, and additional or alternate alignments identified. Therefore, in some instances, multiple alignments were evaluated to serve the same objective, in others only a single alignment was evaluated.

Table 2 below is ordered by the best scoring route for a given objective, with grouped alternate alignments for ease of comparison and is a navigation index for recommendations and map references. In all, 38 alignments were considered to meet 22 objectives.

Objective Ranking (Relative)	Alignment Reference (2015 Ref)	Rank	Alignment Description	Recommendation & Map Ref	Priority
1	13.1	1/38	Drummond - Burt	Rec 20	6 MEDIUM
	13.2	2	Burt - Drummond	Rec 21	6 MEDIUM
2	18.1 (6A)	3/38	McDonald - Extracts	Rec 29	9 LOW
3	1.1	4/38	Malkup Brook - Harders Chitty	Rec 6/7	1 HIGH
	1.2 (1B)	10	Malkup Brook - Harders Chitty		
	1.3 (1C)	24	Parkland - Harders Chitty		
4	10.1	5/38	North - Collett	Rec 18	5 HIGH
	10.2	8	North - Fitzgerald	Rec 18	5 HIGH
5	6.1	6/38	McIntosh - Leeming	Rec 11	3 HIGH
	6.3	7	McIntosh - McPherson	Rec 11	3 HIGH
	6.2	9	Coondle - Leeming	Rec 12/13	3 MEDIUM
	6.5 (2D)	12	Leake - Charlton		
	6.6 (2C)	14	Alan Twine - Church Gully		
	6.4	23	Coondle - Church Gully		
6	7.1 (5C)	11/38	Wilkerson - Dreyer	Rec 14	4 MEDIUM
7	14.1	13/38	Settlers - Telegraph	Rec 22	6 LOW
8	2.1	15/38	Sand Spring - Malkup Brook	Rec 5	1 LOW
9	21.1 (7A)	16/38	Panorama - Hoddy Well	Rec 32	11 MEDIUM
10	9.1	17/38	Clarke - River	Rec 17	5 LOW
	9.2	32	Clarke - River		
11	3.1 (5F)	18/38	Horseshoe - Jarrah	Rec 8	2 LOW
12	20.1	19/38	Twilight - Toodyay	Rec 31	11 MEDIUM
	20.2	29	Twilight - Clackline		

13

13	12.1	20/38	Nottingham - Nottingham	Rec 19	6	HIGH
14	5.1	21/38	Fawell - Church Gully	Rec 10	3	MEDIUM
15	4.1 (5I)	22/38	Horseshoe - Waters	Rec 9	2	MEDIUM
	4.2	30	Timber Creek - Waters			
16	8.1 (5B)	25/38	Ridley - White Gum	Rec 15	4	HIGH
	8.3	31	Wilkerson - Picnic Hill	Rec 16	4	LOW
	8.2 (5D)	35	Wilkerson - Waters	Rec 16	4	LOW
17	16.1	26/38	Sesselis - Folewood	Rec 25/26	8	LOW
18	22.1 (4J)	27/38	Red Brook - Toodyay	Rec 33	12	MEDIUM
19	15.1	28/38	Whitelakes - Proposed Bypass	Rec 23/24	7	MEDIUM
	15.2	34	Whitelakes - Dumbarton			
20	17.1	33/38	Pindi - Toodyay	Rec 27	8	LOW
21	11.1	36/38	Francis - Wilkerson	Rec 16	5	LOW
22	19.1	37/38	Drumree - Katrine	Rec 30	10	MEDIUM
	19.2	38	Drumree - Dumbarton	Rec 30	10	MEDIUM

Table 2 – Overall Objective Analysis Rankings

The analysis results table introduces recommendations to action a selection of the proposed alignments. It is important to comprehend the various implementation strategies or toolkit, as this assists in understanding the contextual analysis of each subdivisions area as discussed in Section 4.

2. Toolkit

Prior to looking at each subdivision area's requirements and possible solutions (Section 4), it is important to understand the different construction standards, methods of achievement and land tenure approaches, which may be employed in implementing recommendations in this report.

These options may be referred to as **The Toolkit**. This term has been adopted to explain the tools applicable to the trade.

3.1 Construction Standards

There are two standards of construction which can be applied to achieve suitable egress. Both previous questions answered supporting safer evacuation.

These are:

1. Construction as Public Road
2. Construction as Emergency Access Way (EAW)

Please note: The Guidelines also discuss standards of a Fire Service Access Route (FSAR). These are designed for use by fire response crews in combating a fire and should not be considered suitable for evacuation planning, due to distinct differences in their siting requirements and construction standards.

The preference is to build roads, as this improves the overall connectivity of the road network, removing the need for an EAW. This is supported by the Guidelines (Page 79) which state:

“An emergency access way is not a preferred alternative to through public road access and should only be considered acceptable where it has been demonstrated that it will provide the safety and performance needs of emergency services and the community, including consideration for future needs, and that public road access to satisfy A3.2a cannot be achieved due to site constraints, such as an established road network with no opportunity to provide a public road for secondary access. Acceptance of an emergency access way should also consider the ability to accommodate reasonable worst-case vehicle volumes.”

In short, where a road can be built for the purpose of egress, then it is the preferred option over an Emergency Access Way.

Advantages of a constructed road include:

1. Residents are naturally aware and more familiar with roads that are part of the normal road network due to regular ‘peace time’ use, which is conducive to enhanced understanding and safer use in a time of panic.
2. Newly constructed roads would be maintained as part of the road asset protection budget and schedule. This would remove similar duplicated maintenance actions and structures by other business areas.
3. The use of a road is not in itself misuse that would apply to an EAW. Any misuse of a road (i.e. speeding, hooning) would fall under the jurisdiction of the [Road Traffic Act 1974](#) and therefore the responsibility of WA Police. The Shire currently receives correspondence and phone calls on an annual basis regarding the misuse of EAWs & FSARs, with limited ability to police the issues effectively. This would reduce Shire officer time in responding to such concerns.
4. The construction standards of an EAW are extremely high and not dissimilar to that of a public road. For example, the minimum width requirement for an EAW is 6-metre trafficable by a two-wheel drive vehicle. A typical Shire road is constructed at 7-metres trafficable width. EAWs contain major drainage engineering, guideposts and signage approximating a road standard. Therefore, there is little financial justification to favour EAWs over the construction of roads.
5. Acceptable solution A3.2a of The Guidelines (Page 73) states “Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access)”. Hence, enforcing the requirement for road connectivity. Furthermore, the acceptable solution states: “Emergency Access Ways should only be used where Site constraints or alternate design option does not exist”. Thus, it is incumbent on the Shire to exhaust all road-building options prior to considering an EAW.
6. The use of a road is ubiquitously understood, the same cannot be said for an EAW partly due to the choice of terminology promoted by The Guidelines. The main ambiguity is the choice of the word ‘access’ for a piece of infrastructure designed to facilitate egress or evacuation. To get around this, when signing Emergency Access Ways (a requirement of The Guidelines), the Shire has included a sub-heading of ‘Alternate Evacuation Route’ to try and overcome any ambiguity for the public. Recommendation 1, advocates for the Shire to

provide feedback, when invited, to any subsequent review of The Guidelines in support of less ambiguous terminology denoting an 'Emergency Access Way' and that the Shire continues to dual label such routes with the term 'Alternate Evacuation Route' in the interim.

The only disadvantage of a road relates to tenure requirements being more specific (i.e. Road Reserve or 'Right of Way'), as opposed to an EAW, which may be built on Shire reserves not designated as a road reserve, or appropriately specified easements. However, given that most EAW options which exist on Shire-controlled land have already been built, the majority of new alignments would require appropriate tenure to be negotiated and secured regardless of the construction standard pursued. Therefore, similar tenure related efforts would be required in either eventuality.

In summary, the concept of an EAW exists to address deficiencies in the road network. It is therefore preferable to improve the connectivity of the road network, rather than the Band-Aid solution of an Emergency Access Way.

Given the consideration above, most evacuation alignment recommendations in this report are recommended to be achieved as roads.

3.2 Construction Options (Projects versus Planning):

There are two major approaches to achieving construction of evacuation routes. The applicable construction approaches are dependent on urgency of need, current land tenures and the likelihood of future adjacent subdivisional development in the area.

The two approaches are:

1. Shire led construction projects versus;
2. Developer installed connectivity (Planning)

The simplest way to meet an evacuation objective is for the Shire to manage and fund the construction of an evacuation alignment directly. This provides the greatest control over timelines in achieving the outcome.

Shire funds may be augmented with grant funding, to increase the spending capacity and hence the number of objectives achievable in a given timeframe.

The Shire has previously utilised Natural Disaster Resilience Program (NDRP) funding to achieve a number of existing EAWs.

The most likely current funding program is the National Disaster Risk Reduction (NDRR), which has grant rounds to run in 2022/2023, 2023/2024 and 2024/2025. No commitment beyond the 2024/2025 round has been confirmed. The Shire may be eligible under this program. Eligible grants may receive up to \$250,000 when matched by the same figure in cash or in-kind (i.e., 50% contribution), by the applicant. With a high level of investment, the Shire could therefore implement projects of up to \$500,000 annually by leveraging this grant.

The Shire has an Access and Egress reserve fund where money has been transferred as per the amounts shown below.

- 2016/2017 - \$50,000
- 2017/2018 - \$100,000
- 2018/2019 - \$50,000

- 2019/2020 - \$30,000
- 2020/2021 - Nil
- 2021/2022 - Nil

With interest, the balance of this reserve as at April 2022 is \$234,319.

As outlined above, matched contributions are an important aspect of securing grant funding. Therefore, Recommendation 2 is that the Shire recommit to tangible and appropriate contributions to this reserve, every financial year on an ongoing basis to capitalise on grant opportunities to assist in improving connectivity.

The current balance could leverage a near maximum grant amount under the NDRR funding scheme in the 2023/2024 Financial Year. It is however critical that the reserve is replenished in an ongoing strategic manner to support subsequent future opportunities.

An officer's project brief for 2022/2023 Budget consideration requests \$100,000 to be contributed to this reserve fund and foreshadows an additional \$100,000 in subsequent years. This would replenish the fund for an additional maximum NDRR application in the 2024/2025 round (the last currently confirmed opportunity) under the scheme.

Additionally, the Shire should consider any offers by business stakeholders wishing to contribute to their community, and the ability to direct such contributions towards meeting the objectives of this report.

However, given the high number of evacuation risks that exist, directly funding all projects, even when augmented by grant funding, as the sole approach, is not realistic. Such an approach would need extensive timeframes and therefore, alternative options should be considered.

The 2015 Report contained a recommendation advocating for the Shire to support subdivision proposals where increased connectivity is provisioned by the developer providing *"a clear material, public benefit and increased community safety"*.

Such an approach aims to encourage development and support proposals which contain road links from existing subdivision areas, providing an alternative direction of egress. This removes the need for the Shire to fund tenure acquisition and construction costs for a number of proposed alignments.

Subdivisions are likely to be long-term propositions limiting control of implementation timeframes by the Shire. However, this is likely to produce the best outcome in the long term, as it transfers financial and project management overheads, which would have otherwise been borne by the Shire over a potentially similar period.

This report identifies land parcels, which would likely support future subdivision proposals, which augment and reduce risk in existing subdivision areas. In the majority of such cases, the recommendations within this report advocate planning for developer led implementation. Allowing areas to be subdivided would also require enforcing minimum fire emergency water as per The Guidelines. This could present opportunities for extra capacity to be provided to assist subdivision areas which are currently under capacity. (Refer to Section 5 for further analysis of Fire Emergency Water provisions).

Recommendation 3 advocates for a list of identified lots to be entered into applicable policies, strategies and procedures in support of individual alignment recommendations in this document.

This includes but is not limited to Local Planning Scheme, Local Planning Strategy and the next iteration of the Toodyay Strategic Community Plan. Appendix B contains a map displaying these lots.

The option for the Shire to purchase land and become the developer of a subdivision also exists. While becoming the developer would ensure tighter controls over implementation timelines, it should be recognised that such a function does not represent the Shire's core business. Acting as the developer also transfers subdivision project associated risks to the organisation and therefore is not a supported variation of the developer led approach.

Any recommendation containing a developer led subdivision solution, does not exclude the Shire from considering construction as a Shire led project as discussed at the start of this section. This should not be confused with the Shire as developer (subdivider) approach above.

In summary, owing to the above, the recommendations contained within this report advocate for solutions which implement both of the above approaches, most suitable to the risk and locality. By utilising a combination of approaches, the Shire seeks to optimise its options by acting promptly on high need projects with little subdivision opportunities, while protecting Shire finances in delivering solutions in areas which may benefit from future adjacent development.

3.3 Tenure

As mentioned previously, securing the correct tenure to implement recommendations of this report will be required in a number of instances. The tenure requirements differ for roads and EAWs.

Land tenure use for each construction standard is summarised in Table 3:

	Road	EAW
Road Reserve	●	●
Right of Way *	●	●
Shire Managed Reserve		●
Shire Freehold Land		●
Easement *		●

Table 3 - Land Tenure Use

* These land tenures are assigned usage parameters within supporting land title documentation. The use of any or formation of any of these tenures would require the correct usage parameters for the intended purpose.

As evident in Table 3, EAWs may be built on a wider range of tenures, than a road. However, as per Section 3.1 of this report and supported by The Guidelines (Page 73), EAWs should only be explored if all other options have been exhausted.

Conversion of Shire owned or managed tenure to road reserve for the purpose of a road represents less obstacles than obtaining road reserve from private freehold land. While an easement may seem like a more attractive way to secure tenure over private land, this would not support a road. Additionally, it is important to consider the other negative aspects of easements in the context of evacuation.

These are:

1. Easements for the purpose of evacuation by their nature increase the access to a piece of land. This impacts the easement grantors (the land holder) negatively in the following ways:
 - a) It reduces the landholders' ability to secure their property by way of fencing
 - b) The lack of ability to secure a property impacts the ability to keep pets or livestock on said land.

This results in the common practice of the easement becoming double fenced, meaning the grantor loses effective use over the easement portion of land. The other common approach of grantors, when presented with this problem, is to fence or gate across the easement, against the purpose as specified in the deed of easement (obviously, an EAW would require being trafficable without impediments at all times to serve its function, as support by A3.2b of The Guidelines). Neither outcome is preferable. The former is not preferable for the grantor (landowner) and the latter is not preferable for the grantee (in this case, the Shire). Figure 2 below illustrates the above mentioned actions typically taken by land holders of easements.

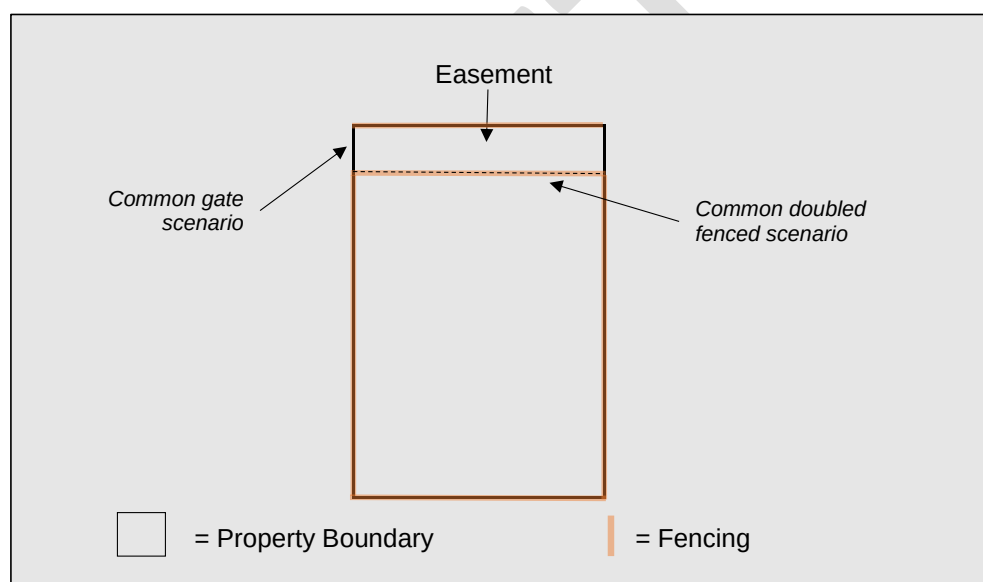


Figure 1 - Easement Example including common fencing and gate issues

The only practical solution to the above, is in the form of drive over or knock down gates (often designed as single use), that may be driven over in an emergency. However, misuse could result in vandalism, requiring repetitive replacement by the Shire. Furthermore, pet or livestock containment may be immediately jeopardised at that point in time. Additionally, some residents may not understand the concept and use of a drive over or knock down gate and not use the evacuation route when required -defeating the objective of the evacuation route.

2. The challenges presented in Point 1 above are multiplied where easement alignments span across multiple properties (multiple grantors). One grantor taking independent action against the deed of easement (i.e. installing a gate) renders the entire alignment impassable and creates an unsafe dead end entrapment situation for evacuees.

Therefore, easements that go across multiple land tenures are not generally supported in the recommendations of this report.

An example of an easement spanning multiple properties, which were otherwise impassable, is explored in the Easement Case Studies (Refer Appendix C and D).

3. The final consideration is that easements are a multi-party arrangement with requirements on both parties. Some negative experiences noted by the Shire include lack of understanding of the concept of an easement and its requirements on the grantor. The other being misuse of the easement by the public which can be seen by the grantor as the Shire not upholding its easement responsibilities (as the grantee), therefore providing an avenue of complaint and potential liability to the Shire under the deed of easement. Both of the above add complexity which does not exist with Shire managed or owned land titles. Thus, easements by their nature come with a higher level of risk in delivering this critical community infrastructure.

As easement often results in practical loss of land to the grantor (due to double fencing), landholders may see little value in granting an easement. Consequently, subdividing a strip of road reserve with appropriate compensation to the landholder would likely represent a more attractive and ultimately successful offer.

Should land tenure not be able to be negotiated, the Shire has powers to adversely acquire land where there is a community interest. Such an approach to land tenure has the potential to cause negative perception of the Shire within the community. This report advocates for negotiation over adverse possession with the latter only being considered as a last resort, where the needs of the community outweigh the opposition of the landholder.

Combined with the complexities and construction standard limitations posed by an easement, few recommendations of this report support easements and EAW's as the preferred solution.

Thus, the Shire should adopt the mantra of provisioning something that functions as a road, as a road as its default position (Refer Recommendation 4).

3. Sub-Divisions Assessments

4.1 Greater Julimar Sub-Division

To be read in conjunction with Map 1

The Greater Julimar subdivision area encompasses the developments of Julimar Springs, Julimar Farms Estate, Malkup Brook Estate, Parkland Ridge Estate in the south and Timberden Estate and Marri Glades in the north.

Access is via Julimar Road, running east-west and intersecting the developed area. Internal road layouts are predominantly oriented north-south, connecting with Julimar Road.

To the north of the subdivisions is the Julimar State Forest. Within the subdivision area, there is a mixture of vegetation, with large portions dominated by Marri and Banksia (Dryandra) vegetation types. This vegetation type commonly supports the highest fuel loads assessed in the Shire with a fuel arrangement which is conducive to fast moving crowning fires.

Predominant summer wind conditions persist from the north-west, meaning a fire is most likely to impact from the north to south. The portion of the subdivision north of Julimar Road is therefore at less risk as its road network connects in southerly directions to Julimar Road, via Timberden Drive, Nerramine Drive, Marri Road and Blue Gum Way.

Unfortunately, the opposite is true for the larger portion of the subdivision south of Julimar Road, where the road network connects in a northerly direction, via Parkland Drive and Sand Spring Road, but currently there is no connectivity or means of evacuation to the south to address the risk. This is one of the Shire's largest subdivisions, stretching up to 5km south, from its only arterial road connection and includes approximately 160 properties.

The closest point in the Shire's road network to the southern end of the Greater Julimar subdivision is Harders Chitty Road, approximately 1.5 kilometres to the southeast. Harders Chitty Road is in itself a no-through road and connection would provide evacuation options, in either direction in differing scenarios.

Previously, the Shire has installed an egress (EAW) route from the ends of Donegan View and Sinclair Place to Julimar Road. The 2015 Report recommended this to be downgraded to a FSAR, as the northerly travel on this route offered no alternate direction, and therefore no benefit in an evacuation. Hence, this route has not been considered in this report's analysis of suitable evacuation options.

In 2017, the Shire installed a small internal EAW (Alignment 2.1), linking the end of Sand Spring Road across Malkup Brook (via floodway) to Malkup Brook Road, with the expectation that future development of a southern evacuation route would augment this pre-existing investment. Recommendation 5 is that the Shire continues to maintain this alignment as an EAW. Consideration of a potential future upgrade to a road should be reassessed upon analysing traffic flows post extension of Harders Chitty Road (see below).

There is a compelling case to consider options to provide a southerly connection with Harders Chitty Road. As per the analysis, the preferred option is Alignment 1.1 Malkup Brook Road - Harders Chitty Road as per Recommendation 6.

Alignment 1.1 scores favourably due to its relatively flat gradient with only a short 50m portion of this 1.5km alignment exceeding a 1:10 gradient of an unsealed road. The 50m portion did not exceed the maximum 1:7 gradient permitted by The Guidelines for a sealed road. Therefore, this

alignment fully complies with the gradient requirements. Alignment 1.1 was also the best alignment in this area for avoiding bush fire prone vegetation, represents a relatively direct route and complements the positioning of the existing EAW 2.1 (linking Sand Spring Road to Malkup Brook Road). The indicated alignment positioning is on the eastern side of Malkup Brook, thus avoiding a significant watercourse crossing.

Alignment 1.2 which was promoted by the 2015 Report, traverses a significant amount of bush fire prone vegetation, contains a steep gully and a swampy area. It also contains a portion of steep gradient that exceeds the 1:7 maximum gradient of The Guidelines.

Alignment 1.3 was unreasonably long, indirect, steep and would significantly impact an existing residence. Significant portions of this route exceed the 1:7 maximum gradient of The Guidelines. No recommendations were made for these alignments.

Recommendation 6 promotes the construction of Alignment 1.1, a road linking Malkup Brook Road and Harders Chitty Road, as a Shire led project. This is the preferred method to deliver this critical piece of infrastructure on timelines over which the Shire would have more control. Recommendation 7 should be considered as an alternate to Recommendation 6, which could achieve this alignment by allowing rezoning and subsequent subdivision proposals over Lot 604/P062188 and Lot 606/P062118 or Lot 605/P062188.

Additional Access Consideration

The Shire is currently in the process of drafting a new 'Resource to Risk', a guiding document in conjunction with the Department of Fire and Emergency Services. The Resource to Risk document analyses risks, aims, and acts as a business case for resources relevant to the identified risks.

As part of the 'Resource to Risk' process, analysis was conducted to evaluate response time of fire appliances against a given requirement. The analysis identified that a pocket of properties within the southern Julimar subdivision fell short of the minimum requirement of six appliances able to arrive within 20 minutes of turnout.

Noting this requirement and the need for a southern egress in Julimar, the analysis was re-run, including the proposed Alignment 1.1 Malkup Brook Road - Harders Chitty Road. This greatly improved the number of fire appliances able to reach the southern end of the Julimar subdivision in the specified timeframe.

The following comparison maps thematically show the number of appliances, which can reach the Julimar Subdivision area within 20 minutes of turnout from station. As is evident, the six-appliance minimum is currently not met in the southern portion of the subdivision, with some areas only receiving the local Julimar BFB appliances from within the subdivision area (as per Map 2). Map 3 for comparison, shows that Alignment 1.1, if built as a road, provides the minimum six appliances by lessening the travel time of Coondle-Nunile BFB and Toodyay Central BFB. Please note: this would also benefit response times of other emergency services such as WAPOL & St John Ambulance, further enhancing community benefit.



Figure 3 – R2R Assessment without Alignment 1.1 access

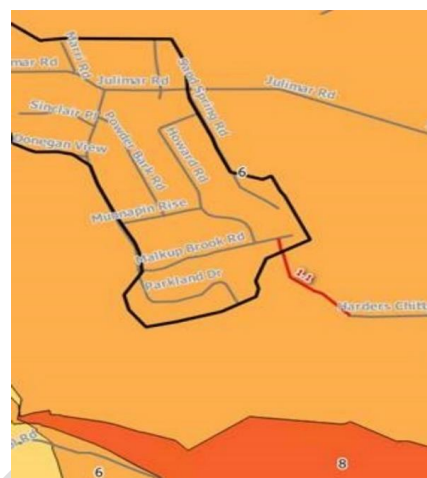


Figure 4 - R2R Requirement with Alignment 1.1 access

DFES would likely look favourably on resourcing requirements for the Shire, where it is demonstrated that the Shire is also taking proactive steps in minimising risks. It also allows for any extra resource request to DFES to focus on areas which cannot be addressed via enhancements to the road network.

Recommendation 6 should be considered as having the highest priority of any recommendation contained in this report. Hence, Recommendation 6 is preferred over Recommendation 7.

4.2 Coondle (West)

To be read in conjunction with Map 2

The Coondle West sub-division encompasses two discrete road networks accessing Coondle West Road from different points.

The westerly road network encompasses the developments of Sanctuary Park, Park Views Estate and Forest Edge. These estates are well linked internally with multiple north and west linkages to Coondle West Road, providing satisfactory evacuation options in multiple directions.

Conversely, the easterly network, being the development of Woodland Heights, has only a single access north to Coondle West Road. The internal road layout consists of a major loop (Timber Creek Crescent) and the long cul-de-sac of Horseshoe Road. This locality is characterised by extremely steep and rocky terrain.

The entire Coondle West area contains large pockets of forest and woodland vegetation on private and public tenure.

The Woodland Heights development includes a narrow perimeter Shire reserve. The east and west portions of this reserve contain FSARs maintained by the Shire. The location and alignment of this reserve, combined with inaccessible terrain on the southern boundary, result in limited opportunities for evacuation planning or any other form of bush fire mitigation.

An EAW (Alignment 3.1) linking these two networks exists from the end of Horseshoe Road in a general westerly direction to Jarrah Court. This EAW sits on portions of Shire reserve and internally along the southern boundary of DBCA land (with permission).

The existing EAW provides enough benefit to justify its retention (Refer Recommendation 8), however planning for a southern evacuation route to Waters Road would provide a better alternative, taking into account the likelihood of fire approaching from the north-west, given predominant summer wind conditions.

Two alignments have been assessed as southern evacuation possibilities, Alignment 4.1 Horseshoe Road – Waters Road and Alignment 4.2 Timber Creek Crescent to Waters Road, with the former being the preferred option, despite multiple land tenures along its proposed path. This alignment features topography that is more favourable and requires less properties/residents to back track in order to access it. Alignment 4.2 also has an extremely steep section, which would be undesirable from engineering and safety perspectives.

While roads are generally considered the preferred option, it should be noted this would likely have a substantial impact on regular traffic flows along Waters Road and Picnic Hill Road east to and from Bindi Bindi-Toodyay Road. The portion of Picnic Hill Road between Bindi Bindi-Toodyay Road- is a narrow road reserve containing two flood ways and a shallow-angle rail crossing.

Significant upgrades of this section of Picnic Hill Road would likely be required to handle changed traffic flows. This could be seen as undesirable or as an opportunity, by providing an enhanced business case for future infrastructure upgrade.

Therefore, Recommendation 9 advocates for Alignment 4.1 as either an EAW or a road.

4.3 Coondle (East)

To be read in conjunction with Map 3

The Coondle East sub-division encompasses the developments of Toodyay Highlands, Royd Nook and Balgaling Views. For the purpose of this report, it may be considered the rural residential zoning east of Bindi Bindi-Toodyay Road.

The subdivision is former grazing land, thus while not heavily vegetated relative to other portions of the Shire, it contains high grass fuel loads on hilly terrain, which is conducive to fast moving bush fires. The subdivision has a general west facing aspect meaning that the current direction of evacuation is towards a fire intensity of greatest risk (an intense uphill moving fire).

Access to the majority of the estate is from the west, via Bindi Bindi-Toodyay Road that runs on a north-south axis. The majority of properties are accessed either directly or indirectly via Coondle Drive, in a crescent formation intersecting Bindi Bindi-Toodyay Road at both ends. Likewise, the combination of Church Gully Road and Balgaling Road form an outer crescent of a similar nature but do not intersect with Coondle Drive. A minority of properties are accessed from Church Gully Road and Balgaling Road. The properties that rely on Coondle Drive for access and egress are most at risk due to being severely limited by the lack of evacuation options. A need for easterly egress is required.

An EAW (Alignment 5.1) is installed from the north end of Fawell Road and joins with Church Gully Road in the north. This EAW sits on a ten (10) metre wide road reserve. The narrow nature and sharp elbows do not support the corner radius requirements of the Guidelines. Recommendation 10 is that this EAW is upgraded, either to meet standard, but preferably as a road, as minor land acquisitions would be required for either approach.



Photo 1- Emergency Access Way - Fawell Road - Church Gully Road (03/06/2022)

While this EAW has enough value to be retained and upgraded, it does not in itself absolve the risk to the greater subdivision area, due to the high level of properties that would need to back track to reach it and its general direction facing the predominant prevailing summer winds (most likely direction of fire impact).

Options for easterly connectivity to Church Gully Road are explored below.

Lot 9500/P059240 (zoned 'rural residential') sits at the south-eastern extent of the subdivision and is possibly the best candidate for subdivision development contained in this report.

At its north-western extent, the existing McIntosh Road terminates on the boundary of this lot. Likewise, McPherson Avenue terminates on the southern boundary of this lot. This presents an opportunity (Alignment 6.3) to link these two roads across this lot. However, this does not directly fulfil the easterly egress need for this area.

At the eastern extent of Lot 9500/P059240 is the intersection of Leeming Road, Church Gully Road and Balgaling Road, which provides good egress options if linked. Thus, Alignment 6.1 explores the option of linking McIntosh Road to Leeming Road.

Currently understood development plans would indicate that Alignments 6.1 and 6.3 would be achieved by intersecting roads within a future development. Recommendation 11 advocates that the Shire favourably considers subdivision proposals linking McIntosh and Leeming Road (Alignment 6.1), this may or may not include the additional linking of McPherson Avenue.

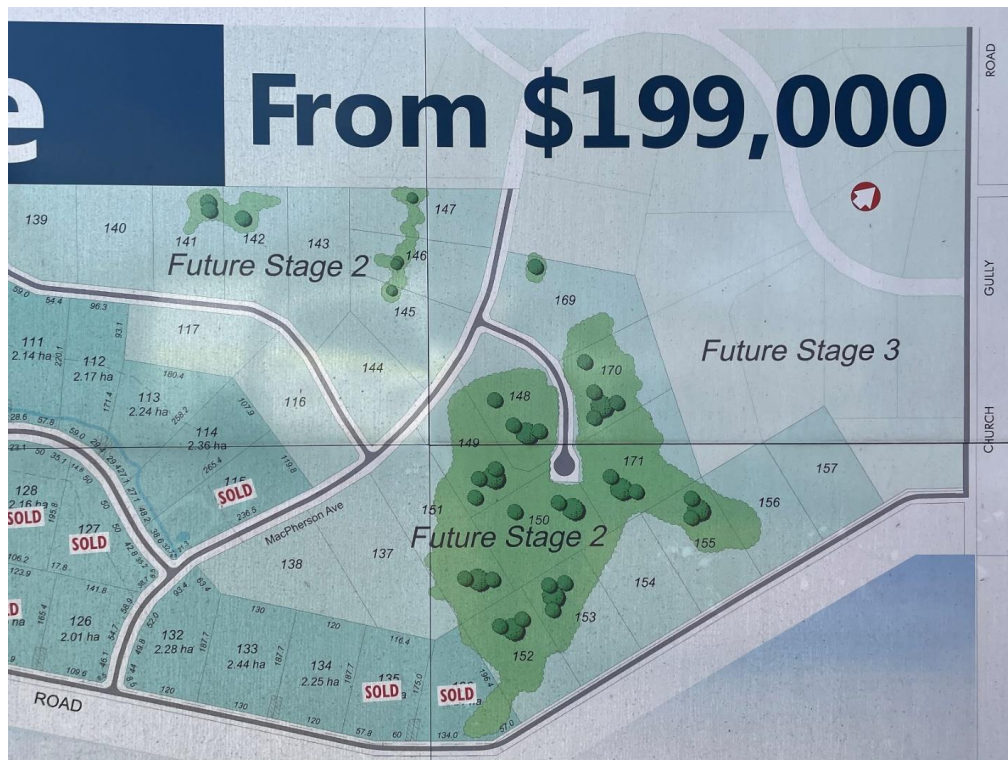


Photo 2— Real Estate Sign on Balgaling Road (03/06/2022)

An opportunity exists to further enhance connectivity (Refer Recommendation 12) by considering a direct link from Coondle Drive to Leeming Road (Alignment 6.2). This alignment represents the optimal location for the commencement of an easterly egress with a minimum of properties that need to backtrack in an evacuation. However, 210 Coondle Drive (Lot 518/P012216) would need to be traversed in some way to provide this link. This could be achieved without encroaching on the current resident on this property and should be considered as an additional requirement to the subdivision of Lot 9500/P059240 as per Recommendation 11.

Furthermore, an opportunity to offer a land swap for the required road reserve tenure exists via the eastern portion of adjacent Shire reserve 39747 (Lot 101/P12216), which the property currently bounds on three sides. Until recently, this reserve was used to house a gravity fed fire emergency water tank, which has recently been superseded by a new tank in the vicinity. Given the location and size of this reserve, it offers no benefit to the Shire or community in its current state. Recommendation 13 advocates for the Shire to negotiate this land swap with Lot 518/P012216 to provide additional road reserve frontage to Lot 9500/P059240 in order to facilitate Alignment 6.2, the subject of Recommendation 12. Thus, Recommendation 13, represents a Shire led action in support of a potential future developer led action.

Further supporting the land swap is the final considered Alignment 6.4 from Coondle Drive to Church Gully Road, which would be accessed via the created road reserve. However, this is not the preferred option in this area as it is unlikely have a reciprocal benefit to a developer and would likely result in a Shire constructed project. Given the other options that exist in this area, no recommendation is made at this time with respect to alignment 6.4.

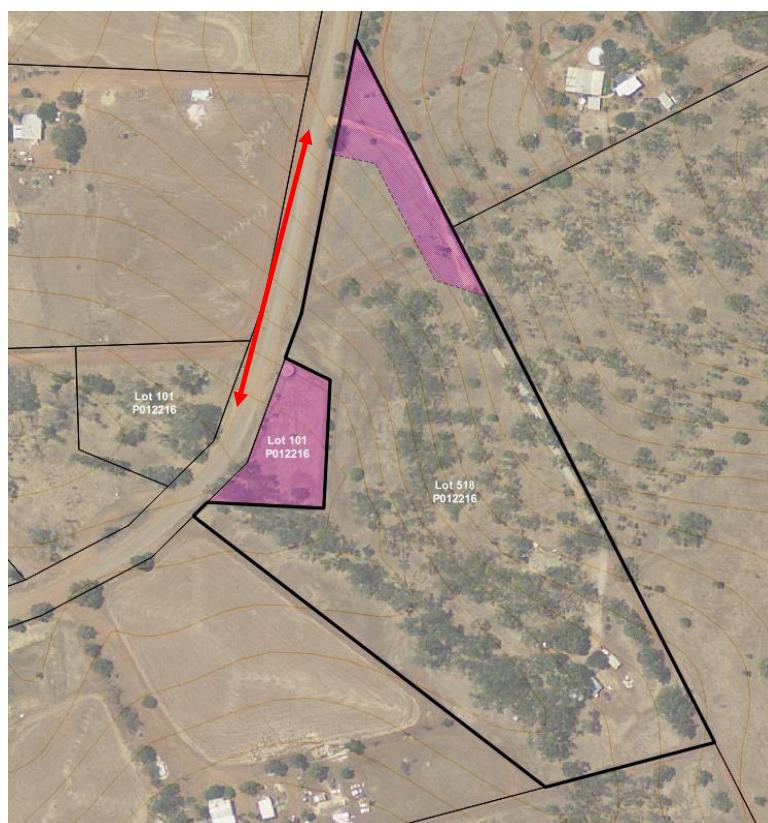


Figure 5 – Coondle Drive Land Swap Depiction – Land areas shaded are equal

Two other alignments considered in the 2015 Report were reanalysed (Alignments 6.5 and 6.6) in forming recommendations for this objective, the alignments both ranked lower than 6.1, 6.2 and 6.3 and are not desirable due to the direct and indirect impact on numerous properties. No recommendations are made for these alignments.

While Alignment 6.6 had merit in positioning and final scoring, no recommendation is made owing to the multiple tenures and the other viable options.

Thus, this area provides up to four (4) viable alignments (Alignments 6.1, 6.2, 6.3 and 6.4), with all except Alignment 6.4 being suitable for incorporation in future subdivision plans.

4.4 West Toodyay (Rugged Hills)

To be read in conjunction with Map 4

The suburb of West Toodyay is considered in two parts in this report; the greater Rugged Hills subdivisions area which falls outside of the gazetted West Toodyay townsite; and the area within the West Toodyay townsite. The former is discussed within this section and the latter in the following section.

The greater Rugged Hills subdivision area encompasses the developments of Rugged Hills and Brookdale Estate.

There are two discrete road networks. The westerly road network is the minority, made up of two no-through roads, Dreyer Road and Davies Road. The easterly portion is more extensive in size and length, containing multiple no-through roads; Wilkerson Road, Weir Road and Flexuosa Place, along with Ridley Circle. The latter is a looped road, which in itself is accessed via the indirect, meandering alignment of Wilkerson Road.

Taking from its name, the Rugged Hills subdivision area contains steep terrain. Travelling from Julimar Road, both the elevation and vegetation density increases as one navigates deeper (north) into the subdivision. This places many properties, particularly those on Wilkerson Road and Ridley Circle at extreme risk of an intense uphill moving fire, blocking the only egress direction.

An EAW (Alignment 7.1) links the two above mentioned road networks by connecting the ends of Wilkerson and Dreyer Roads. This was a recommendation of the 2015 Report, which the Shire has now installed. While this improves opportunities for properties in the immediate vicinity, it offers little benefit to the majority of properties on Wilkerson Road and all those on Ridley Circle.

This existing EAW has proven a useful link to residents, to the point that its misuse has been the cause of concern by some residents during the fire season when the gates at either end are unlocked. The Shire should recognise the practicality of this alignment and remove misuse concerns by considering upgrading to a road (Refer Recommendation 14). This may require investigation for any necessary conversion of the current 'Right-of-Way' tenure to a conventional road reserve vested with the Crown.

For the balance of properties, a northerly (or easterly) direction of egress is required. Options in this locality are limited and challenging when dealing with this legacy subdivision, however three alignments have been considered due to the extreme risk faced in this subdivisions area:

- Alignment 8.1 Ridley Circle north to White Gum Way
- Alignment 8.2 Wilkerson Road north-east to Waters Road
- Alignment 8.3 Wilkerson Road (east) to Picnic Hill Road

The Shire does not have tenure for any of these alignments. Alignment 8.1 contains one private (Lot 9002/P037111) and one government (DBCA) tenure. Alignment 8.2 would require negotiation with two private tenures. 8.3 leverages a portion of landlocked, unconstructed road reserve, but still requires negotiation on three private tenures.

Alignment 8.1 is considered shorter, more direct, over relatively flat terrain with fewer properties required to backtrack, compared to Alignment 8.2 and 8.3, which both have steep sections and are less direct. This is reflected in the more favourable overall score for Alignment 8.1 and forms Recommendation 15.

The purpose of the DBCA tenure traversed by Alignment 8.1 is nature reserve meaning environmental sensitivities could impact this proposed alignment. This was the primary concern of DBCA when the Shire first raised this proposition in 2011. The exact nature and parameters of the previous approach to DBCA is not well understood. Acknowledging that negotiation will be required in this case, the Shire should be flexible with its views on constructing as an EAW versus a road in any subsequent correspondence with DBCA on this matter. Regardless of construction method, this alignment would likely require fencing either side to protect the interests of the nature reserve.

Despite the preference for 8.1, the Shire should also consider carefully, any future subdivision proposals on Lot 151/P18487 (Refer Recommendation 16), in providing land tenure to support

either Alignment 8.2 or 8.3 should it be required in the future. This report does not specifically recommend the construction of Alignments 8.2 or 8.3 at this time. This is proposed as a future proofing action.

4.5 West Toodyay (townsite)

To be read in conjunction with Map 5

4.5.1 South of the river

The West Toodyay townsite is a historical subdivision area encompassing portions north and south of the Avon River. The southern portion is bounded by the Avon River on three sides with Julimar and River Road providing good egress in three directions for some properties. However, the road network comprising Clarkson, Beaufort and Clarke Streets is severely constrained by the rail loop, which approximates the path of the river. For the most part, this rail loop is grade separated either in deep cuttings or on steeply built batters. The only point where the rail line is near natural ground level is in the vicinity of Fitzgerald Street and Wellington Street. Existing road reserve is located either side of the rail corridor for both of these streets. Two alignments were analysed:

- Alignment 9.1 - Clarke to River (via unconstructed Wellington Street)
- Alignment 9.2 - Clarke to River (via unconstructed Wellington Street, Fitzgerald Street and Grey Street)

Alignment 9.1 ranked more favourably owing to its shorter length and direct nature. Alignment 9.2 scored less favourably due to its longer length, indirect nature and rail crossing line of sight limitation. The line of sight for Alignment 9.1 is better owing to it being further from the rail cutting.

The above said, the need for a rail crossing represents a potentially large barrier to achieving either of these alignments. Requirements and standards related to rail crossings have not been investigated as part of this report. Thus, Recommendation 17 does not promote construction at this time in favour of further investigation of issues regarding any potential rail crossing.

4.5.2 North of the river

The portion north of the river features small land holdings along (but not necessarily serviced by) Toodyay West Road. Many properties are accessed by narrow, no-through roads, which lack connectivity. The major fire risk is contained within the vegetation along the Avon River compromising the arterial Toodyay West Road. This portion of the Avon River and by location, Toodyay West Road, is also subject to flooding. In the 2017 floods, the water level came within 0.1metres of flooding Toodyay West Road in the vicinity of Cottage Street.

This means that properties which solely rely on Toodyay West Road may have their egress impacted by two hazards. This is most pronounced in properties serviced by Cottage, Small and North Streets. North Street runs approximately parallel to Toodyay West Road, but as currently constructed, forms a double-ended no-through road. Two unconstructed road reserves meet the eastern end of the constructed portion of North Street and thus provide opportunity to link to an additional road network.

Two alignments have been considered:

- 10.1 Extension of North Street to Collett Way, via existing road reserve.

- 10.2 Extension of Fitzgerald Terrace to North Street, via existing road reserve.

As per the analysis ranking, both routes scored favourably with very little separating them on score. Although construction of either alignment would fulfil the objective, Alignment 10.1 is the preferred alignment, owing to:

- The removal of a second no-through road (Collett Way).
- The alignment represents a direct straight line.
- Better egress from any future development north of North Street.
- Avoidance of the tight angled intersection created when turning from Collett Street west, into Fitzgerald Terrace if constructed as Alignment 10.2.
- The 2015 Report advocated for the construction of North Street to be '*reopened as a two-way road in this area*'. The report however did not formalise this assessment with a recommendation, possibly an oversight.

Consequently, Recommendation 18 advocates for the construction of North Street to Collett Way (Alignment 10.1), as a road as the preferred option, with construction of Fitzgerald Terrace to North Street (Alignment 10.2) as an alternate option in meeting the local objective.

Please note: This recommendation does not advocate for the construction of North Street east from Collett Way through to Picnic Hill Road.

Also located north of the river in West Toodyay is Francis Street, a no-through road that is approximately 400 metres long. Only four properties are serviced from Francis Street and the primary driver for the investigation of this cul-de-sac is due to ratepayer concerns raised with officers. Alignment 10.1 shows a direct connection to Wilkerson Road (Rugged Hills). This alignment attracted an unfavourable score due to terrain, vegetation and lack of properties it benefited. It should be noted that this alignment connects itself to a currently compromised road network.

However, as per Recommendation 16, the Shire should consider carefully any future subdivision proposals on Lot 151/P18487 to incorporate the connections to Francis Street in its design.

4.6 Toodyay Townsite

To be read in conjunction with Map 6

The Toodyay townsite consists of both legacy and currently developing subdivision areas. Although representing an established built-up area, the townsite should not be considered immune from bush fire. Thus, consideration should be given to improvements in legacy subdivision areas, as well as future expansion of the town site that provides connectivity to multiple directions of egress.

A number of options have been identified for the Shire's town site.

4.6.1 Nottingham Road

On the south-west border of town, Nottingham Road currently exists in two constructed portions and two unconstructed portions. One of the constructed portions, results in a double no-through road, with a single point of access to Folewood Road via Retford Road. The other has good connectivity to the greater townsite network via Julimar Road.

At present, the two constructed portions of Nottingham Road are linked by an EAW on road reserve. The existing EAW Alignment 12.1, has proven a useful link for residents, to the point that its misuse has been the cause of concern by some residents despite the seasonal management via gates.

The Shire should recognise the practicality of this alignment by honouring the intent of the road reserve and remove misuse concerns by considering upgrading to a road (Refer Recommendation 19).

Upgrading to a road would require drainage considerations near the intersection with Lukin Street, some widening of the trafficable surface and spray seal to reduce ongoing maintenance to this sloping alignment.

Due to the alignment's short length and existing levels of construction, this represents a financially simple, shovel ready project.



Photo 3 - Nottingham Road Emergency Access Way

4.6.2 River Hills Estate

River Hills estate is a relatively new development, north of the river within the Toodyay town site.

The estate is currently developing in a westerly direction. The Shire's recreation precinct and Toodyay district High School are key infrastructure in the area. Current access/egress is in the

east via Drummond Street (East), to Goomalling-Toodyay Road. Drummond Street is immediately adjacent to the river and is associated with heavy fuels and fire risk.

Despite this representing a recent development, several issues exist with regards to egress and internal connectivity.

This is partly due to the staged nature of the development, for which temporary intra-stage egress has not been provided (a recommendation of the Guidelines, Page 79).

This has been further complicated by the Shire's purchase of Lot 9508/P077718, for the Recreation Precinct, which has the effect of altering the original development plans. Specifically, the originally proposed alignments of Drummond Street and Burt Parkway have been affected by this land purchase.

While the Recreation Precinct now occupies the land originally proposed for the extension of and possible linking with Drummond Street (east to west), opportunity to extend Burt Parkway eastwards as per its original planned extent still exists.

Provision of this link as a road would provide internal linkage between the developed part of the subdivision and the Recreation Precinct, utilising Alignment 13.1, away from the heavy fuels of the river. As the Shire owns this land and with the exception of selling the southern portion of Lot 9508/P077718 for further development, the responsibility and cost of providing this link rests with the Shire (Refer Recommendation 20).

However, this link has no value when considering the lack of downstream-formalised egress to the west to Drummond Street (West).

Currently informal egress exists via a dirt track linking Drummond Street (West) to Burt Parkway via road reserve. However, this should not be considered to be maintained to the standard of an EAW due to seasonal conditions.

This section of track is prone to water logging and may remain un-trafficable to two-wheel vehicles well into the bush fire season. South of the unconstructed road reserve is Crown land with private land to the north. The Shire should consider carefully and be supportive of any future subdivision proposals on Lot 9011/P062847 and Lot 9010/P062847 if the future development results in construction of Drummond Street (West) to Burt Parkway as a road. Both these lots currently have the required residential zoning (Refer Recommendation 21).

Despite Alignment 13.1 ranking the highest among any alignment considered in this report, the dependency on Alignment 13.2 means that required expenditure can be deferred to coincide with future development supporting Alignment 13.2. Therefore, Recommendation 20 receives a lower priority than some other recommendations in this report at this time. This will afford the Shire time to consider a plan for the southern portion of Lot 9508/P077718 and how to incorporate this link.

4.6.3 Settlers Ridge

At the north-east end of town is the development of Settlers Ridge with its only egress and access in a southerly direction. At the northern extent of the subdivision, the road of Settlers Ridge terminates on the development's boundary with Lot of 1/D074943.

The Shire should consider carefully and be supportive of any future subdivision proposals on Lot 1/D074943, provided that the future development results in construction of a northerly link (such

as to support Alignment 14.1) to Telegraph Road. This lot currently has the required residential zoning (Refer Recommendation 22).

4.7 Walkey Heights and Wicklow (Dumbarton)

To be read in conjunction with Map 7

The subdivison south of Goomalling-Toodyay Road includes Walkey Heights and Wicklow Estate.

Road network access is only from the north via Whitfield and Boyagerring Roads. Much like the southern Julimar Estates, this area does not have egress in an alternative direction to the south.

The properties closer to Goomalling-Toodyay Road are located on relatively flat land with properties located further south along Whitfield Road and Whitelakes Drive at a higher elevation. The landscape is open grasslands with sparsely located trees. This greater subdivision was not considered in the 2015 Report.

There is currently a FSAR from Goomalling-Toodyay Road to the western end of Whitelakes Road on a 3km easement. It is likely this was put in place to pass planning regulations at the time; however, it does not offer a practical means of evacuation as it leads back to the same road from which the subdivision area is accessed and does not provide alternate directions of egress. A portion of this alignment does however, feature in one of two assessed alignments in this subdivision.

The general elevated nature of this estate makes it vulnerable to fast moving fires in many directions. A predominantly southern egress is sought.

This area has a major obstacle to the south, being the Avon River, limiting options to a south-easterly alignment to Dumbarton Road (Alignment 15.2) and a south-westerly alignment to the proposed development of the Toodyay Bypass (Alignment 15.1).

These two alignments present challenges of a different nature – Alignment 15.2 poses significant engineering challenges over steep terrain, while Alignment 15.1 relies on a connection to a proposed, uncommitted and unconstructed arterial road.

Lot 9001/P405299 over which Alignment 15.1 traverses, is zoned favourably for future subdivision, which could be leveraged in providing this future link combined with the advent of the Toodyay Bypass.

Alignment 15.2 would require negotiation over multiple land tenures with unrealistic further subdivision potential.

Considering the above, Alignment 15.1 obtained the most favourable scoring. This adds weight to the business case for the construction of the Toodyay Bypass and should be promoted in any strategies or lobbying for the bypass's construction. (Refer Recommendation 23).

Additionally, Recommendation 24 supports the favourable consideration of a subdivision proposal on Lot 9001/P405299. This is subject to the construction of the Toodyay Bypass (in particular the section spanning the Avon River) and the linking of the Bypass to Whitelakes Road. Completion of any proposed subdivision expansion prior to the completion of this section of the Toodyay Bypass would be deemed irresponsible and would only serve to increase the number of properties and lives with compromised evacuation and safety.

Meanwhile, the Shire should focus its efforts on other priority recommendations of this report. No alternative recommendation to pursue Alignment 15.2 is supported while the prospect of the proposed Toodyay Bypass is unconfirmed.

4.8 Greater Majestic Heights (Toodyay)

To be read in conjunction with Map 8

The greater Majestic Heights area includes the developments of Majestic Heights, Majestic Waters, Lozanda Heights and Vernon Hills. The area is reasonably well connected via Sandplain Road and Racecourse Road allowing egress in multiple directions to Toodyay Road and Folewood Road. There are however a number of looped roads and cul-de-sacs on the periphery of the greater area, which represent localised one way in and out scenarios.

The area has a mix of rolling and rugged terrain, with Wandoo woodlands the predominant vegetation type in the area.

To the east of the subdivision area, is substantially vegetated, steep and rugged terrain. This area receives localised morning easterly winds during summer putting this estate at risk from a fire originating in the Avon Valley (railway line, Toodyay Road, farming land use).

Two alignments serving different objectives are considered in this report:

- Alignment 16.1 - Extension of Sesselis Road to Folewood Road.
- Alignment 17.1 - Pindi Place to Toodyay Road.

4.8.1 Sesselis Road

Sesselis Road is a 1km long road serving approximately fifteen properties, with the majority of the properties with an easterly exposure to fire. A road reserve exists between the currently constructed portions of Sesselis Road north to Folewood Road.

This would provide an alternate direction of access in this locality. The road reserve narrows in the vicinity of 195 Folewood Road (Lot 45/P223149) and a wider reservation in this portion may be required.

Construction of this connection would provide an attractive alternative to access the greater subdivision for travellers accessing the Toodyay townsite. Therefore, this proposal does have the potential to substantially change traffic flows along Sesselis Road. An EAW is not recommended in this case, owing to the Shire's past experience in constructing convenient access as EAWs in other areas.

Recommendation 25 advocates for the construction of this alignment as a road but acknowledges that there are higher priorities contained within this report. Recommendation 26 provides an alternative recommendation to consider favourably the subdivision proposal over Lot 1469/P247186 and if necessary, Lot 1431/P247190, which results in the linking of Sesselis Road to Folewood Road.

4.8.2 Pindi Place (Wandoo Circle)

At the south-west extent of the greater subdivision area is the local network of Wandoo Circle (loop road) and Pindi Place cul-de-sac. This network connects to Sandplain Road in the east.

Pindi Place terminates on the western boundary of the subdivided area and therefore represents an opportunity on which to base future egress options via the adjoining 5459 Toodyay Road (Lot 3412/P415291).

The predominant land use for this lot is extractive industries, however the Shire should consider carefully, and be supportive of any future subdivision proposals on Lot 3412/P415291, provided that the future development results in construction of a road network connecting Pindi Place to Toodyay Road. (Refer Recommendation 27).

4.8.3 Non-Egress Consideration

Although the focus of this report is evacuation route options, an otherwise supported fire-break recommendation of the 2015 Report did not adequately consider land tenure with respect to access for maintenance.

The fire-break in question runs around the rear of a group of properties on Hibbertia Place and Drummondi Drive. The 2015 report reference for this track was 3H and has been retained on Map 8. The 2015 report advocated for the retention and maintenance of Track 3H as a fire-break, which is supported by Shire officers. However, due to terrain, the best access to the portion of this fire-break which resides on Shire owned land, is via private property to which the Shire does not have legal access.

Land acquisition is not required in this case, however an easement over Lot 40/D056678 should be sought to connect the current dead-end (safety risk to firefighters) back to the road network (Refer Recommendation 28). Ensuring this fire-break is easily accessed for maintenance and removal of the dead end is essential.

4.9 Glencoe Estate and Extracts (Toodyay townsite)

To be read in conjunction with Map 9

Glencoe Estate is a small residential estate residing immediately west of the Extracts industrial complex, both areas are bounded by the Avon River to the north and Northam-Toodyay Road to the south.

The land slopes gently downwards from Northam-Toodyay Road to the river, has limited vegetation with a collection of slightly spread-out houses and vacant blocks awaiting development.

Each area has its own point of entry from Northam-Toodyay Road, but thereafter the two networks are not internally linked.

Despite the two areas having no through roads and with one entry point each, the cul-de-sacs of Macdonald Retreat and Extracts Place are separated via a narrow linear reserve representing less than 50m in width. An informal track between these two cul-de-sacs exists in a trafficable condition as per Photograph 4 below.



Photo 4 – Google Maps Street view from Extracts Place viewing the end of MacDonald Retreat.

Although any action in this area is of low priority, it is recommended (Refer Recommendation 29) that Alignment 18.1 be considered for a spray seal from cul-de-sac kerb to cul-de-sac kerb, aligned to the next resealing of Macdonald Retreat or Extracts Place to formalise this link as an EAW.

4.10 Mountain Park (Dumbarton)

To be read in conjunction with Map 10

The Mountain Park development in Dumbarton is yet another example of a one way in, one way out subdivision.

All roads in the development end with cul-de-sacs with a single access egress north to Dumbarton Road via Nairn Drive.

The area is bound by the Avon River to the west, the Shire of Toodyay and Shire of Northam local government boundary to the south and farmland to the east. Only one road (Drumree Drive) terminates at the edge of the subdivision area, however this is on the aforementioned shire boundary.

Ruling out a crossing over the Avon River due to complexities, two alternative alignments have been assessed. Both alignments come with their own significant challenges.

These alignments are:

- Alignment 19.1 - Drumree Drive, south to Katrine Road (within the Shire of Northam)
- Alignment 19.2 - Drumree Drive, northeast along and within the Shire boundary to Dumbarton Road.

Alignment 19.1 being wholly in the Shire of Northam, would require consultation and support from an external stakeholder. The most practical way of achieving this link, would be for the Shire of Northam to support development on Lots 8/D005700 and 56/P0179915 to provide for the construction and ongoing maintenance of a road, linking Drumree Drive to Katrine Road. However, the terrain on these lots would likely detract from the financial viability of sub-divisions in this area.

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Alignment 19.2 avoids the complexities of an external jurisdiction, but achieving this alignment would require significant expansion of the subdivision area to the east to support the development of this alignment.

Both Alignments 19.1 and 19.2 are excessive in length, at approximately 4km each. Therefore, an EAW does not form a desirable alternative in these cases.

Neither option achieve a favourable analysis scoring and thus, a recommendation to seek construction is not made within this report. However, further analysis of the viability of future development in the Dumbarton area should be conducted by appropriately skilled personnel to validate, or otherwise, the viability of such concepts. This should include correspondence with the Shire of Northam. (Refer Recommendation 30). Either way, this is unlikely to be a short term priority, relative to other egress options within the shire.

4.11 Moondyne Park (Hoddy Well)

To be read in conjunction with Map 11

Moondyne Park Estate is a subdivision in Hoddys Well and has two separated, no-through road networks (Panorama View & Twilight Brae) that access the area from the west, via Salt Valley Road.

Although the subdivision has a buffer zone of open paddocks and sporadic trees to the west and south, beyond that is a corridor of dense bushland, stretching from Toodyay Road to the south of Salt Valley Road. Certain properties to the east of Panorama View and south of Twilight Brae contain and are bounded by significant bushland.

The 2015 Report stated that there was limited need to install EAWs in this area, which is broadly supported by Shire officers when considering other priorities within the Shire. However, opportunity still exists for connectivity for residents within this area and thus three alignments were assessed.

With respect to Twilight Brae, two options were considered:

- Alignment 20.1 Twilight Brae north to Toodyay Road
- Alignment 20.2 Twilight Brae east to Toodyay – Clackline Road (Considered in the '2015 Report')

The analysis scoring significantly favoured Alignment 20.1 due to reduced number of land tenures and separation of bush fire prone vegetation.

The end of Twilight Brae meets 5748 Toodyay Road (Lot 600/P042855). This lot is currently zoned Rural Living which would permit further subdivision and thus, as per Recommendation 31, the Shire should consider any future subdivision proposal on this lot provided it connects Twilight Brae to Toodyay Road. The Shire should also consider options for rezoning to Rural Residential, should this make the proposal more viable for the proponent.

Alignment 20.2 was assessed based on its inclusion in the 2015 Report but is not considered a suitable alternative to the above.

With respect to Panorama View, a single alignment (Alignment 21.1) was considered from the end of Panorama View to Hoddy Well Road. The 2015 Report also analysed this route (as it

existed at the time as informal egress) and advocated for its upgrade to an EAW standard. The 2015 Report did not consider the lack of land tenure over Lot 135/P032527 to support the recommendation.

This omission was identified by Shire officers while further analysing the recommendation in question. Unfortunately, despite efforts by the Shire, land tenure in the form of an easement was unable to be secured. This resulted in the removal of the previously existing informal egress in this area.

The Shire should consider re-visiting land tenure over Lot 135/P032527 and/or Lot 136/P032527; for this alignment, either by way of an easement to support an EAW or subdivision of a strip of land, for a road. This forms Recommendation 32.

4.12 Greater Morangup

To be read in conjunction with Map 12

The estates included in the Greater Morangup subdivision area are Gidgegannup Springs, Regal Hills, Rolling Green Estate and McGellin Estate.

Access is via Morangup Road from the north and south, and Dryandra Road from the south, both intersecting with Toodyay Road. The estates west of Morangup Road all have looped roads as the major artery (McKnoe Drive, Louisa Circle and Red Brook Circle respectively) with a number of connected no-through roads.

The most glaring example of this is the fifteen-kilometre long McKnoe Drive, which penetrates some seven kilometres west of Morangup Road and terminates on the same road, less than one kilometre from where it started.

The predominant vegetation in the area consists of Marri and Banksia (Dryandra) which can result in high fuel loads. The estate is bounded by substantially DBCA reserves to the east, north and west. A portion of the western boundary is private tenure, but still heavily vegetated.

The scale of the subdivision combined with location and density of vegetation and lack of westerly egress options, puts this community at risk in a large fire event.

The nearest road to the west is North-East Road in Gidgegannup, approximately 3.8km as the crow flies from the end of South Place, a small cul-de-sac off McKnoe Drive. North-East Road in Gidgegannup could itself benefit with an easterly egress in the opposite direction towards the Morangup Road network.

However, in investigating this potential two-way egress option, two distinct challenges are immediately apparent. The first challenge is the western boundary of the greater Morangup subdivision area, which forms the local government boundary with the City of Swan. The second and more pronounced challenge is the unfavourably steep and heavily vegetated terrain to the west and south of South Place.

Officers have also considered an alignment south, from South Place to the northern end of the constructed portion of Utah Road, a distance of 4.5km. A very similar situation exists.

Rudimentary analyses of gradients alone have been undertaken which indicate that both routes have gradients in the vicinity of 1:4 to 1:5, over extensive lengths (around one kilometre or more),

which well exceeds the 1:7 gradient maximum permitted for EAWs in The Guidelines (Page 76). For context, using a local example, the portion of Stirlingia Drive between Hatfield Place to Sesselis Road in Toodyay, represents a gradient of 1:7.4.

Any deviation to these alignments which seek to follow flatter ground or more favourable terrain, would result in alignments so indirect and lengthy, they would fail to meet their original objective of efficient evacuation routes.

It is regrettable that despite the need and risk, no viable solution is apparent in this case due to the anticipated excessive financial and engineering undertaking that would be required. The 2015 Report noted that such a route was impractical and as this report's high level analysis supports this view, the alignments above have not been scored or ranked or indicated on Map 12.

Despite the setback above, an opportunity to improve egress exists in the southern portion of the greater subdivision area, namely the contained road network of Red Brook Circle, Blackboy Way and Brook Close.

Currently this is a one way in – one way out road network, serving 69 properties with a single easterly egress to Dryandra Road. Toodyay Road bounds the southern portion of the development providing an opportunity for a short link to provide an alternative direction of egress to the south as per Alignment 22.1, linking the southeast corner of Red Brook Circle to Toodyay Road.

Such a link would improve access to and from the subdivision to a point it would likely become the primary means of accessing Red Brook Circle. The link should therefore be built as a road to avoid the inevitable misuse of an EAW (which was the recommendation of the 2015 Report). Land tenure however would need to be negotiated.

A standard twenty metre road reserve could be achieved without encroaching on the applicable 30 metre building setback for Rural Residential zoned land, by favourable negotiations with either Lot 229/P018296 or a combination of Lot 229/P018296 and Lot 230/P018244. (Refer Recommendation 33).

Consultation with Mainroads WA for a suitable intersection design with their asset (Toodyay Road) would be required under this proposal.

As analysed in-depth in Appendix D (Case Study: McKnoe Drive Easement), an extensive easement network within the subdivision does not provide practical options for either firefighting operations or evacuation. Therefore, these easements do not factor into any egress alignment related recommendations.

4.13 Bejoording

For completeness, the townsite of Bejoording (subdivision area) has been assessed as part of this report. Given that multiple arterial roads intersect near its centre, its favourable flat geometry and minimal forest fuel loads, no additional evacuation egress is recommended.

4. Fire Emergency Water

Strategic provision of water is essential for effective firefighting operations, with time to access the most critical factor. The reticulated water supply in Toodyay is geographically limited. The Shire's only standpipe, near the end of Toodyay-Northam Road, is located near to town and within the only portion of the Shire to feature Water Corporation fire hydrants. The Shire of Toodyay recently worked with the Water Corporation on a fire hydrant infill program. This included, at the request of the Shire, an expansion of the fire hydrant network along Julimar Road which provided a single, strategic hydrant within the West Toodyay townsite. While this addition provides benefit in its local area, alternate solutions are relied upon for most sub-division areas which are situated further afield.

Alternate solutions are most practical and commonly found in the form of dedicated fire emergency water tanks. The Guidelines contain standards regarding positioning and capacity of emergency firefighting water for subdivision areas. The Guidelines, while intended for future development, may be viewed as the best reference for achieving retrofitted fire emergency water supplies in high-risk areas.

The Guidelines have two main criteria:

1. Located within a 20-minute turnaround time (from entrance to a property).
Note: For the purpose of analysis the Shire has factored fill time into this figure as this was the standard up to version 1.3 of the 'Guidelines'.
2. 50,000ltr per 25 lots (or part thereof).

The Shire's fire emergency water network consists of 27 sites with total capacity of 2.61 million litres.

The table below contains statistics of aggregated statistics for subdivision areas across the Shire in relation to the above criteria:

Total Number of Lots (Subdivision Areas)	1,948	Number of Lots with 20min turnaround time	1,932	Compliance
Required Capacity (litres)	3.90m	Current Capacity (litres)	1.32m	99.18%
				33.84%

Table 4 – Aggregated Fire Emergency Water statistics for subdivision areas

Note 1: Not all sites are located in subdivision areas – this explains the difference between totals mentioned above and those contained in the above table.

Note 2: The above figures do not include townsite properties (reticulated service), or Shire Depot coverage/capacity. The latter has been excluded as its large capacity, which is used for other purposes besides Fire Emergency Water, would unreasonably distort the above figures.

Note 3: Capacity figures do not include additional capacity provided by bore fed sites in feed rates.

Note 4: These are aggregated figures. Performance of an individual subdivision area may be better or worse than the aggregate.

As is evident from the above table, reasonable coverage is achieved based on the turnaround time criteria. The coverage map below shows coverage of all fire emergency water locations within the Shire with exception of three Avon Valley tank sites which do not reside on the road network data set required for analysis - their purpose is to supply water in the difficult to access Avon Valley.

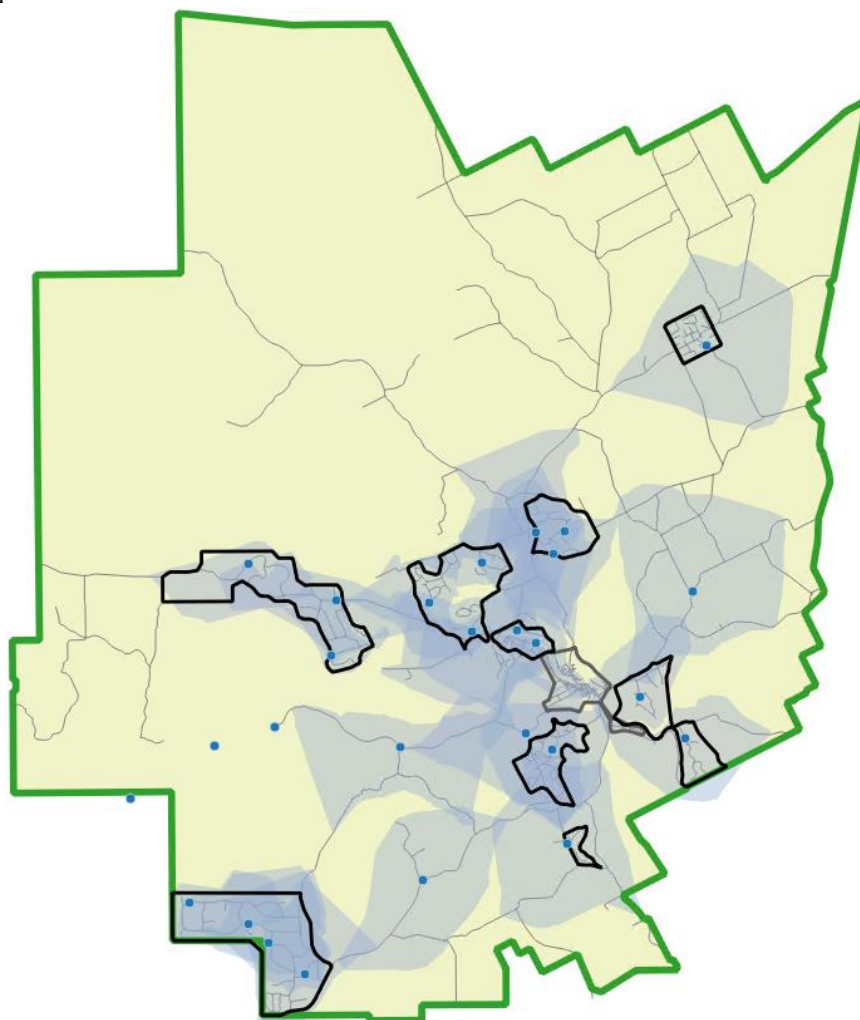


Figure 5 - Fire Emergency Water – 20 minute Turnaround Coverage.

While not considered as critical as strategic placement, capacity remains the Shire's biggest gap to the standards of The Guidelines. Achieving capacity standards would require continued major investment to achieve.

The Guidelines allow for alternate solutions in meeting fire emergency water source specifications. While not specifically mentioned as an alternate solution in The Guidelines, the Shire has implemented a 'hub' system within each major sub-division area to augment water supplies. The hub system at each of Coondle-Nunile, Julimar, Bejoording and Morangup bush fire brigade facilities, provide capacity of between 94,000 and 141,000L, pressurised by high flow electric pumps with backup power and drafting plumbing redundancies. This allows for non-

potable water carts (BFS, DBCA and private contractors) to efficiently transfer water from, to and within an incident without reliance on the Shire's sole standpipe. This aims to reduce the capacity draw of firefighting applies on static 'satellite' tanks in the area during an incident.

The Shire's fire emergency water network has been made possible by contributions from both direct and grant augmented funding from the Shire, Department of Water and DFES over an extended period.

The Shire should continue to consider and seek funding for further enhancements to its fire emergency water supplies (Recommendation 34). This includes increasing capacity at existing sites in subdivision areas and infill in rural areas with large travel times (northern half of Shire).

Fittings

The Shire of Toodyay typically fits its fire emergency water facility with the following fittings:

- 2-inch Camlock Female; and
- 3-inch Camlock Male; and
- (in the case of a pressurized hub site) 2.5-inch British Instantaneous Coupling Female.

This configuration has been adopted as it allows most fire appliances to connect to these facilities without need for an adaptor.

However, standards for fire emergency water facilities have long been focused on metropolitan requirements. This has been a recent point of discussion at the state level DFES Bush Fire Operation Committee. The Guidelines have introduced standard fittings in their current iteration, these appeared to remain metropolitan focused and do not align (allow connection) with a bush fire appliance either directly or by standard equipment issued by DFES which specifies, builds, and supplies fire appliances to local government Bush Fire Services.

The Guidelines current fitting requirement for non-commercial use is:

- 2-inch Camlock Male; or
- 4-inch Camlock Male.

The Shire of Toodyay has stowed additional fittings on its appliances to ensure that appliances can connect to a wide range of tank fittings they may come across on private land or out of shire. The Shire should also consider the ability of out of Shire appliances to be able to connect to its water supply during large incidents.

Given the current 'Toodyay standard' allows at least some appliances to connect directly to tanks without the need for adaptors not supplied as standard by DFES, and the lack of alignment between DFES appliance specifications and those of the Guidelines, caution is advised in making changes to the Shire's standard tank fittings at this time.

Recommendation 35 advocates for the raising of the issue with relevant stakeholders DFES/Department of Planning, with the view of making relevant changes when the appropriate alignment occurs.

Signage

The Shire's current water tank network is currently sign posted by 'FIRE Emergency Water' street blade style signs. The placement of signs should not be considered comprehensive or constant. No signage is located on/at the fire emergency water facilities themselves. While local fire crew have a good understanding of tanks in their immediate area, this knowledge is less reliable for crews outside of their local area, and almost non-existent for crews from outside of the Shire. Signage to assist fire crews in locating fire emergency water facilities should be installed in such a way to effectively direct crews from arterial roads or points of entry in high-risk areas.

Recommendation 36, advocates for a review and upgrade of signage to the following standard:

- White on Red 'Fire Emergency Water' street blade style signage is placed at intersection of arterial roads leading into subdivision areas, and then at each intersection thereafter.
- Each sign should point in the direction of travel to the fire emergency water facility and contain distance information.
- Where an interim turn (intersection) needs to be navigated the distance should be contained in brackets ().
- White on Red rectangular signage at the fire emergency water facility: 'Fire Emergency Water - Emergency Use Only – Do Not Obstruct'

The table below demonstrate the proposed signage:

Intersection signage where further navigational turn is required	
Intersection signage – where no further navigational turn is required	
Roadside signage directly opposite tank facility location	
Facility usage signage attached to tank	

Table 5 - Proposed Fire Emergency Water Signage

5. Shire Easement Liability

Recently the Shire became aware of an easement for which it had maintenance responsibilities under the [Land Administration Act 1997](#). This highlighted a gap in the Shire's understanding of easements in which it is party to and the specific obligations of those easements. Lack of understanding represents a risk where the Shire may be liable for not meeting its legal obligations specified in a Deed of Easement.

Landgate's (2021) simple definition of an easement is defined as "*a right attached to a parcel of land which allows the proprietor of the parcel to use the land of another in a particular manner or to restrict its use to a particular extent.*"

An easement does not change ownership of land but provides rights to another party for a specified use. The use and obligations of both the grantor and grantee are specified in a Deed of Easement, which becomes a legal instrument under the [Land Administration Act 1997](#).

Understanding what easements the Shire is party to (as a grantor or grantee) and its obligations under each Deed of Easement are key to reducing the risk of liability stemming from un-serviced obligations.

Easements in benefit of the Shire are common in the area of fire management, however easements may exist for other purposes which may contain similar liabilities. Thus, the concept of better understanding the Shire's easement liabilities in this section of the report should not be contextualised as being solely fire related.

Appendix C, Harvester Drive Easement Case Study, details the above-mentioned example where the Shire had obligations under the Deed of Easement. While checks have been performed on other easements known to the Shire's Emergency Management officers, data obtained via Landgate indicates a high probability of the existence of additional easements for which the Shire is not aware of;

- a) The existence of such an easement,
- b) Whether it is party to such an easement,
- c) Any obligations with respect to such an easement

In the example of Appendix C, Harvester Drive Easement Case Study, the Shire, for a period of approximately ten years, was not meeting its obligations for fire-break maintenance required by the Deed of Easement. Had a bush fire impacted the area and led to loss of property and/or life, the Shire may have been exposed to legal claims of landholders/residents or insurance companies. The reason the Shire was not maintaining the subject easement was due to lack of knowledge of its responsibilities.

Increasing knowledge is the key to reducing risk. Recommendation 37 advocates that the Shire allocates appropriate resourcing to undertake a project to identify and record easement 'Grantors', 'Grantees' and responsibilities for all easements within the Shire. Where a Shire responsibility is recorded, the relevant Shire department should review whether obligations are being met under the Deed of Easement and take any required action or seek to extinguish the easement if it is deemed to have no benefit to the Shire.

To understand the full extent of the Shire's responsibility, easement documents (Deed of Easement) would need to be purchased.

Unfortunately, Landgate's spatial dataset is not complete. Therefore, the approach required to ascertain individual easement responsibilities would differ depending on the completeness of Landgate dataset in relation to a given easement.

In the case where an easement document number is identified within the Landgate Data, the document can be directly purchased.

Where an Easement Document Number is not identified in the Landgate Dataset, the Certificate of Title would need to be purchased first, in order to obtain the Easement Document Number for purchase of a Deed of Easement.

The current cost for a Certificate of Title or Easement Documents search is \$27.20.

The Shire has analysed the Landgate dataset for completeness and provides the following statistics and cost projections.

			Certificate of Title Document Purchase	Easement Document Purchase	Total Cost (incl. GST)
Number of Easement Documents identified in Landgate Dataset	274	These Easement documents can be purchased directly	N/A	\$7,452.80	\$7,452.80
Properties without Easement Document Numbers	271	These Easements would require a Certificate of Title search prior to obtainment of the Easement Document.	\$7,371.20	\$3,699.20*	\$11,070.40
Totals			\$7,371.20	\$11,152.00	\$18,523.20

Table 6 - Projected costings of obtaining Landgate Document

* The estimated Easement Document Purchase total is based on the premise that some of the 271 properties without Easement Document Numbers would share common easements, thus reducing the number of Easement documents that need to be obtained. The extent of Common Easements on these properties cannot be quantified. A figure of 50% has been used for the above estimate.

Staff Administration time is in addition to the above and has been estimated at 30 minutes to process each Easement document. This includes obtaining, interpreting and recording the relevant information. This equates to 28 days or approximately 6 weeks (One Staff Member full time).

Given the inherent complexities surrounding easements which have been highlighted in both this Section and Section 3 – Toolkit, the Shire should seek to limit the number of easements to which it is party to in the future. This will reduce the risk of potential future liabilities. The Shire should also consider adopting a position of opposing development proposals, which attempt to establish easements across multiple properties in the context of fire. Furthermore, when applying subdivision perimeter vehicular access solutions, higher-level controls such as the use of a perimeter road or Shire managed tenure should be favoured (See Recommendation 38).

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6. Mitigation

7.1 Background

Bush fire mitigation is an important activity that can reduce the spread and severity of a bush fire.

Mitigation amounts to maintenance of vegetation and should be considered an ongoing operational requirement, similar to the grading of a road. Retreatment ranges from one year to fifteen years, depending on the vegetation type. As a rule of thumb, vegetation loads of over six tonne per hectare make bush fire hard to control. Grass fuel types can achieve six tonne per hectare annually, where Marri/Jarrah typically add one tonne per hectare annually. Wandoo woodlands add fuel loads at approximately half this rate.

Mitigation is a shared responsibility where all landholders play their part, including local governments, other relevant agencies and private landholders.

7.2 Mitigation Activity Fund (MAF)

In the past five years, mitigation has become a major focus of the State, with increased funding to local governments via the Mitigation Activity Fund (MAF), funded by the Emergency Services Levy (collected by the Shire on behalf of the State). MAF enables mitigation works on Crown land that is managed by the local government. This includes reserves, road reserves and Unallocated Crown Land (UCL) and Unmanaged Reserves (UMR). MAF does not support works on private land or land directly owned by the Shire.

The Shire has received and invested approximately \$2.5 million for mitigation activities via MAF. This has enabled the Shire to do work primarily in and around high-risk subdivision areas, which have received little mitigation attention since their inception - in some cases, forty years ago. The Shire has now largely cleared its backlog and is progressively moving its upcoming MAF program to a "maintenance program".

The Shire now needs to continue and consider increasing its mitigation investment on its directly-owned tenure. An example of this is the balance of the Recreation Precinct land, which has been left in an unmanaged state Refer Photos 5 and 6, despite its proximity to public and private assets. The Shire should consider a mitigation program and budget to meet needs on its private tenure (Recommendation 39).



Photo 5 - View of Shire land adjacent to Recreation Precinct



Photo 6 - View from Shire land between Recreation Precinct and local Residential area

7.3 Tools and Techniques

As discussed, different vegetation types have different fuel load behaviours and characteristics requiring a range of mitigation approaches to address fuel loads and meet the needs of the local environment. Therefore, the Shire has adopted an approach of identifying and applying the most appropriate mitigation method to ensure the best mitigation and environmental outcomes.

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Methods used successfully within the Shire include forestry mulching, chemical application, biological (grazing), slashing and prescribed burning.

Despite the wide range of mitigation approaches available, the 2015 Report almost exclusively promoted 'Planned burning', as the most effective treatment method. In fact, Recommendation 9.6.4 of the 2015 Report stated:

"The Shire should strongly consider a wide ranging strategic hazard reduction burning program as the most effective way to manage fuel loads".

This does not align with the Shire's experiences in dealing with its land tenures, which vary greatly in terms of vegetation, size, shape, function and terrain. Officers do not support a one-size fits all approach, instead favouring the most appropriate method to support the objectives and constraints of the site.

A summary of mitigation methods is provided in the table below.

METHOD & SUITABILITY	ADVANTAGES	DISADVANTAGES
<u>FORESTRY MULCHING</u> Machinery based approach using a spinning toothed drum to change the structure of the vegetation, via a mulching action. Mulched material is left in-situ reducing a fire's access to well-structured fuel. It is an effective mitigation method. Particularly useful on dense shrub fuel types such as Banksia (dryandra). The Shire has used this method on selected road verges and reserves.	The in-situ mulch, which is left behind, provides a natural barrier against weed growth and erosion. Can be conducted in a wide range of weather or seasonal conditions. This method can be selective to avoid key vegetation such as grass trees or trees, as well as assets such as fences or utilities. Encourages regrowth of more diverse species from seed bank in soil. This technique is gaining recognition within the industry, resulting in more contractors able to conduct this type of work. Does not have the patrol and follow up requirements of hazard reduction burning.	Can be expensive, particularly when dealing with small areas.
<u>CHEMICAL (Spraying)</u> Suitable on grass fuels such as road verges or grass reserves.	Relatively cheap and quick. Correctly timed spray can reduce grass going to seed and therefor reducing grass growth for the next season. Wide availability of contractors.	Limited application window. Relies on a consistent and timely budget settlement process.
<u>MECHANICAL</u> Machine Clean-up (Used on degraded reserves to improve the land such that a follow up mitigation strategy (slashing/spraying) can be carried out in a cost-effective manner in the future).	Wider timeframe to be able to conduct compared to spraying. More cost effective than mulching in the context of clean-up. Generally regarded as a one-off process followed up by chemical method. Wide availability of contractors.	Produces heaped waist that requires secondary attention (burning).

<u>BIOLOGICAL</u> The use of stock animals such as sheep to reduce grass fuel levels on already degraded grassland reserves.	Cheap (high demand sheep owners to obtain grazing opportunities for their stock) Can occur over a wide time frame. Suitable for grass land areas featuring rugged/steep terrain.	Animal welfare considerations (These responsibilities often deferred to stock owner). Need for adequate fencing to be established. It restricts the public use of land during the treatment.
<u>BURNING</u> Useful on larger, natural bushland reserves. The Shire has very few of reserves of this nature at a scale where burning would be considered the most effective method.	It is the most natural mitigation method (Mimics nature).	Requires largest personnel commitment of any method. Requires machinery preparation and standby. Potentially long patrolling requirements, which can last several days. Only cost effective with scale. Can be controversial with the public and potentially impactful to public (i.e. smoke). Can lead to weed invasion requiring following treatments (chemical) in some environments.

Table 7- Mitigation Methods used within the Shire of Toodyay

As is evident above, there are a range of options available, many of which have advantages over burning.

7.4 Mitigation Workforce considerations

7.4.1 In-house (Staff and Volunteers)

The 2015 Report strongly advocated for the use of volunteer bush fire brigades as the major workforce for burning on both public and private land. This report does not support such a position for a number of reasons.

Bush fire brigades should not be considered as pseudo-Shire workforce given their unpaid nature. The same extends to any expectations that they form a workforce to placate private landholders. This is a position which featured strongly in BFAC member feedback on the 2015 Report. In short, the volunteers do not appreciate the assumption made on their behalf by the '2015 Report'.

It should be noted that the Shire's bush fire volunteers are trained to control and extinguish wildfire, not to conduct hazard reduction burning. While there is some overlap of both knowledge and equipment, these two activities should not be considered the same skill set.

In addition, the equipment and extensive training required, coupled with the diversity of fuel-types and the inherent time-poor nature and availability of volunteers make this an unsustainable option.

While Shire officers could be an option, there are a limited number of appropriate staff and impacts on other scheduled activities must be considered. Finally, given the highly weather dependant nature of hazard reduction burning, sufficient scale would be a barrier to retention of knowledge within both Shire staff and volunteers.

While fuel loads on private land do represent a concern in the management of bush fire and the Shire has the ability under the [Bush Fires Act 1954](#), to compel landholders to reduce fuel loads, an approach which advocates for education and one that supports industry development is a preferred position.

The 2015 Report's notion that an individual brigade could conduct 10 – 15 burns annually is an unrealistic assumption of brigade capabilities in a rural setting. The combined 'free time' of brigade members to conduct burns would not be sufficient to have a tangible overall impact on bush fire management, when considering servicing private land tenure. Provision of such a resource to private landholders would undermine the concept of the landholder's responsibility in managing their own land, and likely result in a reduction of landholders currently self-managing fuel loads without burdening the Shire's Bush Fire Service. It also undermines the prospects of a viable private, local mitigation industry.

7.4.2 The role of industry

Since 2015, the Shire has conducted the majority of its mitigation activities via appropriately skilled practitioners. Specifically, in respect to hazard reduction burning, this has resulted in improved ecological outcomes, minimised impact on Shire operational schedules, while supporting local contractors. Despite the 2015 Report advocating the use of contractors as being "prohibitively expensive", the Shire has been able to fund such activities through a combination of its own funds and grant funding opportunities. While MAF has been the primary contributor to contractor led hazard reduction burning, it should be noted that MAF did not exist at the time of the 2015 Report.

While the private fire response and mitigation industry has faced insurance driven obstacles over the last couple of years, to the point where hazard reduction burning services are currently not commercially available, discussions between the mitigation industry, insurance industry and government are currently occurring and the prospect of re-establishing this aspect of the industry should not be ruled out long term. Thus, the Shire should not dramatically alter its course from contractors being the preferred option at this time.

Together with the challenges of the alternative (in-house) approaches discussed above, and the Shire's relatively low requirement for hazard reduction burning (in part due to past diversification of mitigation methods) the Shire can afford to monitor this situation before an alternate approach needs to be considered or enacted.

7.5 Incentivising Mitigation

The 2015 Report supported (but not by Recommendation) the incentivising private landholders to mitigate their properties.

While encouraging mitigation through public education is essential, the concept of offering incentives masks the current legislative framework designed to ensure mitigation compliance.

The incentive for a landholder to mitigate is their own safety and protection of their own assets and to avoid penalty for non-compliance with notices issued under the *Bush Fires Act 1954*.

Providing incentives for compliance would be a drain on Shire resources financially and administratively. The opposite is true for a financial education based approach where warranted and utilises existing legislation framework for which the Shire has responsibility to administer.

Community education should be used to increase awareness of risk and responsibility of private landholders to encourage positive mitigation outcomes. This education should be frank with respect to penalties for non-compliance. The Shire should not be afraid of enforcing penalties as a secondary tool for education.

7. Community Engagement

Recommendation 6 of the Perth Hills Bushfire Review (2011) stated:

The Fire and Emergency Services Authority, in partnership with local government conduct more focused pre-season bush fire education, which emphasises:

- *Water supply is not guaranteed during a bush fire*
- *Power supply is not guaranteed during a bush fire*
- *Water 'bombing by aircraft cannot be guaranteed in a bush fire*
- *Saving life will be a priority over saving property so expect to be evacuated*
- *Once evacuated, access to affected areas may not be possible for several days*
- *SMS warning are advice only and may not be timely.*

The reasoning behind Recommendation 6 was that the Special Inquiry found that there was a poor understanding in the community about some of these key messages, including unrealistic expectations of fire response – believing fire trucks and aerial bombers would be available to protect every property. This ultimately led to a sense of complacency and a lack of preparation.

This serves as an example of how important it is to constantly engage and educate residents about the realities of bush fire risk and preparedness. The challenge lies in keeping the momentum and awareness of bush fire risk in general and especially between catastrophic events.

The Victorian Bush fire Report (2009) included the figure below, demonstrating the cycle of stages after a major bush fire event and where complacency sets in between catastrophic events as below.

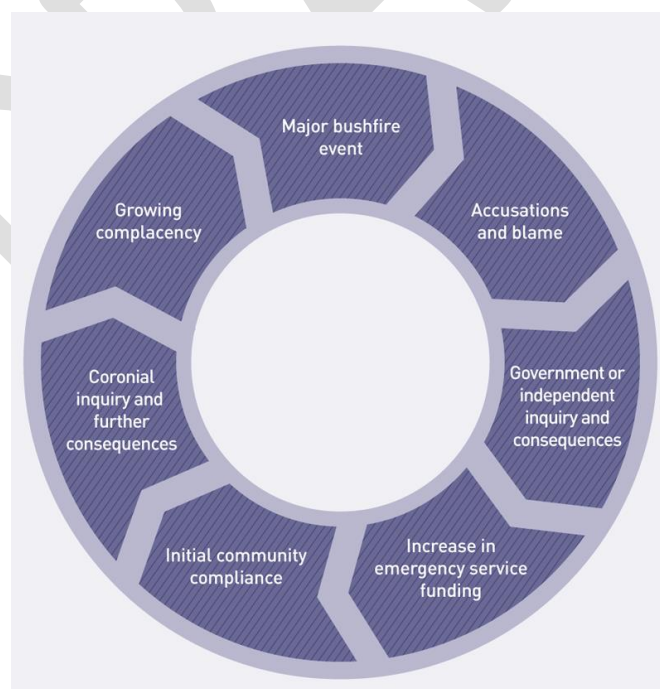


Figure 7 Complacency cycle between Catastrophic Bushfires

Currently, Toodyay can be described as being in the stage of 'Growing complacency', with the completed associated investigations, reports and inquiries from the last the major bush fire event occurring over a decade ago, in 2009. More than ever, now is the time to significantly increase the awareness of bush fire risk and maintain the concept as current.

Resourcing for community engagement has previously been limited until the recent establishment of the Emergency Management Officer (EMO) position, community engagement through a number of mediums will be increased to create a schedule of constant and consistent messaging in a proactive manner. This involves supporting bush fire volunteer led initiatives.

A baseline community engagement program should be developed as part of business as usual, leveraging low-cost mediums such as social media and Shire News in the Toodyay Herald. While not consistently available, grant funding can assist with more costly mediums/projects. Development of such projects which can leverage these grant opportunities should be developed.

The theme of enhancing communication and education with landholders was one heavily supported in comments provided by BFAC members. BFAC comments also referenced that despite a level of complacency among some in the community that will never be completely overcome, nor will the task of community engagement ever be complete.

Another consensus of the BFAC consultation for this report was that not only is increased community engagement needed, but that a more frank and direct approach about the realities of bush fire emergencies is required. The public needs to be made aware of these realities in a way that engages and slightly confronts them, so as to have the message understood 'loud and clear'. This sentiment is supported by the 2009 Victorian Bushfires Report (2010):

"It is essential that there be a continued focus on providing frank and meaningful advice about the risks and what is required to adequately prepare for and survive a bushfire."

This concept of a frank and meaningful approach to community engagement forms Recommendation 40 and strives to adopt a position of reality when it comes to communicating the risks of bush fire emergencies.

8. GIS

The 2015 Report Recommendation 9.1.1 endorsed developing a Geographic Information System (GIS) database to map risk and resources.

For the wider organisation, GIS is a new concept and, in the future, will form a fresh way of functioning, answering operational questions and communicating with the public.

This report supports the implementation of a GIS system for the organisation, allowing for all areas of the business to use spatial concepts to help understand and analyse their work areas more efficiently.

To date, the Shire's use of GIS has been a piecemeal approach of predominately, free systems, leveraged by staff members with an interest in exploring spatial solutions.

Recently, the Shire has engaged a market leading provider, ESRI to supply software which will enable the Shire to take a more common and holistic approach to GIS. This project is in its formative stage and the Shire's use of GIS in general and for emergency services/management will increase as the knowledge and experience of the organisation grows, resulting in the ability to make data-driven decisions.

Since 2015, the Shire has collected spatial data with respect to mitigation activities, fire emergency water assets and EAW and FSAR alignments and associated infrastructure. The Shire has also employed spatial analysis software (Feature Manipulation Engine) to enable an innovative fire permits system. This software has been used to perform the spatial analysis contained within this report. Additionally, the Shire has begun using GIS solutions to support the issuing of individual Firebreak Notices (variations) and the Shire's compliance inspection program.

The Shire also utilises the DFES Bush fire Risk Mitigation GIS System (BRMS) to communicate mitigation plans and subsequent activities to DFES. Future DFES plans for this system include bulk actions that allow data from a user's system to be transferred into BRMS. This represents an opportunity for further use of GIS within the Shire to create, analyse and store data for efficient input into BRMS. This would remove time-consuming manual tasks currently undertaken on regular basis.

As part of the establishment of the Emergency Management Officer role (discussed in Section 10), the Shire has for the first time, dedicated a resource to the progression of GIS within the organisation.

Maturity to a corporate system remains a longer-term goal; an example of an exploratory project undertaken within the fire management area is outlined below.



The Shire's Rangers have now moved away from a paper based Fire-break Inspection system and commenced the 2021/2022 Fire-break inspection season, utilising a specialised app and software, for a more efficient, trackable and sustainable process.

Image 1 - GIS driven Firebreak Inspection Application

This system allows the Rangers to record the results of Inspections electronically via an app (Refer Figure 8), attach photographs, enter comments relating to the properties requirements and submit. The Administration creates an outgoing letter from templates and the ratepayer promptly receives the correspondence.

The use of GIS allows the Shire to:

- Easily conduct inspections and re-inspections
- Easily find the details of the inspections
- Retain a visual history of what areas/properties were inspected in any given year
- View the result of the Inspections on a map at a glance
- Plan what areas/properties to inspect next

GIS is a rapidly growing tool and the Shire's GIS provider ESRI, have a suite of products at the Shire's disposal. In the future, the Shire will transition any GIS functions/Mapping being used in free programs to the Shire's centralised ESRI location.

Some of the future GIS prospects for Emergency Services related solutions include:

- Fire Signage (location, age, condition)
- Verge Spray Program
- Schedule of Mitigation works
- Community Engagement
- Second generation electronic fire permit issuing system
- Future Strategic Planning

While no recommendations are specifically made in this section, the Shire should acknowledge that the progression to a corporate to a GIS system will be a long road, given it cannot justify a dedicated professional. The Shire's path to knowledge via the upskilling of the EMO and other staff is a process, which will take time. Sufficient training opportunities should be afforded to staff to assist in the expansion of knowledge.

9. Staffing

The Shire of Toodyay holds significant responsibility in managing risk in regard to Bush fire and Emergency Management Preparedness, Prevention, Response and Recovery (PPRR). These are the four pillars of integrated Emergency Management.

Currently the Shire has three roles, which broadly cover three of the four pillars. While these roles have significant overlap, each role can be categorised with primarily dealing the following pillars:

- CESM - Response
- RMO - Prevention
- EMO - Preparedness

The fourth pillar of Recovery is an organisational responsibility led by the Local Recovery Co-ordinator as per the State Emergency Committee Guidelines. The Local Recovery Co-ordinator (and deputy co-ordinator) responsibilities are designated to Shire staff by Council. The function of Recovery does not in itself commence until an incident occurs, however, planning for recovery may be considered as part of an overlap with Preparedness pillar.

Each position, including that of the Local Recovery Co-ordinator is considered in more detail below.

9.1 Community Emergency Services Manager (CESM)

The Community Emergency Services Manager (CESM) role is a partnership between DFES, Shire of Toodyay and Shire of Goomalling with a majority of funding for the role provided by DFES.

Responsibilities of this role are largely dictated by the DFES specified Memorandum of Understanding (MOU) and associated Business Plan. The existence of DFES and the Shire of Goomalling as partners effectively equates to the CESM role being part time, with respect to time allocation to the Shire of Toodyay, despite being employed being full time by the Shire of Toodyay.

The role of the CESM may be considered the broadest in its responsibilities to all pillars of Emergency Management. However, the primary focus is the operational functions of both Shires' Bush Fire Services. This includes volunteer management, training, administration, and operational response among other tasks. In addition, the business plan also has expectations of bush fire mitigation, emergency management and community engagement.

Toodyay's extreme exposure to bush fire, the combined actions required to meet the needs of the business plan, legislation and the expectations of the community, has resulted in the Shire providing additional resource to this business area.

9.2 Reserve Management Officer (RMO)

In April 2014, Council received a report proposing the establishment of a new position titled 'Fire and Land Management Officer', for the main purpose of fieldwork and bush fire mitigation required to manage Shire land holdings.

The 'Reserves Management Officer' role was confirmed, reflecting a broadening of the proposed roles responsibilities away from Fire Management, to include aspects such as amenity of reserves.

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Over the past seven years the role has assumed additional non-fire management related tasks. This includes but is not limited to acting for Ranger Services, environmental administration, in particular the obtainment of vegetation clearing permits to support the Shire's road construction and dangerous tree inspections.

The combination of the broadened reserve program focuses initially adopted by Council, plus the advent of additional non-fire management tasks means this position is now removed from the original intent.

Over this period bush fire risk mitigation has become an increasing focus for the State with substantial funding for projects now available to the Shire. This has resulted in increased workloads in the fire management area.

Given the RMO role has not formally been reviewed since its inception, Recommendation 41 advocates that the role's position description is reviewed with the intent of refocusing duties and responsibilities to fire management and mitigation as its primary objective.

9.3 Emergency Management Officer (EMO)

In November 2021, in recognition of the increased requirements in fire management, Council agreed to allocate additional resources and the 'Emergency Management Officer' (EMO) role was created.

Key functions of this role include emergency management preparedness, Local Emergency Management Committee (LEMC), emergency and fire related administration and support, community engagement/education and assistance to the Local Recovery Co-ordinators.

The EMO also provides support to Ranger Services for fire related compliance inspections, and to progress the use of GIS across the organisation. The role also assists with aspects of volunteer training, helping the Shire meet its workplace health and safety obligations for the Bush Fire Service.

The position works closely with the CESM and RMO, provides diversification of Emergency Management knowledge within the organisation, and provides backfill of the CESM role for periods of leave or secondment.

The EMO role allows for a dedicated resource to increase knowledge and improve preparedness and community awareness. It also allows for greater scope for the role to leverage increasing funding opportunities available in this industry.

In summary, the creation of this position represents a maturing of the Shire's understanding of its obligations and its response to managing risk in the community.

9.4 Local Recovery Co-ordinator, Welfare Liaison Officers and supporting staff

The Recovery pillar of emergency management requires additional resourcing during and following a major incident.

The two key roles are Local Recovery Co-ordinator as required by the [Emergency Management Act 2005](#), Section 41(4), and Local Government Welfare Liaison Officer. The responsibilities of

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these roles are outlined in the Shire of Toodyay's Local Emergency Management Arrangements seen in the table below.

Local Recovery Coordinator	To ensure the development and maintenance of effective recovery management arrangements for the local government. In conjunction with the local recovery committee to implement a post incident recovery action plan and manage the recovery phase of the incident.
Local Government Welfare Liaison Officer	During an evacuation assist Dept. Communities by providing advice information and resources (a) open and establish a welfare centre at the nominated facility until the arrival of DC; (b) establish the registration process of evacuees until the arrival of DC; (c) provide advice, information and resources in support of the facility; and (d) assist with maintenance requirements for the facility.

Table 8 - Excerpt of LRC and WLO roles from Shire of Toodyay Local Emergency Management Arrangements

Due to this importance of these two roles, it is essential that they are not held solely by an individual. At least two appropriate personnel should be appointed two each of these positions, to provide appropriate coverage and if required, added capacity and/or endurance to the recovery effort, remembering that an event in its early stages, recovery may require around the clock operations.

The Local Recovery Co-ordinator should be seen as strategic leadership role and as such is ideally suited to Shire officers with appropriate purchasing authority and ability to direct staff – senior management positions are recommended to hold these roles.

The Welfare Liaison Officer is ideally suited to Shire officers who live locally, to reduce lead-time, in establishing an evacuation centre.

Both the Local Recovery Co-ordinator and Welfare Liaison Officer will need to be support by other Shire officers for the duration of any emergency.

Currently, the Shire has no Senior Management Group personnel in the Local Recovery Coordinator role and no formally dedicated Welfare Liaison Officers. However, the personnel nominated in the Local Recovery Coordinator role are expected to carry out the Welfare Liaison Officer function.

Neither officer has authority to direct staff or expend funds.

Recommendation 42 recommends that the Shire reviews its current Local Recovery Co-ordinators and Welfare Liaison Officers to effectively meet the requirements its Local Emergency Management Arrangements.

Recommendation 43 recommends that all Shire officer positions descriptions contain a responsibility to support emergency management recovery/efforts. This ensures that all staff understand the organisation's requirements to manage recovery and clearly states the intent of the organisation to call upon staff in recovery when required.

Recommendation 44 therefore suggests that all Shire officers are required to undertake a level of WALGA Emergency Management training. This is:

- Senior Management Group and Welfare Liaison Officers - *Recovery Co-ordinators Course for Local Government*
- Shire Ranger Services - *Animal Welfare in Emergencies*
- All other staff – *Emergency Management Fundamentals*

Elected Members should also be offered the opportunity to attend training to ensure they understand the organisation's recovery responsibilities.

DRAFT

10. Recommendations

Recommendation # / Section	Type	Recommendation
Recommendation 1 Section 3	Position Statement	Advocate for more appropriate terminology for 'Emergency Access Way' in The Guidelines and continue to dual label such routes with the term 'Alternate Evacuation Route' in the interim.
Recommendation 2 Section 3	Strategic Planning	Commit to appropriate contributions to Egress and Access Reserve fund as part of the annual budget process.
Recommendation 3 Section 3	Strategic Planning	Develop applicable planning, policies, strategies and procedures the following Lots in support of future subdivision proposals and enquiries: 1/D074943, 151/P018487, 3412/P415291, 9001/P405299, 9500/P059240, 9011/P062847, 606/P062188, 9010/P062847, 9508/P077718, 604/P062188, 1469/P247186, 1431/P247190, 600/P042855, 605/P062188
Recommendation 4 Section 3	Position Statement	Adopt the default position of provisioning egress as a road.
Recommendation 5 Section 4	Shire Project	Maintain Alignment 2.1 (Emergency Access Way linking Sand Spring Road to Malkup Brook Road) and consider potential upgrade to a road upon analysis of traffic flows post implementation of Recommendation 5.
Recommendation 6 Section 4	Shire Project	- Negotiate road reserve land tenure from 604/P062188 and 606/P062188 and if necessary 605/P062188; and - Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or - Utilise existing and/or future contributions to the Egress and Access Fund; and - Undertake relevant survey and design; to Construct Alignment 1.1, a road linking Malkup Brook Road and Harders Chitty Road.

Recommendation # / Section	Type	Recommendation
Recommendation 7 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 604/P062188 and 606/P062118 or 605/P062188, which results in Alignment 1.1 linking Malkup Brook Road and Harders Chitty Road as a road. Recommendation 7 should be considered as an alternate to Recommendation 6.
Recommendation 8 Section 4	Shire Project	Maintain Alignment 3.1 (Emergency Access Way linking Horseshoe Road to Jarrah Court.
Recommendation 9 Section 4	Shire Project	• Negotiate road reserve or easement land tenure from 280/P224200 and 72/P224630 and if necessary 190/P224215; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Construct Alignment 4.1, as a road or Emergency Access Way, linking Horseshoe Road and Waters Road.
Recommendation 10 Section 4	Shire Project	• Negotiate road reserve land tenure from 17/P15443 and 86/P224582; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and Undertake relevant survey and design; to Either upgrade Alignment 5.1 to a compliant Emergency Access Way standard, or upgrade to a road, linking Fawell Road and Church Gully Road.
Recommendation 11 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 9500/P059240, which results in Alignment 6.1 linking McIntosh and Leeming Road or (Church Gully Road) as a road. This should include, but is not dictated by, the additional Alignment 6.3 linking of McPherson Avenue. This Recommendation should be considered with, but not bound by Recommendation 12.
Recommendation 12 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 9500/P059240, which results in Alignment 6.2 linking Coondle Drive and Leeming Road (or Church Gully Road) as a road.

Recommendation # / Section	Type	Recommendation
		This Recommendation should be considered with, but not bound by Recommendation 11.
Recommendation 13 Section 4	Shire Project	Negotiate road reserve tenure over 518/P012216 either directly or via a land swap utilising the eastern portion of 101/P012216 (Reserve 39747). This recommendation has relevance to Recommendation 12.
Recommendation 14 Section 4	Shire Project	Upgrade the existing Alignment 7.1 (Emergency Access Way) to a road linking Dryer Road and Wilkerson Road. This may require the conversion of current 'Right of Way' tenure to road reserve.
Recommendation 15 Section 4	Shire Project	• Negotiate road reserve or easement land tenure over 22049/P2011942 (Rugged Hills Nature Reserve from Department of Biodiversity, Conservation and Attractions; and • Negotiate road reserve land tenure over 9002/P037111; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Construct Alignment 8.1, a road or Emergency Access Way linking Ridley Circle to White Gum Ridge.
Recommendation 16 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 151/P018487 where it provides the relevant land tenure to support possible future recommendations for Alignments 8.2 and 8.3 and 11.1 as a road.
Recommendation 17 Section 4	Strategic Planning	Undertake further analysis of the viability of over rail egress in the West Toodyay area, in the vicinity of Fitzgerald Street or Wellington Street.
Recommendation 18 Section 4	Shire Project	Construct Alignment 10.1 linking North Street and Collett Way as a road, with the alternative option of constructing Alignment 10.2 linking Fitzgerald Terrace as a road.

Recommendation # / Section	Type	Recommendation
Recommendation 19 Section 4	Shire Project	Upgrade the existing Alignment 12.1 (Emergency Access Way) to a road linking Nottingham Road (East) to Nottingham Road (West).
Recommendation 20 Section 4	Shire Project/ Strategic Planning	Create road reserve over 9508/P077718 and construct Alignment 13.1 linking Drummond Street (East) to Burt Parkway as a road or consider the development of this alignment by other means.
Recommendation 21 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 9010/P062847 and 9011/P062847 which results in Alignment 13.2 linking Burt Parkway to Drummond Street (west) as a road.
Recommendation 22 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 1/D074943, which results in Alignment 14.1 linking Settlers Ridge to Telegraph Road as a road.
Recommendation 23 Section 4	Strategic Planning	Record the egress opportunity facilitated by the proposed Toodyay bypass into its business case promoting the bypass's construction and consult with stakeholders so they are aware of this need.
Recommendation 24 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 9001/P405299, which results in Alignment 15.1 linking Whitelakes Drive to the proposed bypass as a road, on a timeline, which ensures such development occurs in conjunction with, or after the advent of the bypass.
Recommendation 25 Section 4	Shire Project	• Negotiate road reserve land tenure from 45/P223149 and/or 1431/P247190; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to To either build Alignment 16.1 as a road linking Sesselis Road and Folewood Road.
Recommendation 26 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of Lot 1469/P247186 and if necessary, Lot 1431/P247190, which result in the linking of Sesselis Road to Folewood Road.

Recommendation # / Section	Type	Recommendation
Recommendation 27 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 3412/P415291, which results in Alignment 17.1 linking Pindi Place to Toodyay Road as a road.
Recommendation 28 Section 4	Shire Project	Negotiate an easement over 40/D056678 to provide maintenance and emergency firefighting access to existing Shire fire-break which terminates at the rear of this lot.
Recommendation 29 Section 4	Shire Project	Upgrade the current track (Alignment 18.1) linking Extracts Place and Macdonald Retreat to an Emergency Access Way.
Recommendation 30 Section 4	Strategic Planning	Undertake further analysis of the viability of future development in the Dumbarton area, via appropriate skilled personal and in conjunction with relevant stakeholders to assess the viability of egress concepts for the area.
Recommendation 31 Section 4	Strategic Planning	Favourably consider any future subdivision proposal of 600/P042855, which results in Alignment 20.1 linking Twilight Brae to Toodyay Road, as a road.
Recommendation 32 Section 4	Shire Project	• Negotiate road reserve or easement land tenure from 135/P032527 and/or 136/P032527; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Either build Alignment 21.1 as a road or Emergency Access Way linking Panorama View to Hoddy Well Road.
Recommendation 33 Section 4	Shire Project	• Negotiate road reserve land tenure from 230/P018244 and/or 229/P018296; and • Apply for funding from the National Disaster Risk Reduction Program and/or other grant schemes; and/or • Utilise existing and/or future contributions to the Egress and Access Fund; and • Undertake relevant survey and design; to Either build Alignment 22.1 as a road linking Red Brook Circle to Toodyay Road.

Recommendation # / Section	Type	Recommendation
Recommendation 34 Section 5	Position Statement	Continue to consider and seek funding for further improvements to its fire emergency water supplies. Enhancements should focus on increasing capacity in subdivision areas (as per 'The Guidelines') or servicing rural areas currently un-serviced.
Recommendation 35 Section 5	Strategic Planning	Engage with DFES and Department of Planning and advocate for the alignment of the tank fitting requirements of 'The Guidelines' and standard design/stowage of fire appliances supplied by DFES. The Shire should consider changing its tank fittings in accordance with a satisfactory outcome.
Recommendation 36 Section 5	Shire Project	Invest in upgrading signage for its fire emergency water facilities. This should include directional street signage, distance notation and signage of the facilities themselves.
Recommendation 37 Section 6	Shire Project	Allocate appropriate resourcing to undertake a project to identify and record easement 'Grantors', 'Grantees' and responsibilities for all easements within the shire. Where a Shire responsibility is recorded, the appropriate Shire department should review if it is meeting its obligations under the Deed of Easement and, where appropriate, seek to meet said obligations or extinguish the easement, if it is deemed to have no benefit to the Shire.
Recommendation 38 Section 6	Position Statement	Consider adopting a position of opposing development proposals, which attempt to establish easements across multiple properties. Furthermore, when applying subdivision perimeter vehicular access solutions, higher-level controls such as the use of perimeter road or Shire managed tenure should be favoured.
Recommendation 39	Shire Project	Review mitigation requirements on its directly owned land tenure and structure an appropriate mitigation program and annual budget to meet this need.
Recommendation 40	Position Statement	Adopt a position of frank and meaningful community engagement communication and the residents of Toodyay.
Recommendation 41	Strategic Planning	Review the RMO with the intent of refocusing duties and responsibilities to Fire Management and Mitigation as its primary objective.
Recommendation 42		Review current Local Recovery Co-ordinator and Welfare Liaison Officers to effectively meet the requirements its Local Emergency Management Arrangements.

Recommendation # / Section	Type	Recommendation
Recommendation 43	Position Statement	Embed Emergency Management tasks within all employee position descriptions.
Recommendation 44	Position Statement	Require all staff to undertake a level of WALGA Emergency Management training, being: • Senior Management Group and Welfare Liaison Officers - <i>Recovery Co-ordinators Course for Local Government</i> • Shire Ranger Services - <i>Animal Welfare in Emergencies</i> • All other staff – <i>Emergency Management Fundamentals</i> Additionally Elected Members should be offered relevant Emergency Management training.

Appendix A – Position/Status of 2015 Report Recommendations

2015 Report Section 9 Recommendations

Recommendation	Position	Current Status
9.1.1 The Shire should develop a Geographic Information Systems (GIS) database allowing the mapping of risks and resources and subsequent appropriate development of fire policy and procedure;	Agree.	Partially Implemented. The Shire has obtained GIS software. The Shire has created a position with part-time responsibility for GIS. A range of bush fire themes has been mapped/analysed. (Refer Section 7).
9.1.2 The Shire should consider whether its bush fire policy deals adequately with all aspects off Prevention, Preparedness, Response and Recovery, in relation to strategic level bush fire planning.	Agree	Partially Implemented Extensive mitigation via MAF program (Refer Section 9). LEMA Document updated. R2R Review being undertaken. Contents of this report.
9.2.1 In general the Shire of Toodyay should abandon its policy of installing strategic fire-breaks around the outside of all estate areas;	Agree	Implemented
9.2.2 Instead the annual Fire-break Notice should be enforced annually and equally, and all private and public blocks in the Shire should have properly installed and maintained	Agree	Implemented

Recommendation	Position	Current Status
perimeter fire-breaks to allow fire service access for firefighting;		
9.2.3 The Shire should classify all breaks under one of three classifications: a) "Emergency Access Ways" primarily designed to allow the movement of civilians away from major fire events; b) "Fire Service Access Routes" primarily designed to allow emergency services access for firefighting activities; and c) "Fire-breaks" or perimeter fire-breaks that can be used for a range of standard firefighting activities as appropriate. Each of these should be constructed to the relevant national standard as outlined in <i>Planning for Bushfire Protection Guidelines 2nd Edition</i> ;	Partial Agree As per this report EAW terminology is considered ambiguous (Refer Recommendation 1).	Implemented
9.2.4 Emergency Access Ways and Fire Service Access Routes should only be installed on public land, or where an easement has been granted for their construction. These types of tracks should not be constructed on private land;	Partial Agree As per this report and 'The Guidelines', a position of roads as the preferable construction solution is promoted.	Implemented
9.2.5 The Shire should consider allowing the sub-division of blocks where that sub-division would allow the installation of Emergency Access Ways that will provide a clear material public benefit and increase community safety;	Agree	To be implemented (Refer to Recommendation 3)
9.2.6 The Shire should include a maintenance budget within its annual budgeting process to	Agree	Implemented

Recommendation	Position	Current Status
allow for the maintenance and upkeep of existing tracks;		
9.2.7 The Shire should install new tracks or re-categorise existing ones as defined in section 5 of this report.	Refer to Following table in this Appendix.	
9.3 The existence of large rural estates with only one point of access or egress is a clear risk to the safety of residents living within those estates. To alleviate this risk the Shire should prioritise the installation of Emergency Access Ways to provide a second point of egress in the following areas: 1. South from the Julimar estates; 2. South from Regal Hills in Morangup; 3. North or east from Rugged Hills; 4. Southeast from Woodland heights; and 5. The Shire should consider how a westerly or southerly point of egress can be achieved for the Gidgegannup Springs estate in Morangup. In either case this would probably require the installation of a new road.	Partially Agree Consideration of alternate routes required. Roads should be prioritised over Emergency Access Ways, as per 'The Guidelines' (Refer Section 3.1).	Not Implemented Reviewed in depth in this report (Refer Section 4). Refer Recommendation 4.
9.4.1 Construction of emergency signage should conform with standards outlined in <i>Planning for Bushfire Protection Guidelines 2nd Edition</i> (2010: 37) for size, location and language used;	Not Applicable Current edition 1.4 of 'The Guidelines', while requiring signage, do not contain a specification for said signage.	
9.4.2 Signage should be consistent throughout the Shire;	Agree	Implemented

Recommendation	Position	Current Status
9.4.3 The word “egress” should be removed from all emergency signs in the Shire of Toodyay	Agree	Implemented
9.5.1 The Shire of Toodyay should undertake strategic mapping of all water supplies, with specific reference of location in relation to assets and turn-around times for use by fire appliances;	Agree	Implemented Refer Section 5.
9.5.2 The Shire should adopt a dual policy of using static water tanks, and mobile water tankers to ensure water supplies during fire incidents;	Partial Agree This relates to operational <u>procedures</u> .	Implemented
9.5.3 A water tank should be installed at the north-western end of Gidgegannup Estate in Morangup;	Agree	Implemented
9.5.4 All water tanks should be fitted with standard couplings as defined by DFES.	Partially Agree Currently the couplings defined for static water sources do not match equipment specification of DFES defined bush fire fighting appliances. Refer Section 5.	Not Yet Implemented Refer Recommendation 34
9.6.1 The Shire should engage in the assessment and mapping of fuel age and fuel loads throughout the Shire;	Agree	Implemented
9.6.3 The Shire should compel residents to reduce heavy fuel loads on private land where those fuel loads comprise a public risk;	Agree in Principle	Partially Implemented Via Shire's Fire-break Notice.

Recommendation	Position	Current Status
9.6.4 The Shire should strongly consider a wide ranging strategic hazard reduction burning program as the most effective way to manage fuel loads.	Disagree The Shire advocates for the mitigation method that is most suitable to the site, conditions and objectives. This may or may not include burning. Burning should not be considered in its own right the best or most effective in any given situation, therefore, the position of disagree above. (Refer Section 9).	Not Implemented Burning planned and undertaken where deemed appropriate.
The Shire should work to find methods of communicating effectively with the public in the following areas: 9.7.1 The necessity for people living in areas of extreme fire danger to have a preparedness plan for what they will do in the event of a fire, what are their options for evacuation, how to prepare their properties for the passage of fire and where to source up to date information during a fire incident; 9.7.2 The danger caused by heavy fuel loads, the necessity of hazard reduction programs and why appropriately carried out hazard reduction burning benefits rather than damages the bush; 9.7.3 The fact that Bush Fire Brigades are staffed by volunteers who need the support of their community to be effective;	Agree	Ongoing A part-time Shire resource has been dedicated to emergency community engagement. The Shire has undertaken a number of actions in this area, however community engagement should be considered a job that is never complete.

Recommendation	Position	Current Status
9.7.4 Information related to enforcement of fire regulations in the Shire (e.g. requirements to install fire-breaks and reduce fuel loads);		
9.7.5 Information about how to use Emergency Access Ways in the event of a fire.		
9.8.1 The Shire should investigate ways it can support volunteer Bush Fire Brigades in recruiting and retaining quality volunteer firefighters;	Agree	Ongoing The Shire has undertaken a number of actions in this area, however supporting volunteers should be considered an ongoing action.
9.8.2 The Shire should examine ways it communicates with Brigades and ensure important information is being received and understood by Brigade members;		
9.8.3 The Shire should organise events that include volunteers, outside of standard working hours (i.e. outside of the hours of Monday to Friday 9-5) to allow the maximum volunteer participation.	Agree	Implemented (always has been)

2015 Report List of Existing and Proposed Tracks

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
1A	East end of Donegan View north to Julimar Road	Fire Service Access Route	1. Maintain as current 2. Remove "Egress signs" 3. Consider installation of gates	Medium	Yes	Yes	No Action	Reason no Action: Anticipated downgrade based on construction of Egress south to Harders Chitty Road.
1B	South from the end of Malkup Brook Road to the west end of Harders Chitty Road	Emergency Access Way	1. Install a suitable Emergency Way 2. Maintain annually	High	Yes	No	No Action	Refer Section 4 for alternative alignment to achieve this outcome.
1C	East from the end of Parkland Drive to the west end of Harders Chitty Road	Emergency Access Way	1. Install a suitable Emergency Way 2. Maintain annually	High	Yes	No	No Action	
2A	North end Fawell Road north to Church Gully Road	Emergency Access Way	1. Install measures to deal with degradation from water run-off 2. Consider upgrade to full road	Medium	Yes	Yes	Installed	Upgrade to EAW or road standard (Recommendation 9)
2B	East from Fawell Road to Church Gully Road	Fire Service Access Route	1. Maintain as current 2. Installation of suitable gates and signs	Medium	No	No	Reserve	Maintain as Reserve. Managed access and Fuel Load to fire-break notice.
2C	East from the end of Alan Twine Drive to	Emergency Access Way	1. Install a suitable	Low	Yes	No	Not Installed	Not supported. Alternatives recommended in this report (Refer Section 4).

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
	intersect with Church Gully Road		Emergency Access Way 2. Maintain annually					
2D	South from the end of Leake Road to intersect with Charlton Boulevard	Emergency Access Way	1. Install a suitable Emergency Way 2. Maintain annually	High	Yes	No	Not Installed	Not supported. Alternatives recommended in this report (Refer Section 4).
3A	Abandon plans to install fire-break south from Stirlingia Drive	N/A	N/A	N/A	Yes	N/A		
3B	Abandon plans to install fire-break north from Drummond Drive	N/A	N/A	N/A	Yes	N/A		
3C	Abandon plans to install fire-break to east of and parallel to Stirlingia Drive	N/A	N/A	N/A	Yes	N/A		
3D	East-west internally in Shire Reserve 28748	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes	Installed, Maintained as Fire-break.	
3E	External to properties east of Sesselis Road	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	No	Individual Fire-break Notice/Variation suitable to terrain.	

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
3F	North of properties on Hemandra Place and Stirlingia Drive	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	Individual Fire-break Notice/Variation suitable to terrain.	
3G	North of Properties on Adenanthus Road	Firebreak	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	Individual Fire-break Notice/Variation suitable to terrain.	
3H	External to properties on Hibbertia Place	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes	Installed to the extent of Shire tenure.	Pursue easement over 40/D056678 to connect existing fire-break to Drummond Drive (Recommendation 27)
3I	West from Sandplain Road to east end Wandoo Circle	Fire Service Access Route	1. Maintain as current 2. Installation of suitable gates and signs	Medium	Yes	Yes	Installed	Continue to maintain. Low priority on Gates/signage
3J	North from the west end of Wandoo Circle to the south-west end of Hovea Way	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes	Installed to the extent of Shire tenure. Noting that the majority of the alignment occurs on DBCA managed tenure.	
3K	South-east from Drummond Drive north of properties on Harvester Drive	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	Easement has been extinguished.	Property owners must comply with standard Shire Fire-break Notice.
3L	South from Drummond Drive to Sandplain Road	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	No Action required.	Property owners must comply with standard Shire Fire-break Notice. Noting majority of alignment is on DBCA land

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
								which is governed by alternative legislation.
3M	East of properties on Harvester Drive	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	No	No	Easement has been extinguished	Property owners must comply with standard Shire Fire-break Notice.
4A	Perimeter of Gidgegannup Springs Estate, Morangup	Fire Service Access Route	1. Maintain annually to ensure 9m wide break maintained. 2. Install gates and appropriate signage at intersections with roads 3. Remove vegetation at the centre of the track between public and private breaks	Medium	No	No	All properties must maintain Fire-breaks as per Shire Fire-break Notice	
4B	South from Hill Place to join Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium	See comments referring to Track 4A above (These are spur access points to 4A)			
4C	South from McKnoe Drive to meet Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium				
4D	South-west from South Place to meet Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium				

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Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
4E	North from North Place to meet Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium				
4F	North from McKnoe Drive to meet Track 4A	Fire Service Access Route	1. Install a Fire Service Access Track 2. Installation of suitable gates and signs	Medium				
4G	North from Short Place to meet Track 4A	Fire Service Access Route	1. Upgrade to meet standard 2. Installation of suitable gates and signs	Medium				
4H	South from Track 4A to west end of Brook Close	Fire Service Access Route	1. Maintain annually to ensure 9m wide break maintained. 2. Install gates and appropriate signage at intersections with roads 3. Remove vegetation at the centre of the track between breaks	Medium	No	No	Alignment is within the City of Swan. All properties within Toodyay and City of Swan are required to comply with their respective fire-break notices. DFES did extensive mitigation works along this alignment during the Wooroloo 2021 fire.	
4I	Around perimeter of Regal Hills Estate	Fire Service Access Route	1. Maintain annually to ensure 9m wide break maintained. 2. Install gates and appropriate signage at	Medium	No	No	No Action Taken.	All properties must maintain fire-break as per Shire Fire-break Notice.

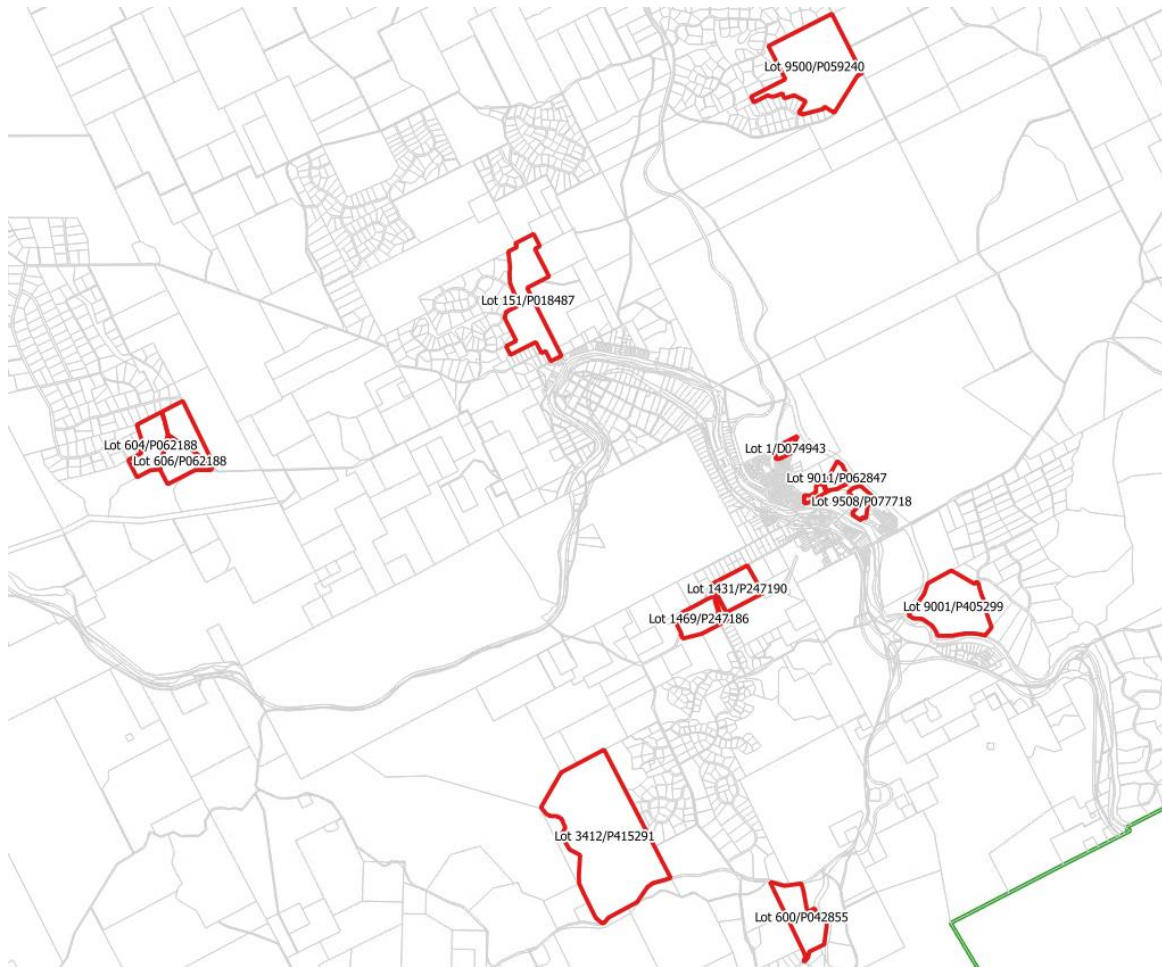
Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
			intersections with roads 3. Remove vegetation at the centre of the track between breaks					
4J	Southernmost point of Red Brook Circle out to Toodyay Road between lots 229 and 230	Emergency Access Way	1. Install a suitable Emergency Access Way 2. Maintain annually	High	Yes – but as public road.	Yes	Not installed	Acquire land to construct as road as per Recommendation 32.
5A	West from Ridley Circle via lot 55 (between lots 212 and 213) to the north end of Davies Road	Fire Service Access Route	1. Maintain annually 2. Install gates and appropriate signage at intersections with roads	Medium	Yes	Yes – note: slight alignment amendment through reserve.	Maintained using MAF. Gates/signage not yet actioned	Continue to maintain. Low priority on Gates/signage
5B	North from Ridley Circle via lot 55 between lots 214 and 215, to the south end of White Gum Ridge	Emergency Access Way	1. Install a suitable Emergency Access Way 2. Maintain annually	High	Yes	Yes – note slight extension to meet White Gum Ridge see Map 4.	No Action Taken	Acquire land to construct as road or EAW as per Recommendation 15.
5C	West from end of Wilkerson Road to east end of Dreyer Road	Emergency Access Way	1. Install a suitable Emergency Access Way 2. Maintain annually	High	Yes	Yes	Completed	Recommendation 14, consider upgrade to road.

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
5D	East from Wilkerson Road south of lot 219 to west end of Waters Road	Emergency Access Way	1. Install a suitable Emergency Access Way 2. Maintain annually	Low	Yes	Yes as alternative to 8.1 (5B).	No Action Taken	Consider land tenure as part of future proposals as per Recommendation 16.
5E	East from White Gum Ridge to south of lot 171 along back of properties to south end of Jarrah Court	Fire Service Access Route	1. Install culverts 2. Maintain annually 3. Remove tight corner at east end	Medium	Yes	Yes	Existing tight corner issue addressed.	Continue to Maintain as FSAR
5F	East from Jarrah Court to north end of Horseshoe Road	Emergency Access Way	1. Upgrade to Emergency Access Way Standard 2. Make blind crest safe for users 3. Install water control measures	High	Yes	Yes	Upgrade works completed	Continue to Maintain as EAW.
5G	South from Track 5F to south end of Horseshoe Road adjacent to lot 95	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Medium	Yes	Yes	Upgrade works completed	Continue to Maintain as FSAR
5H	East from Track 5F to intersect with Horseshoe Road opposite Lot 17	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Low	Yes	Yes	Upgrade works completed	Continue to Maintain as FSAR.

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
5I	South from Timber Creek Crescent between lots 35 and 36	Emergency Access Way	1. Install a suitable Emergency Access Way 2. Maintain annually to Waters Road	High	Yes	No - but Yes with amendment	No Action Taken	Refer to Recommendation 9.
5J	South from Coondle Road West to east of properties on Timber Creek Crescent	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes (North - South portion only)	Complete (North - South portion only)	Maintain
5K	South from Katta Rise to Timber Creek Crescent	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Medium	Yes	Yes	Maintained	Continue to maintain as FSAR, gate low priority.
5L	Between lots 30 and 31 Timber Creek Crescent	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Low	Yes	Yes	Maintained	Maintain as FSAR.
5M	Between lots 35 and 36 Timber Creek Crescent	Fire Service Access Route	1. Install water control measures 2. Install gates at both ends	Low	Yes	Yes	Maintained	Maintain as FSAR.
5N	From Coondle Road West at the north to Caledonia Drive at the south	Fire-break	1. Downgrade to fire-break 2. Maintain annually by landowners	N/A	Yes	Yes	Completed	N/A
6A	Between the east end of MacDonald Retreat and the west end	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	No	Yes	Maintained	Upgrade to EAW (Recommendation 28).

Track Code	Location	Standard of Track?	Work Required?	Priority	Support Objective	Support Alignment	Status	Intention
	of Extracts Place							
6B	North from the Northam-Toodyay Road between the two estates to meet the Bilya Walk track	Fire-break	1. Downgrade to fire-break 2. Maintain annually by Shire	N/A	Yes	Yes	Maintained	Maintain
7A	East and of Panorama View south through to Hoddy Well Road	Emergency Access Way	1. Upgrade to Emergency Access Way Standard 2. Install Signage 3. Install water control measures	Medium	Yes	Yes	Removed/ Closed	Refer Recommendation 31.
7B	East from Panorama View to Clackline-Toodyay Road	Emergency Access Way	1. Consider installing Emergency Access Way	Low	No	No	No Action Taken	Alternate alignment considered (Refer Recommendation 30)

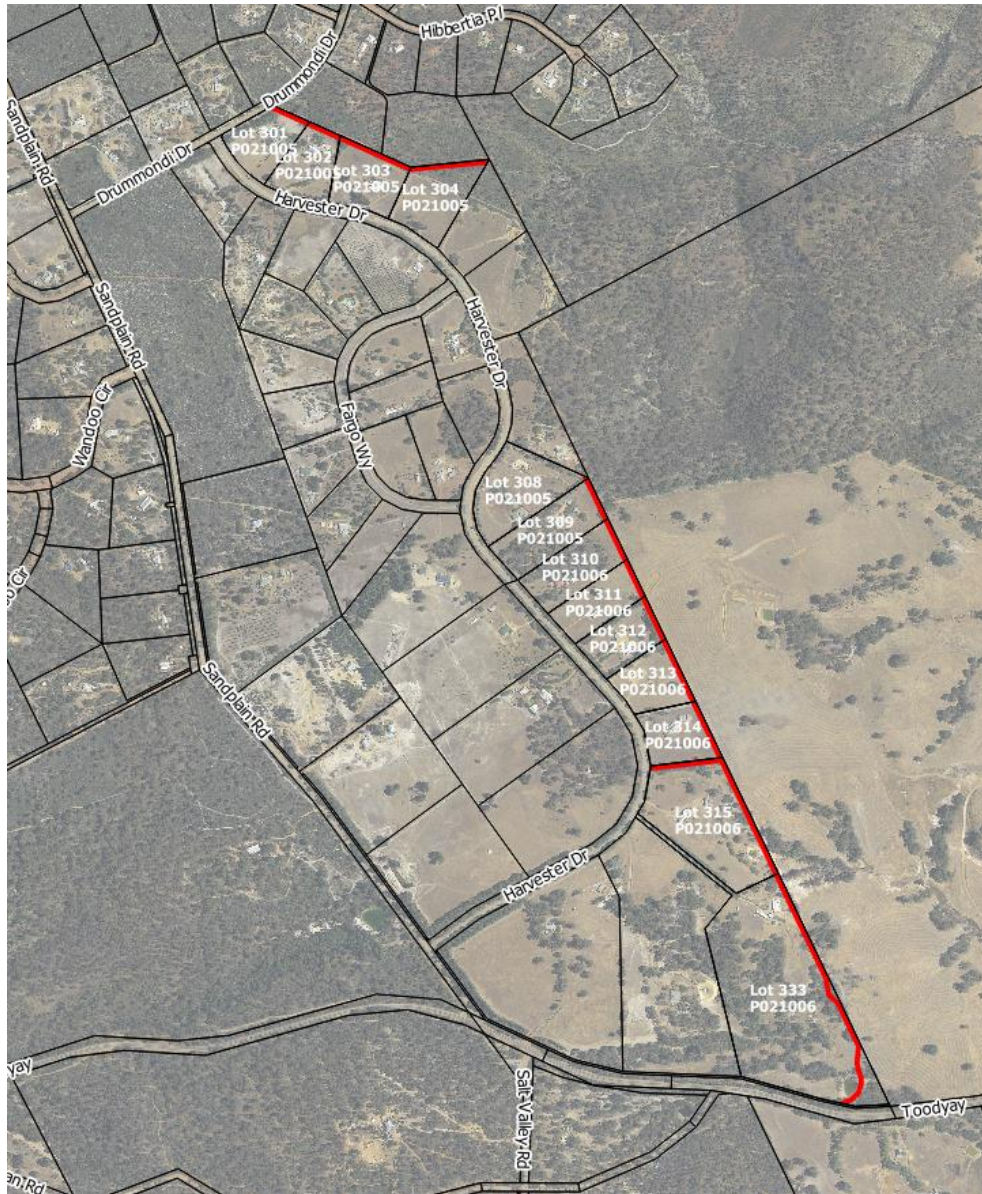
Appendix B – Map displaying lots with advantageous subdivision potential



Appendix C – Harvest Drive Easement Case Study

Background

This case study relates to easements G282738 and G282814. These easements combined ran along the rear of a number of properties on the eastern side of Harvester Drive.



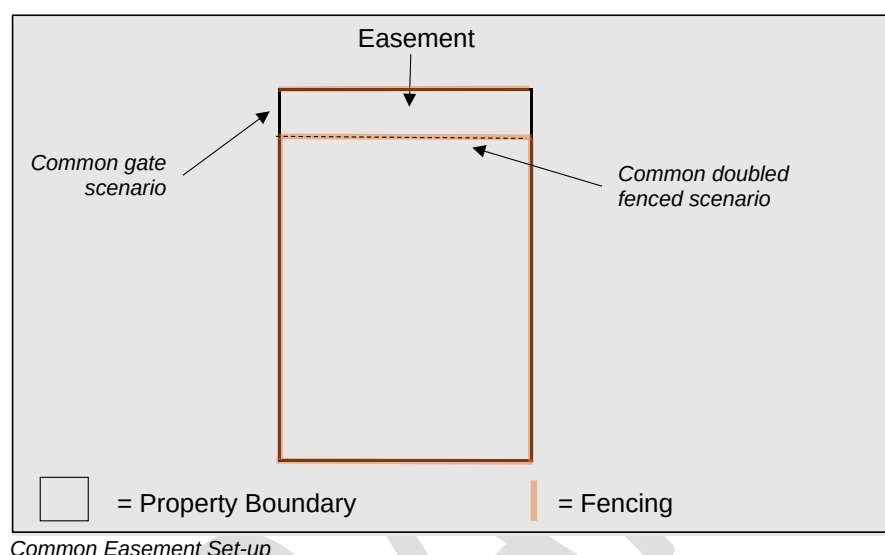
Harvester Drive Easement locations

The easement commenced in the north from Drummond Drive covering four properties and from Toodyay Road in the south covering nine properties as per the map above. A further four properties existed without an easement, creating a gap between the north and south extent of the easements. Each easement extent did not provide access to Shire owned or managed land, thus each terminated in a dead end.

The easement was granted to the Shire for the purpose of a fire-break. The Deed of Easement in this instance specified the Shire as being the party responsible for the fire-break maintenance.

The easement width was six metres.

For the most part, the majority of the easement was doubled fenced as displayed in the easement depiction below.



ISSUES

Legislative Implications

In 2010 the Shire ended its practice of maintaining 'Strategic Fire-breaks' in favour of applying a fire-break notice where all landholders had responsibility on their land and as such, the Shire ceased maintaining the easements referred to in this case study. Therefore, the Shire unknowingly created a discrepancy between its obligations under the Deed of Easements and the responsibilities the Shire was issuing landholders under the Fire-break Notice. This placed the [Land Administration Act 1997](#) and the [Bush Fires Act 1954](#) at odds with each other, potentially exposing the Shire to liabilities under the former.

The Shire became aware of this issue in 2019.

Safety and Effectiveness

In considering meeting its maintenance requirements under the [Land Administration Act 1997](#), the Shire considered the easement alignments with respect to practicality and safety.

A number of unfavourable factors were identified:

- The easements created dead ends, which are highly undesirable in an emergency scenario and can create entrapment situations for firefighting crews.

- The entrapment scenario was further compounded by the extensive use of double fencing which creates a 'laneway' effect where vehicles cannot turn around.
- Obstructions – There were numerous obstructions to easements. This included locked gates and side boundary fencing extending across easements, which represented Deed of Easement non-compliance by some landholders.
- Lack of strategic value – the alignments of the easements were parallel with the road network and served no strategic benefit, given the safety issues listed above. It is a safer and more practical option for firefighters to access via the road network

The factors experienced above have contributed to the Officers' position on easements in Section 3 – Toolkit, regarding the appropriate and considered application of easements.

Action taken

In consideration of the potential liabilities and overall ineffectiveness of the easements' alignment, Officers recommended to Council (94/04/19 and 207/08/19) to pursue extinguishment of the easements in this case study. This approach removed the Shire's maintenance responsibility under the Deed of Easement and removed safety concerns of the alignment going forward.

The processes involved consultation with the grantors (landholders), their mortgage providers and legal representation to guide the required process and documentation. This required all thirteen landholders and their mortgage providers supporting and signing the extinguishment documentation.

The consultation process with landholders demonstrated a low comprehension of the concept of an easement, with relation to ownership and responsibilities of the landholder.

The extinguishment process took approximately two years, in part due to a mid-process change of extinguishment requirements by Landgate.

Cost was estimated at \$10,500, plus considerable Shire staff time in liaising between all parties.

The extinguishment was successfully completed in 2021.

In light of the above scenario, other known Deed of Easements were reviewed for their maintenance responsibilities. This found no other easements with similar maintenance requirements to those extinguished. However, the potential for liabilities with easements in benefit of, but otherwise unknown to the Shire could exist (See Section 6).

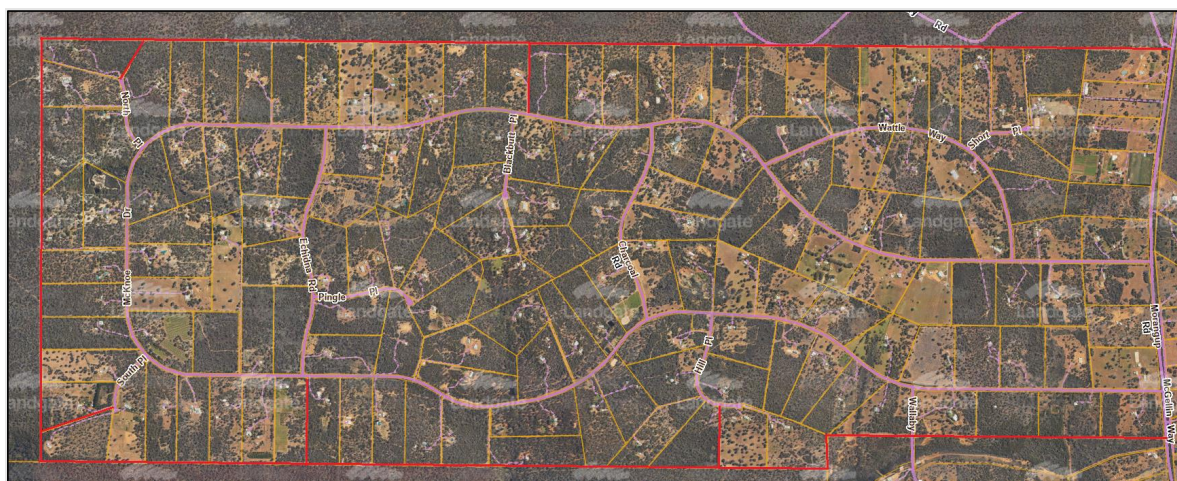
Lessons learned

1. The process of extinguishing easements represents a major time and cost overhead to the Shire. Extinguishment should only be considered where the benefit of removing liability exists.
2. The Shire needs to understand all easements for which it has responsibilities (and potential liabilities).
3. Easements spanning multiple properties have a high chance of being obstructed by one or more landholder.
4. Easements may be double fenced by landholders creating a 'lane way' scenario, impeding safe egress.
5. Easements which mimic the road layout offer little strategic value for fire fighter access.
6. Grantors (landholders) commonly have misconceptions about ownership and their obligations under the Deed of Easement.

Appendix D – McKnoe Drive Easement Case Study

Background

This case study relates to easement C746962 E. This easement runs around the extremities of the Gidgegannup Springs subdivision and includes a number of deviations to link back with the road network as per map below. In total, the easement covers some fifty-nine properties and spanning a distance of more than 16 km.



McKnoe Drive Easement

The easement was granted to the Shire for the purpose of a fire fighting. The Deed of Easement in this instance does not specify any particular party as having responsibility for maintenance.

The easement width was six metres.

Despite there being no specific maintenance responsibility to the Shire, the Shire utilised municipal and an NDRRP (Natural Disaster Risk Reduction Program) Grant, to perform maintenance for the purpose of fire fighting access. This included clearing of the alignment and installation of double gates at every side property boundary encountered. Landholders were subsequently responsible for maintaining this alignment under the Shire's Fire-break notice.

ISSUES

In preparing for the 2015 Report an attempt to drive the alignment was made by Shire officers. A number of issues were encountered

- Due to the sheer volume of properties and gates involved, it soon became apparent that the effectiveness of this alignment in providing timely fire fighting access was non-existent.
- Many of the gates contained private padlocks further hindering progress and creating a potential entrapment scenario.
- Some properties had not maintained the alignment to a trafficable standard.
- Lack of strategic value – the alignment of the easement is parallel with the road network and serves no strategic benefit, given the safety issues listed above. It is a safer and more practical option for a firefighters to access via the road network

Combined, these issues led to the traversing of the alignment being abandoned after a number of hours.

The factors experienced above have contributed to the administration's position on easements in Section 3 – Toolkit, with respect to the appropriate and considered application of easements.

Action taken

- Enhancing Fire-break compliance inspections to address observed maintenance issues
- This easement has not been recommended for extinguishment, due to the Deed of Easement not specifying maintenance responsibilities (and potential liability) to the Shire.

Lessons learned

1. An easement traversing many properties is prone to obstruction by either gates, fencing or condition of trafficable surface. Meaning that the reliance of the alignment for critical access would be untimely and potentially unsafe.
2. Easements which mimic the road layout offer little strategic value for fire fighter access. Accessing properties utilising the road network is both safer and efficient.

11. References

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Keelty, M. (2011). <i>A Shared Responsibility - the report of the Perth Hills Bushfire February 2011 review</i> . Government of Western Australia.
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Parliament of Victoria 2009 Victorian Bushfires Royal Commission (2010). Final Report.
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Shire of Toodyay (2021) Local Emergency Management Arrangements.
Western Australian Planning Commission (2021). Guidelines for Bushfire Prone Planning version 1.4 etc.

MAP 1
GREATER
JULIMAR

Key to Symbols

1.1 (1A)

Existing Alignment
With Reference
Number (and 2015 Ref)

1.1 (1A)

Recommended
Alignment
With Reference
Number (and 2015 Ref)

1.2 (1B)

Considered
Alignment
With Reference
Number (and 2015 Ref)

MAY ST

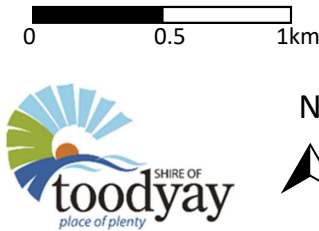
Existing Road
Network
With Road Name

Elevation Contours
2m Interval

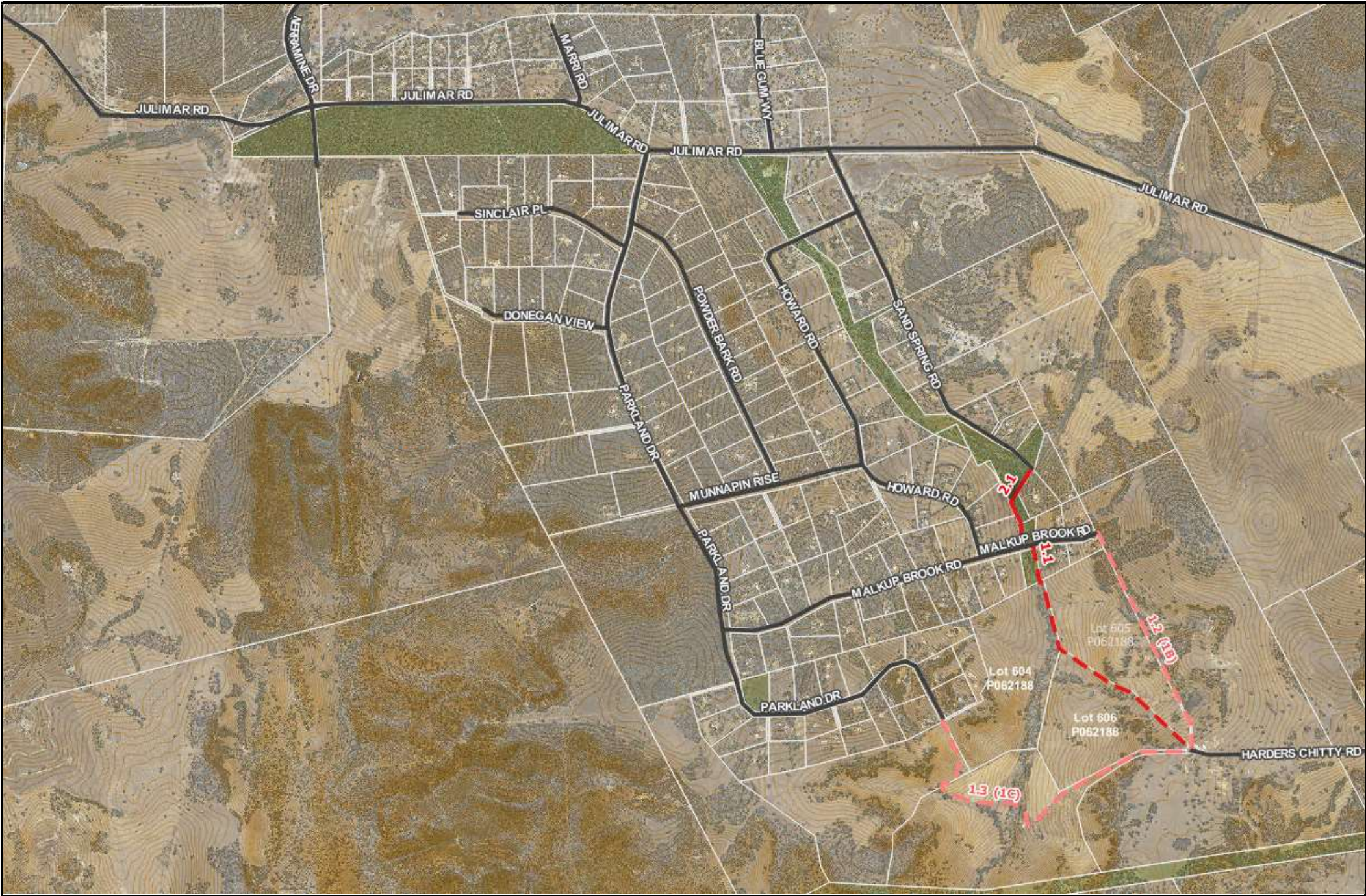
Reserve

Lot Boundaries

Scale 1:25,000
(when printed at A3)



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
3	1.1	0.251782968	3/38	Malkup Brook - Harders Chitty	Recommendation 6/7	HIGH
	1.2 (1B)	0.311883206	10	Malkup Brook - Harders Chitty		
	1.3 (1C)	0.580102097	24	Parkland - Harders Chitty		
8	2.1	0.375344353	15/38	Sandspring - Malkup Brook	Recommendation 5	LOW
	No Alternative Analysed					

MAP 2
COONDLE
(West)

Key to Symbols

1.1 (1A)

Existing Alignment
With Reference
Number (and 2015 Ref)

1.1 (1A)

Alignment
With Reference
Number (and 2015 Ref)

1.2 (1B)

Alignment
With Reference
Number (and 2015 Ref)

MAY ST

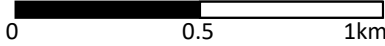
Existing Road
Network
With Road Name

Elevation Contours
2m Interval

Reserve

Lot Boundaries

Scale 1:17,500
(when printed at A3)



N

Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
11	3.1 (5G) No Alternative Analysed	0.442370770	18/38	Horseshoe - Jarrah	Recommendation 8	LOW
15	4.1 (5I) 4.2	0.561164206 0.835641609	22/38 30	Horseshoe - Waters Timber Creek - Waters	Recommendation 9	MEDIUM

MAP 3
COONDLE
(East)

Key to Symbols

- 1.1 (1A)** Existing Alignment
With Reference
Number (and 2015 Ref)
- 1.1 (1A)** Recommended
Alignment
With Reference
Number (and 2015 Ref)
- 1.2 (1B)** Considered
Alignment
With Reference
Number (and 2015 Ref)
- MAY ST** Existing Road
Network
With Road Name
- Elevation Contours
2m Interval
- Reserve
- Lot Boundaries

Scale 1:17,500
(when printed at A3)

0 0.5 1km



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
5	6.1	0.295655521	6/38	McIntosh - Leeming	Recommendation 11	HIGH
	6.3	0.300874607	7	McIntosh - McPherson	Recommendation 11	HIGH
	6.2	0.30911437	9	Coondle - Leeming	Recommendation 12/13	MEDIUM
	6.5 (2D)	0.333711197	12	Leake - Charlton		
	6.6 (14)	0.365597553	14	Alan Twine - Church Gully		
	6.4	0.563739608	22	Coondle - Church Gully		
	6.6 (2G)					
14	5.1 (2A) No Alternative Analysed	0.524677431	21/38	Fawell - Church Gully	Recommendation 10	MEDIUM

MAP 4
WEST
TOODYAY
(Rugged Hills)

Key to Symbols

1.1 (1A)

Existing Alignment
With Reference
Number (and 2015 Ref)

1.1 (1A)

Recommended
Alignment
With Reference
Number (and 2015 Ref)

1.2 (1B)

Considered
Alignment
With Reference
Number (and 2015 Ref)

MAY ST

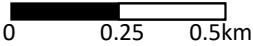
Existing Road
Network
With Road Name

Elevation Contours
2m Interval

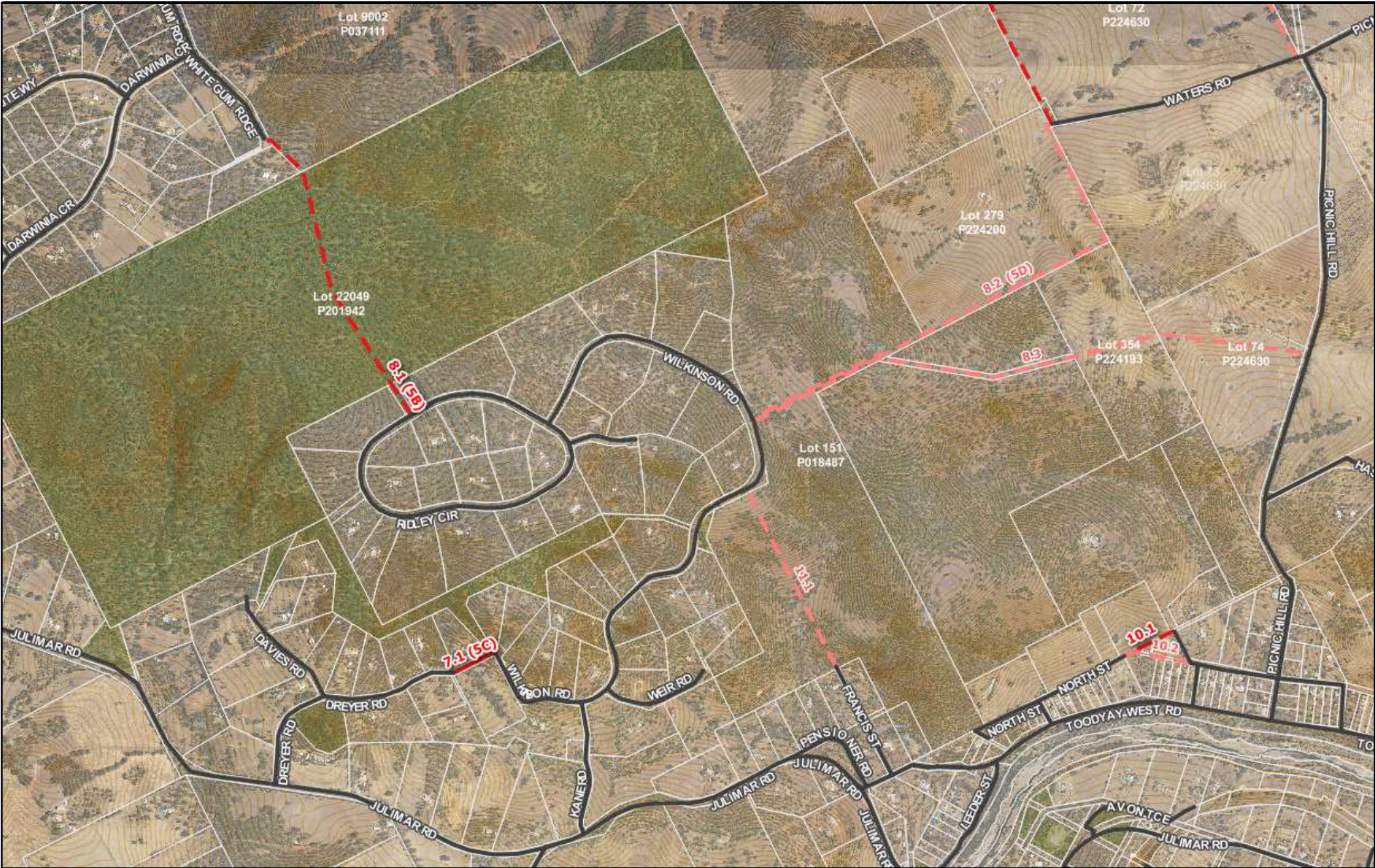
Reserve

Lot Boundaries

Scale 1:15,000
(when printed at A3)



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
6	7.1 (5C) No Alternative Analysed	0.325023488	11/38	Wilkerson - Dreyer	Recommendation 14	MEDIUM
16	8.1 (5B)	0.639722015	25/38	Ridley - White Gum	Recommendation 15	MEDIUM
	8.3	0.841919867	31	Wilkerson - Picnic Hill	Recommendation 16	LOW
	8.2 (5D)	1.216759777	35	Wilkerson - Waters	Recommendation 16	LOW

MAP 5
WEST
TOODYAY
(Townsite)

Key to Symbols

1.1 (1A)

Existing Alignment
With Reference
Number (and 2015 Ref)

1.1 (1A)

Recommended
Alignment
With Reference
Number (and 2015 Ref)

1.2 (1B)

Considered
Alignment
With Reference
Number (and 2015 Ref)

MAY ST

Existing Road
Network
With Road Name

Elevation Contours
2m Interval

Reserve

Lot Boundaries

Scale 1:10,000
(when printed at A3)

00.250.5km



SHIRE OF
toodyay
place of plenty

N



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
4	10.1	0.267553769	5/38	North - Collett	Recommendation 18	MEDIUM
	10.2	0.308252767	8	North - Fitzgerald	Recommendation 18 (Alt)	MEDIUM
10	9.1	0.420979831	17/38	Clarke – River	Recommendation 17	LOW
	9.2	0.842117988	32	Clarke - River	Recommendation 17	LOW
21	11.1	1.21754609	36/38	Francis - Wilkerson	Recommendation 16	LOW
	No Alternative Analysed					

MAP 6
TOODYAY
TOWNSITE

Key to Symbols

1.1 (1A)

Existing Alignment
With Reference
Number (and 2015 Ref)

1.1 (1A)

Recommended
Alignment
With Reference
Number (and 2015 Ref)

1.2 (1B)

Considered
Alignment
With Reference
Number (and 2015 Ref)

MAY ST

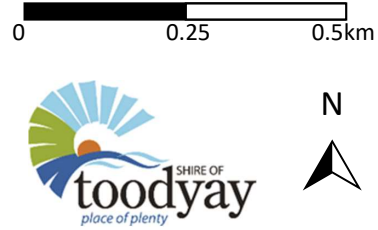
Existing Road
Network
With Road Name

Elevation Contours
2m Interval

Reserve

Lot Boundaries

Scale 1:10,000
(when printed at A3)



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
1	13.1	0.204904037	1/38	Drummond - Burt	Recommendation 20	MEDIUM
	13.2	0.231077996	2	Burt - Drummond	Recommendation 20	MEDIUM
7	14.1	0.346244131	13/38	Settlers - Telegraph	Recommendation 22	MEDIUM
	No Alternative Analysed					
13	12.1	0.522615827	20/38	Nottingham - Nottingham	Recommendation 19	MEDIUM
	No Alternative Analysed					

MAP 7
**WALKEY
HEIGHTS &
WICKLOW
(Dumbarton)**

Key to Symbols

1.1 (1A)

Existing Alignment
With Reference
Number (and 2015 Ref)

1.1 (1A)

Recommended
Alignment
With Reference
Number (and 2015 Ref)

1.2 (1B)

Considered
Alignment
With Reference
Number (and 2015 Ref)

MAY ST

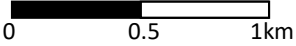
Existing Road
Network
With Road Name

Elevation Contours
2m Interval

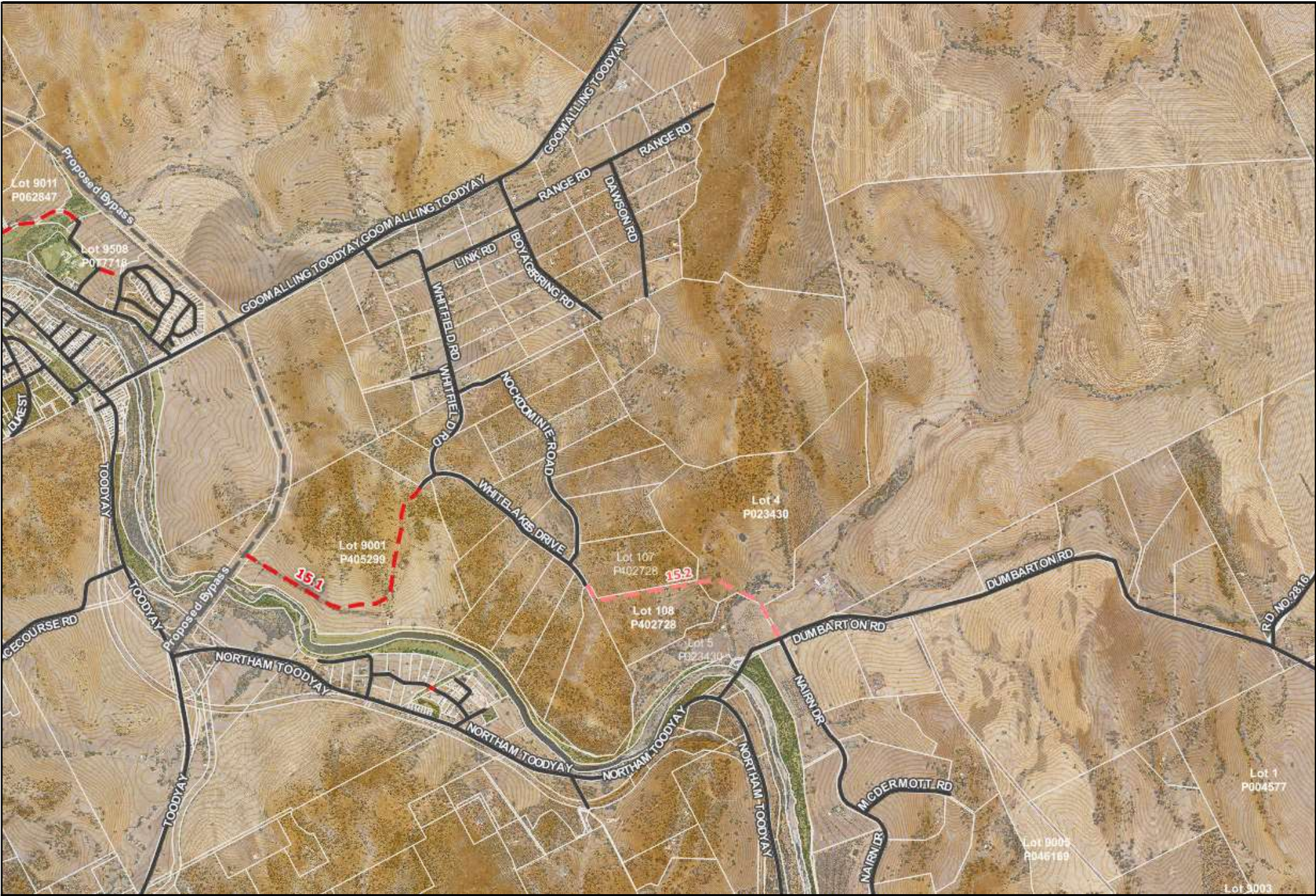
Reserve

Lot Boundaries

Scale 1:25,000
(when printed at A3)



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
19	15.1	0.711970162	28/38	Whitelakes - Proposed Bypass	Recommendation 23/24	MEDIUM
	15.2	1.075588269	34	Whitelakes - Dumbarton		

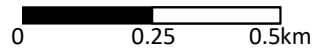
MAP 8
GREATER
MAJESTIC
HEIGHTS
(Toodyay)

Key to Symbols

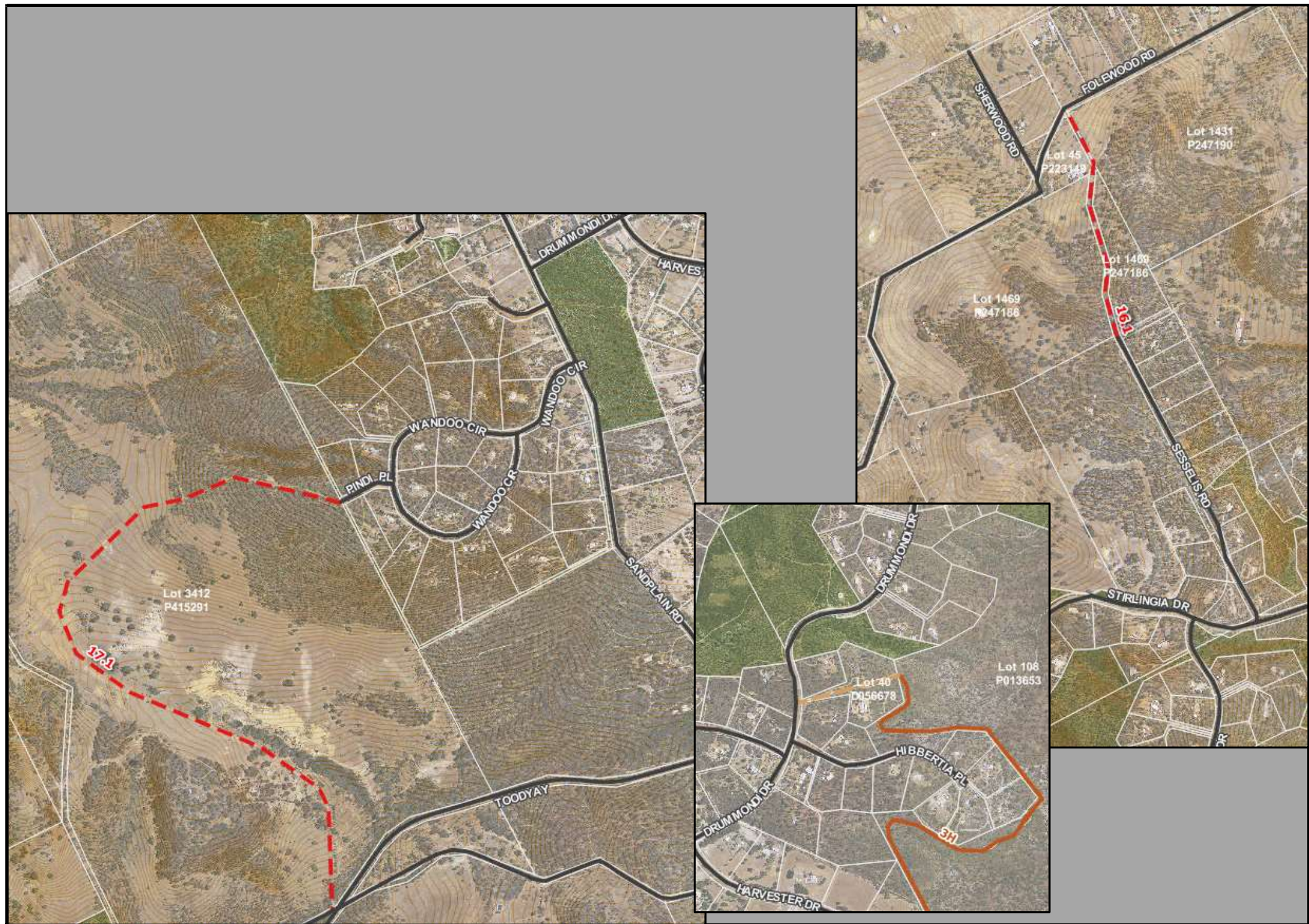
- 1.1 (1A)** Existing Alignment
With Reference
Number (and 2015 Ref)
- 1.1 (1A)** Recommended
Alignment
With Reference
Number (and 2015 Ref)
- 1.2 (1B)** Considered
Alignment
With Reference
Number (and 2015 Ref)
- MAY ST** Existing Road
Network
With Road Name
- 3H** Existing Fire-break
With Ref. Number
Only Subject Feat Disp.
- Proposed Fire**
- Access Easement**
- Elevation Contours**
2m Interval
- Reserve**
- Lot Boundaries**

Scale 1:12,500

(when printed at A3)



Created: 04/05/2022



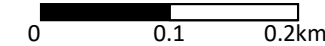
Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
17	16.1 No Alternative Analysed	0.662456917	26/38	Sesseis - Follewood	Recommendation 25/26	LOW
20	17.1 No Alternative Analysed	0.934343434	33/38	Pindi - Toodyay	Recommendation 27	LOW

MAP 9
**GLENCOE &
EXTRACTS**
(Toodyay
Townsite)

Key to Symbols

- 1.1 (1A)** Existing Alignment
With Reference
Number (and 2015 Ref)
- 1.1 (1A)** Recommended
Alignment
With Reference
Number (and 2015 Ref)
- 1.2 (1B)** Considered
Alignment
With Reference
Number (and 2015 Ref)
- MAY ST** Existing Road
Network
With Road Name
- Elevation Contours
2m Interval
- Reserve
- Lot Boundaries

Scale 1:5,000
(when printed at A3)



Created: 04/05/2022



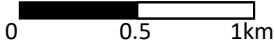
Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
2	18.1 (6A) No Alternative Analysed	0.240173474	3/38	McDonald - Extracts	Recommendation 28	LOW

MAP 10
**MOUNTAIN
PARK**
(Dumbarton)

Key to Symbols

- 1.1 (1A)** Existing Alignment
With Reference
Number (and 2015 Ref)
- 1.1 (1A)** Recommended
Alignment
With Reference
Number (and 2015 Ref)
- 1.2 (1B)** Considered
Alignment
With Reference
Number (and 2015 Ref)
- MAY ST** Existing Road
Network
With Road Name
- Elevation Contours
2m Interval
- Reserve
- Lot Boundaries

Scale 1:27,500
(when printed at A3)



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
22	19.1	1.424130571	37/38	Drumree - Katrine	Recommendation 30	MEDIUM
	19.2	1.457355085	38	Drumree - Dumbarton	Recommendation 30	MEDIUM

MAP 11
**MOONDYNE
PARK**
(Hoddys Well)

Key to Symbols

1.1 (1A)

Existing Alignment
With Reference
Number (and 2015 Ref)

1.1 (1A)

Recommended
Alignment
With Reference
Number (and 2015 Ref)

1.2 (1B)

Considered
Alignment
With Reference
Number (and 2015 Ref)

MAY ST

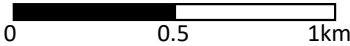
Existing Road
Network
With Road Name

Elevation Contours
2m Interval

Reserve

Lot Boundaries

Scale 1:20,000
(when printed at A3)



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
9	21.1	0.400616333	16/38	Panorama - Hoddys Well	Recommendation 32	MEDIUM
	No Alternative Analysed					
12	20.1	0.462435950	19/38	Twilight - Toodyay	Recommendation 31	MEDIUM
	20.2	0.796184459	29	Twilight - Clackline		

MAP 12
GREATER
MORANGUP

Key to Symbols

1.1 (1A)

Existing Alignment
With Reference
Number (and 2015 Ref)

1.1 (1A)

Recommended
Alignment
With Reference
Number (and 2015 Ref)

1.2 (1B)

Considered
Alignment
With Reference
Number (and 2015 Ref)

MAY ST

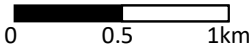
Existing Road
Network
With Road Name

Elevation Contours
2m Interval

Reserve

Lot Boundaries

Scale 1:30,000
(when printed at A3)



Created: 04/05/2022



Overall Objective Raking	Alignment Reference	Alignment Score	Alignment Ranking	Alignment Description	Recommendation	Priority
18	22.1	0.663636364	27/38	Red Brook - Toodyay	Recommendation 33	MEDIUM
No Alternative Analysed						