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**Submission Of: Catherine Ryland**

### Your Details

Email address:

Phone:

Preferred means of contact: Email

What is your submission based on? I am making this submission based on my professional knowledge, qualifications or experience or on behalf of a group or organisation

What is your area of professional expertise?

If you are lodging your submission on behalf of a group or organisation, what is the name of the group or organisation? Catherine Ryland Consulting

### Your Submission

In your experience, what areas of the bushfire emergency response worked well?

Please see attached submission

In your experience, what areas of the bushfire emergency response didn't work well?

Please see attached submission

In your experience, what needs to change to improve arrangements for preparation, mitigation, response and recovery coordination for national natural disaster arrangements in Australia?

Please see attached submission

Is there anything else you would like to tell the Royal Commission?

Please see attached submission

Do you agree to your submission being published? Yes I agree to my submission being published in my name

Supporting material provided:

CR Submission to Bushfires Royal Commission 2020.pdf

# Catherine Ryland Consulting

Submission to Royal Commission into Natural Disaster Arrangements

March/April 2020

## CONTACT DETAILS

Catherine Ryland

[REDACTED]  
[REDACTED]

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### Disclaimer:

This document has been prepared for the NSW Independent Bush Fire Inquiry, 2020. No liability is accepted by myself with respect to its use by any other person or for any other purpose.

## Introduction

I am an independent town planning and bush fire protection consultant. I previously worked for the New South Wales Rural Fire Service (NSW RFS) as Supervisor of Development Planning and Policy (March 2015-February 2019) and Team Leader of Development Assessment and Planning (March 2014-March 2015). I led the revision of Planning for Bush Fire Protection (PBP) whilst working for the NSW RFS. I have an in-depth knowledge of the current land use planning policies, standards, legislation and regulation which apply in bush fire prone areas in New South Wales (NSW).

I am passionate about the subject matter and I make this submission with the aim of contributing to improvements to the treatment of bush fire preparation and planning through the land use planning system. I believe that good land use planning can make a significant contribution to the overall preparedness of Australia to future bush fire events.

The following submission relates directly to any Terms of Reference regarding land use planning and is particularly relevant to the following Terms taken from Commonwealth Letters Patent, 20 February 2020:

- b. *Australia's arrangements for improving resilience and adapting to changing climatic conditions, what actions should be taken to mitigate the impacts of natural disasters, and whether accountability for natural disaster risk management, preparedness, resilience and recovery should be enhanced, including through a nationally consistent accountability and reporting framework and national standards;*
- f. *ways in which Australia could achieve greater national coordination and accountability — through common national standards, rule-making, reporting and data-sharing — with respect to key preparedness and resilience responsibilities, including for the following:*
  - i. *land-use planning, zoning and development approval (including building standards), urban safety, construction of public infrastructure, and the incorporation of natural disaster considerations;*
- g. *any ways in which the traditional land and fire management practices of Indigenous Australians could improve Australia's resilience to natural disasters.*

My technical knowledge is specific to the NSW land use planning system and due to the National nature of this Royal Commission, this submission will necessarily focus on high level principles rather than technical detail. Where high level principle can be established, technical detail can be established through the various State-based land use planning systems at a later date to ensure implementation. I have also made a similar submission to the NSW Independent Bushfire Inquiry where I have made more mention of potential pathways for technical improvement.

I have also advised the Planning Institute of Australia in their submission to this Royal Commission and the NSW Independent Bushfire Inquiry, so there may be similar themes emerging through both of these submissions.

## 1. The Place of Land Use Planning in the Bush Fire Cycle

It is important to understand the place of land use planning in protecting life and property in a bush fire event. There are three parts to the cycle:

1. The time **before** a bush fire event where planning and mitigation can occur in preparedness for a future event.
2. The time **during** a bush fire event where the fire is active and emergency response occurs.
3. The time **after** a bush fire event where the fire has passed, recovery and rebuild begin to take place.

The three phases of the bush fire cycle are shown in Figure 1 below.



Figure 1: The Bush Fire Cycle

Land use planning is extremely important to both the 'before' and 'after' phases of the event, but 'during' the event there is no real role that land use planning can actively play. It is true though that the 'after' phase leads directly in to the 'before' and that there is really no clear delineation between these two phases i.e. it is not clear when the 'after' ends and the 'before' begins. For that reason, both the 'before' and 'after' phases require equal attention in the land use planning industry.

It is only where significant attention is paid to both of these phases, that the best level of preparedness can be achieved. Whilst we tend as an industry to see our efforts as best placed in the 'before' phase, significant gains can be made if we pay more attention to the 'after'

phase. By this I mean that if we learn good lessons through the research, recovery and rebuild process we can ease some of the pressure on the preparedness stage and in turn ease some of the pressure on the emergency response phase. For example, if the research and processes experienced during the recovery phase of each individual event can be turned into tangible policies and standards for the future, this not only assists in the recovery for that individual event but also improves preparedness 'before' future events.

With some increased investment in the recovery and preparedness phases, costs can be saved in the emergency response phase. This is only true though if significant investment can be made to 'do the job properly'.



Figure 2: Land Use Planning in the Bush Fire Cycle

## **1 Taking a Precautionary Approach to Policy Making**

### **1.1 The Precautionary Principle**

The events of this past bush fire season have shown that the amount of devastation and destruction that can be caused by bush fires can never be underestimated. It is easy to be complacent following even the most extreme bush fire events, when the impacts are out of sight, out of mind. However, it is important to remember in mitigating through land use planning that maximum effect is achieved by taking a precautionary approach to future development.

I wrote in my post-graduate dissertation regarding flood risk planning policy in the UK about the policy tensions between Government drivers towards additional housing supply and the need to ensure that new housing stock is not at risk from flooding. Flood risk policy was essentially being treated as second fiddle to housing policy. It seems to me that we are in a similar position with housing and bush fire policy – the need to consider bush fire risk is not dealt with upfront in either the creation of policy or the release of land. Key decisions are made prior to considering bush fire risk.

The use of the Precautionary Principle in this case would be to redress this balance and ensure that consideration of bush fire risk is a priority matter in policy making and land release.

There has been significant pressure since the recent bush fire events to incorporate a Climate Change risk factor into decision making. Whilst I am not a Climate Change scientist, I do believe that there is significant merit in considering how this can be done and what impact it might have on current policies and procedures. Adapting the Precautionary Principle, we should be planning for the climatic conditions we might be experiencing in 20-50 years. This would allow us to create far more sustainable and resilient communities.

### **1.2 Encompassing bush fire risk in all policy and legislation**

A significant improvement that could be made to the current land use planning system for bush fire prone areas is a culture change where resilience and protection from natural hazard risk is prioritised. It has many a time been said that a culture change is required amongst planners and bush fire industry professionals, and I will come to this later in the piece, but it is difficult to instil a culture change without significant legislative and policy change.

In short, natural hazard risk needs to be infiltrated through each level of land use planning legislation and governance so that it is one of the first questions land use planners ask themselves in both application and assessment; is the development appropriate given the level of natural hazard risk prevalent? Currently, natural hazard risk is often seen as an add on or somewhat of an annoyance to have to address, rather than a significant pillar of the development process.

National guidance is imperative here. A set of nationally defined principles to guide the setting of State legislative and policy frameworks would be an important step in changing the culture of bush fire protection planning. The inclusion of bush fire risk planning into a National Settlement Strategy, or some similar national land use planning guide would give bush fire planning, or natural hazard risk planning, status as a nationally significant land use planning issue. This would give extra weight in prioritising the issue in both proposal making and decision making. A change of this kind could help to instigate a culture in the land use planning industry that bush fire hazard planning is an issue which should be prioritised and given increased weight in decision making. Where State and Territory guidance is thin on the

ground, the National set of principles would give land use planners something to fall back on. Given the constitutional system, the preparation and adopted of such national principles would require legal advice.

The inclusion of a direct reference to natural hazard risk within State and Territory land use planning Acts would send a positive message to planners regarding the importance of the issue within the land use planning system and would give it the appropriate status alongside other environmental issues and the need for development to occur generally.

There is also a real opportunity to create a LGA-wide strategic bush fire layer. Embedding land use planning within the Bush Fire Risk Management Plan and Community Protection Plans and vice versa. This embeds land use planning proposals within the hazard mitigation process for existing communities and highlights any risk areas with regards to resource management and unnecessary public costs. The opportunity here is to bring land use planning and emergency management professionals/volunteers together to collaborate. This could, and in my view should, be a study that informs the content of strategic planning policy and zoning provisions.

## 2 Planning for Future Risk

### 2.1 A strategic approach to new development

Traditionally, there has been a gap in the land use planning system with regard to strategic planning. Over the past five years there has been a significant push from state governments to rectify this situation and alter the structure of the policy and legislative system.

In a strategically focussed land use planning system, we understand development drivers, be them global, regional or local, and we establish development priorities to meet those drivers. In doing this, we examine the capacity of different communities to accommodate those development priorities.

The capacity of a place or community to support additional development is based on a number of different human and environmental factors. Environmental hazards and risk should be significant factors in determining, from a life safety perspective, whether an additional population can be supported.

It is fair to say that whilst strategic planning has improved, there are major gaps in the incorporation of risk from natural hazards as a key assessment factor. Bush fire risk has not traditionally been given proportionate assessment weight at the strategic level of planning.

This is reticent of the land use planning system in the UK in 2002 when I prepared my post-graduate thesis. My argument here was that there was an unwritten bias in the planning system towards development and new housing and that flood risk planning was not given equal priority in determining where new development would occur. Given the life safety implications in hazard risk planning, it should be given equal, if not higher, weight than mere development demand.

Strategic planning has received significant impetus in the past five years, particularly in NSW where changes have been made to the *Environmental Planning and Assessment Act 1979* to introduce a strategic layer of planning.

For planning to be truly strategic, there should be a national layer of guidance and/or policy which sets out strategic principles for land use planning. National principles can include requirements for land release to include a Strategic Bush Fire Study which introduces a different scale of assessment as follows:

- A landscape or macro scale assessment is required of the land surrounding a proposed development site.
- The road networks in and around the site are assessed for their ability to operate during a bush fire emergency.
- Land and uses adjoining the development site are assessed to ensure there is no adverse impact on existing and ongoing mitigation.
- A review of local fire history, where bush fires have impacted the area one or more times, what that might mean for future impact on a development site.

On a site-by-site basis, this allows for an assessment of the potential impact of any proposed larger-scale development on road networks and operational capacity during a bush fire event. It allows for input on an emergency management level as to whether the protection offered for a new development through development controls would be enough or would need



supplementing through Brigade intervention on the ground. Moreover, the appropriateness of any proposed development in the context of its overall bush fire risk on a landscape scale can be assessed. In light of the public messages to 'leave if safe to do so', the ability of both new and existing residents to be able to evacuate a community in the event of a bush fire is a very important part of the strategic study. There is no excuse for creating 'island' or 'peninsular' communities in bush fire risk areas where there is one road in and one road out and residents can effectively become marooned in a high risk situation.

Still more can be implemented to improve strategic bush fire planning. The missing piece in NSW currently is a state-wide model for reaching decisions on the appropriateness of any proposed development. Victoria currently take the lead on this issue and have produced a simple model for assessing strategic development sites. The following was taken from the Victorian Bushfires Royal Commission in 2009 and yet over the past 10 years we have only moved slowly in NSW to addressing the recommendations.

*"there are some areas where the bushfire risk is so high that development should be restricted;"*

*and*

*"to ensure that development does not occur in areas in which either the bushfire risk or the environmental cost of making people safe is too high;"*

There are also international examples of this kind of strategic approach to natural hazards. The UK's repealed Planning Policy Guidance Note 25: Development in Flood Risk Areas contains a systematic approach to assessing whether land is appropriate for development.

Of course the key is not only to assess which sites are appropriate for development, but also to ensure that the right measures are placed on those sites which are determined appropriate. This might mean that the proposed development layout is reflective of the higher risk areas of the development site. For example, development is kept away from any ridge tops to take account of the fact that bush fires travel faster uphill. It may be that more vulnerable types of development particularly are directed to the lowest risk areas of a masterplan. For example schools, hospitals or nursing homes should be given the highest levels of protection within a masterplan layout.

## 2.2 Recovery

Recovery is currently undertaken on a somewhat ad hoc basis and is still fairly unique to each major bush fire event. At each significant bush fire event which occurs, the community are approached and assisted in a different way, research is carried out, analysed and written up in an ad hoc fashion, and any new initiatives in rebuild and assessment do not make their way into helpful policy or guidance.

It is important to explore the potential benefits in the creation of an overall framework for land use planning and building recovery:

- Systems are in place to quickly mobilise staff and volunteers to work with affected communities.
- Staff/volunteers know what their role will be in recovery.
- Information sheets, guidance, forms and other relevant paperwork can be printed and provided easily.
- Funding can be quickly identified and allocated.

Working with the Planning Institute of Australia (PIA) and other peak bodies, my experience from the fire events of this season is that there is a lack of knowledge, publicity or guidance on what recovery is and how it might work. There has been an inertia and stagnation created by a lack of policy, legislation and guidance in this area. I have been aware of a willingness to assist within the land use planning industry but a lack of understanding of what that assistance might entail. As a land use planning professional, I would like to know:

- Where can I assist?
- How can I assist?
- What skills and knowledge do I need to be able to assist?
- Is there a place I can easily and quickly get up to speed with this knowledge?
- Will I get paid for assisting?
- Who do I contact about offering my skills?

There could be agreements put in place with the PIA and other peak organisational bodies to mobilise professional volunteers or reduced rate services should the need arise. The agreements could include a requirement for organisation members to maintain a basic level of knowledge of bush fire planning and recovery so that they can be easily mobilised.

Everyone knowing what their role is enables much better levels of preparedness for any future major event. It also assists in helping residents to understand what to expect from a land use planning assistance perspective in the event that their house is damaged or lost.

Following each significant bush fire event there can be three principal workstreams which are initiated as below.

- 1 Research on construction measures and property maintenance following bush fire events. This research can and should influence future planning and building policy.
- 2 Learnings from approaches to development applications and assessment. These process learnings could be easily applied in the recovery process for future events.
- 3 Strategic approaches to rebuilding. Taking a wholistic approach to the rebuild process rather than site-by-site

In order to make improvements to the current system of events, it would be important to thoroughly address each of these points prior to the onset of any future major bush fire event. Looking back at Figure 2, this is where recovery leads into preparedness if lessons are not lost through the process. The recording of outcomes from these three workstreams is imperative so that it can be translated into a land use planning recovery framework for future events, taking out the guess work.

A national land use planning recovery framework would set a list of key items or principles that State and Territory Governments could translate into detailed land use planning recovery frameworks in detail through their own legislative systems. The National Land Use Planning Recovery Framework could include the following principles:

- Resource mobilisation to provide assistance on the ground;
- A plan to map out what assistance on the ground looks like;
- Funding identification;
- A 'build back better' plan – firstly taking a strategic approach, then site-by-site (see 2.5 below);
- Information and guidance is pre-prepared and contracts in place to print and have available at short notice;
- Fast tracking development application (DA) processes;
- Waiving DA fees;
- Being proactive in providing site specific rebuild information.

## 2.3 Research

There are consistent failures in the process of engaging researchers, conducting research, analysing research and effectively turning research into policy positions. Each time a bush fire event occurs, the mobilisation of researchers is ad hoc to say the least. There are a few key points here which are not consistently being addressed:

- Built form and property maintenance research following any major bush fire event is significant. It is the best test possible of building measures and it is really the only way to move forward in changing land use planning policies to reflect actual event experiences. My experience is that the research is often played down following an event, and even cancelled in some instances. The research side is not seen as being an important use of resources.
- Research needs to be conducted swiftly following an event so that building debris remains on site and the vegetative conditions are as they were immediately following the event. Too often, research operations are mobilised weeks and months after an event when it is too late to effectively reach conclusions.
- Research questions have not been effective in the past and do not test key elements of construction and planning policy. Questions are also dependent upon the body or agency engaged to compile the research. A comprehensive, state-wide set of properly determined questions should be established to ensure that each element of NSW planning and building policy is researched fully and conclusions can be drawn as to the effectiveness of the policy.

One way of tackling this issue is for State Government to work with the universities which teach Planning and Bush Fire Protection to put pre-emptive agreements in place to mobilise teams quickly and effectively following each event. Part of this agreement would establish the list of research questions relevant to current land use planning policy and standards for bush fire protection.

A national land use planning recovery framework can also include some principles regarding the collection of research and translation into future legislation, policy and guidance. At the national level, this can provide significant input to *Australian Standard 3959: Construction of buildings in bushfire areas*. Traditionally changes to this standard are slow moving and experience significant inertia due to the committee style of approach to its preparation.

## 2.4 DA Processes

The land use planning system is often criticised for the time it takes to achieve development consent, especially in bush fire prone areas. This can be a daunting prospect for home-owners who need to navigate the system to achieve consent to rebuild following a bush fire.

The critical piece of information in determining the costs involved in rebuilding is the Bushfire Attack Level or BAL. The BAL is calculated using a method to determine potential radiant heat impact on an asset and determines the construction measures required to be incorporated into dwelling design. Knowing the BAL allows homeowners to complete their house insurance claim and appropriately design their rebuild. Ordinarily, a homeowner would need to either self-calculate their BAL or employ a consultant to provide a certificate stating their BAL for a fee. These documents would need to be submitted with a development application (DA) and the eventual BAL only known when council, a consultant or the NSW RFS has completed their assessment of the DA.

It has come to light in past events, I am thinking particularly of the Linksvie fire in 2013 in the Blue Mountains, that knowing the BAL rapidly following the event is important for insurance claims. Processes have been put in place following fire events for the NSW RFS to issue a letter to homeowners stating their BAL. This has been extremely helpful but is resource intensive for the NSW RFS and may be a slower process than it should be. There would be merit in setting this item out within a recovery framework so that it was legislated in some way and became an expectation prior to an event, rather than an idea following each major event.

## 2.5 Rebuild

The elephant in the room and a subject which has been mooted, particularly following the recent fire events is the idea of 'build back better' or even planned retreat of settlements. Before tackling each of these concepts, the important point to consider is setting out within a recovery framework what the process is going to be for undertaking the rebuild of fire affected communities. In my mind, there is a first step in this process that we are currently missing – the ability to stand back at the start of the rebuild process, if briefly, and undertake a strategic bush fire study of that community. The key question of this bush fire study would be: *is it appropriate for this entire community to be rebuilt as is?*

A strategic bush fire study would take an overview of the current community footprint and look at the landscape surrounding the community to determine the highest risk areas of the community. The outcome of this study would be a review of whether the settlement footprint should be changed or altered. This exercise would need to be undertaken in full consultation with the community involved and would be individual to each community. The exercise may have one of three outcomes:

1. The settlement pattern is entirely appropriate and no changes need to be made. The community can progress straight to rebuild. An assessment will also be made at this stage as to whether the settlement could benefit from enhanced bush fire protection measures such as increased asset protection zones (APZs).
2. The settlement pattern is partially appropriate, and some changes can be made to improve strategic bush fire protection. A full plan should be made of the community establishing what a future settlement pattern may look like and identifying which lots are affected by this plan. This should only be done with prior knowledge of funding streams/mechanisms available to assist. Planners and emergency management agencies should then work with the impacted community to educate them on the options and assess appetite for relocation. Where parts of the community are unaffected by potential relocation, they can progress straight to rebuild. There might also be increased bush fire protection measures required, such as larger APZs than those ordinarily required.
3. The settlement pattern is entirely inappropriate. A full plan should be made, in collaboration with the impacted community and potential funding partners, to relocate the community.

This is shown in diagrammatic form below:

*Figure 3: Suggested Build Back Better Process*

There are many sensitivities within this approach which would need to be fully explored and developed but the principle here is merely that it be set out in legislation for this exercise to take place for each fire affected community following each bush fire event and prior to rebuild.

Once rebuild has been deemed appropriate, there are also more site-based measures which can and should be put in place prior to rebuild. If each home owner is going to get a letter regarding their BAL telling them the attack level of their existing house footprint, they should also be informed of the gains they can make in bush fire protection by moving their house footprint further away from hazard vegetation, within the existing lot boundaries. Under the current planning system, it is homeowner choice whereabouts on their lot they rebuild, there is no requirement, for instance, to enforce that no homes should be rebuilt within BAL 40 or BAL FZ. I personally think that adopting this kind of principle would make enormous gains in bush fire protection and a way of effectively executing the Precautionary Principle.

A national land use planning recovery framework would set out the principles and processes expected to ensure 'build back better' principles are followed both on a community scale and a single dwelling scale. The framework set out above would set the national principles, then State and Territory governments can formulate their own land use planning recovery plans in line with the national framework.

### 3 Bush Fire Protection for the Homeowner

The ultimate cost for protecting life and property currently lies with the homeowner. It is important to ensure that financial costs are not excessive, that the system is clear, transparent and easy to navigate, and that timeframes are reasonable. Moreover, it is key that the measures we impose on homeowners are maintained for ongoing protection over a number of years and not just one-time measures. So, where do we start?

#### 3.1 Bush Fire Prone Land Mapping

Bush Fire Prone Land Maps mean different things in different States. Some maps include a level of risk assessment and guidance for homeowners, other maps do not include any risk assessment. It would be helpful to receive national guidance on the level of risk assessment that should be included in bush fire prone land maps. The experience within NSW is helpful to illustrate the way in which Bush Fire Prone Land Mapping works in one Australian State.

There are common misconceptions that the Bush Fire Prone Land Map (BFPL Map) in NSW is a measure of risk. It is not, it is merely a trigger for the consideration of bush fire protection measures in a development application. In recent times, the BFPL Map has been used as a community engagement tool to explain to a resident what their level of risk may be. This is an inappropriate use of the BFPL Map because no level of risk has been utilised in creating the map, other than an assessment of the particular vegetation and its fuel loading.

Many maps across NSW are not up to date. This has been put down to councils being ill-resourced to prepare the map. The process of preparing the map is currently council driven as council is the owner of the map. The map is passed to the NSW RFS for approval and certification only. The NSW RFS provide a checks and balance service prior to signing off the map. There are significant delays in this process, and this leaves home owners unsure of their requirements and at risk because hazardous vegetation may not be mapped. This is very misleading for homeowners.

My understanding is that an interesting conundrum has arisen from the bush fire events around some of the impacted properties. Some of the land affected by property loss during the recent fire events is not actually mapped as bush fire prone, there could be a few different reasons for this such as the map being out of date or a piece of vegetation being introduced or regenerated following the creation of the map. However, in some cases even following the Bush Fire Prone Land Mapping Guidelines v5b, the land should legitimately not be mapped. This is despite the property actually burning down during the fires. In rebuild, there is no legislative reason for any bush fire protection measures to be applied to these properties, which seems counter-intuitive. So, the question is, are the BFPL Mapping Guidelines appropriate or should the mapping be reviewed to make it more relevant?

It is fair to say that given the delays experienced in keeping the maps up to date and the questions over the appropriateness of the mapping system, the BFPL Mapping process in NSW is in need of a major review. The review could call on case studies from other states and around the World which utilise different systems to produce maps.

#### 3.2 Subdivision

There is currently some duplication of processes leading to both misunderstanding and additional costs for homeowners in the DA system. The outcome of an application for subdivision should be clearly and easily translated into a BAL certificate for the homeowner.

There are also anomalies between the subdivision and single dwelling application stage which need to be rectified. Fixing these two issues would make the system far more transparent and easier to navigate.

The issue here is how this can be done. A system for streamlining the subdivision application process was introduced for designated Urban Release Areas in 2014. The system has merits in simplifying the application process as follows:

- Applicant submits subdivision proposal including a Subdivision BAL Plan. This identifies the BAL for all lots within the proposed subdivision. All BAL calculations must be clearly set out.
- A bush fire report is submitted with the subdivision application setting out clearly all APZs, any managed land and any bush fire hazard. The methodology for applying APZs must be clear and a slope survey plan must be included.
- A statement must also be included explaining how the APZs and any other managed vegetation will be maintained for the life of the development.
- Once the NSW RFS have assessed the subdivision proposed, the BAL Plan must be endorsed by them.
- A Subdivision Certificate will only be issued where the APZs and other consent conditions have been implemented prior to development occurring.
- The endorsed BAL Plan can be used to obtain a Post Subdivision BAL Certificate (PSBC), which can be used in the Complying Development Process.
- No further bush fire assessment is required at the single dwelling stage.

Within this process, all methodologies used are clear, the purchaser of a dwelling lot is aware of the BAL which applies to them and they already have the means, or can easily obtain the documentation, to go through the Complying Development process. There would be merit in perhaps this being translated into the Bush Fire Prone Land Map to provide up to date information to homeowners on their BAL.

This system currently only applies within Urban Release Areas which have been designated by the NSW Department of Planning, Industry and Environment. There is no reason why a similar system could not be applied to all subdivision proposals within NSW. A Bush Fire Management Plan that sits with a subdivision development consent could make the required conditions much more transparent.

### **3.3 Single dwellings**

Bush fire protection for single dwellings is a mix of planning and building requirements. To a large extent, the construction measures for bush fire protection are provided by Australian Standard 3959:2018 (AS3959) and the National Association for Steel Framed Housing (NASH) Standard. State Governments have limited control over these Standards, however, can opt out of various requirements and provide its own guidance through the Variations to the National Construction Code (NCC). Nevertheless, it is worth noting here that there have been limited changes to AS3959 since its major overhaul following the Victorian fires of 2009. It has just been through a major review process which had disappointing outcomes in terms of changes based on recent research.

#### **Development in Flame Zone**

One point I would like to raise with regard to single dwelling development is the consistent allowance of dwelling construction within Bushfire Attack Level Flame Zone (BAL FZ, or 'the Flame Zone, refer AS3959). Whilst as a human right, there should be a certain level of choice

allowed as to where upon your allotment you build, I believe there is also a gap in the provision of information to encourage development outside of the Flame Zone. Granted there are some lots where there is no choice but to build within BAL FZ. However, other lots are large enough to move construction further away from hazardous vegetation to lower BALs but this option is often ignored. Is this because at the outset there is no incentive for people to build away from BAL FZ? Is it because people are not given the opportunity to move the development or provide reasons as to why a relocation to a lower BAL is not achievable? Either way, to provide better protection there needs to be an assumption against development in BAL FZ where possible, especially within 10m of hazardous vegetation.

Certainty is required at an early stage of the DA as to the size of an APZ for biodiversity assessment reasons and this almost requires a pre-approval to ensure that the APZ won't actually end up being larger once the DA has been determined. Bush fire safety standards are being compromised because of the costs involved in biodiversity assessment. In order to minimise the cost involved in the biodiversity protection process, many applicants will look to minimise their APZ so look to build within the Flame Zone and as close as possible to hazardous vegetation. Currently, because there is no assumption against development in the BAL FZ, this is allowable and is a process which is compromising bush fire safety. An assumption against development within BAL FZ and a 'no compromise' approach to maximising APZs would force developers to accept the costs of vegetation clearing in order to achieve development consent.

Whilst applying Bush Fire Protection Measures in combination is a key approach of Planning for Bush Fire Protection, it has been shown through research from many fire events that the APZ is the most effective mitigation measure. Best practice would therefore be to maximise the size of the APZ and therefore maximising protection of the asset. It could be said that the new PBP has somewhat lost the 'hook' on maximising the APZ and applying best practice design measures. There is significant scope and justification for PBP to be stronger on this point.

### **Design and Landscaping**

In order to achieve the optimum bush fire protection for a site as a whole, bush fire protection measures need to be designed in from the outset. It is much harder to apply design measures retrospectively through the development assessment process, not to mention costly, time consuming and inconvenient.

Again, as with APZ enforcement, an assumption in favour of good design in the planning process could be explored through a pre-DA style service. This could also take place through education in the bush fire consultant industry to automatically provide this advice to their clients to ensure best bush fire outcomes.

National design guidance would be helpful with regard to both dwelling design and landscaping. There is guidance in Victoria on landscaping for APZs, which is regularly referred to in NSW. Landscaping for bush fire protection can be attractive and have multiple uses, practical examples of this at a national level would be helpful.



## Development Assessment

This section is very specific to the development assessment system in NSW.

It is fair to say that the current system of development application referrals to the NSW RFS is unsustainable. To my knowledge, the NSW RFS assesses over 5,000 development applications per year. This adds significant delays into the development application process for homeowners. Better outcomes could be achieved where the NSW RFS provide expert advice in strategic, larger scale projects, subdivision, Special Fire Protection Purpose development, performance-based solutions and the development of policies and legislation. The referral of BAL FZ and BAL 40 development applications to the NSW RFS is, in my view, unnecessary because they are largely returned with standard consent conditions attached. Unless it can be demonstrated that these referrals add significant value to the process, this system can be changed.

There would be a need for a significant amount of additional education for council staff to allow for this kind of change. Incidentally, this is a significant need in any case, many council assessments staff do not feel confident in assessing bush fire matters, even though they are legally entitled to do so. Many council staff would like additional training but there is currently a lack of resourcing and funding to provide this training.

The accreditation of bush fire consultants would also need to be carefully looked at. There is a lack of accountability in the bush fire consultancy industry as bush fire professionals are not overseen by the Building Professionals Board. Even without the changes outlined above, this is a point which needs investigation. Significant changes need to be made in the bush fire consultancy industry to ensure that there is confidence that bush fire professionals know their trade and act ethically in making development proposals or carrying out certification. These changes could include better education along with accountability.

### 3.4 Property maintenance

In my view, possibly the largest failure of the current system is the lack of ongoing maintenance. This is maintenance which could be achieved both through the land use planning system and outside of the land use planning system.

Let's look at the land use planning system first. Conditions of consent requiring bush fire mitigation measures to be incorporated into new development are issued at the time of development consent. In order to achieve a Bush Fire Compliance Certificate to achieve the Final Occupation Certificate, these development consent conditions will need to have been complied with. This will ordinarily include the provision of a specified asset protection zone (APZ) distance, which requires some form of vegetation management. Typically, one of the findings of significant bush fire events has been that there has been significant vegetation located within close proximity to a destroyed dwelling despite a previous development consent condition to maintain as an APZ.

Finding a way of ensuring that development consent conditions are complied with would close the gap that currently exists. Whether this is by improving homeowner understanding, by gentle encouragement or by strict enforcement, this is an item for urgent action. Significant gains can be made in preparation for future events where APZs are maintained and homeowners have carefully ensured that construction and water supply conditions have been complied with.

Similarly, whilst not always relating directly to land use planning, most homeowners are unaware of the need to ensure their home is properly prepared for a bush fire. Nor are they aware of the ways in which they can do this. There is a sliding scale of cost in the measures which can be applied to a dwelling to significantly increase its ability to withstand ember attack, radiant heat and flame contact. Even minor, cheap improvements such as garden maintenance, screening windows and closing vents/weepholes would have significant benefits in property protection. Again, as an urgent matter, it would make a substantial improvement if there was a better way of assisting homeowners to make sensible choices to protect their home.

## 4 Conclusions

Despite many recommendations being made from previous bush fire inquiries and reports, there are still numerous gaps in the use of the land use planning system for bush fire protection.

For the purposes of this Royal Commission into National Natural Disaster Arrangements, the key conclusion here is that the adoption of a set of national land use planning principles both for recovery and preparedness is imperative to ensure consistency across Australia. Leading from the top, national guidance would ensure that each State has a set of priorities to work from.

In my view, the clearest priority here is the establishment of a National Land Use Planning Recovery Framework. Achieving gains in recovery essentially leads to better preparedness and, over time, leads to strategic improvements in the way we plan our communities for future risk. A linchpin of this framework would be the acceptance of the need to focus rebuild on the principles of 'build back better'. The acknowledgement that each build back process from significant bush fire events will follow a strategic approach to building back, rather than simply focussing on building back quickly, will improve community expectations and government action.

Other significant improvements which can be made across Australia include the need to focus generally on strategic bush fire planning. Ensuring that communities are planned based on future risk, incorporating a climate change factor into assessments would improve the resilience of our communities into the future. Continuing to place new residents into high risk situations is not an appropriate way forward. Safe evacuation routes need to be established for both new and existing communities to avoid the isolation of residents in bush fire situations. The synergies between Bush Fire Risk Management and land use planning need to be explored to achieve the best bush fire protection planning for a community. Overlaying proposed communities against the Bush Fire Risk Management framework would allow an oversight of the impact of new communities to ongoing mitigation costs and resourcing.

At the local level, an assumption against development in BAL Flame Zone, or even BAL 40 is a principle that if nationally adopted would provide stronger guidance to States in encouraging new development in lower risk areas. Granted that there is a large amount of existing housing stock and the ability to move development away from BAL Flame Zone would be challenging in many cases, but stronger guidance on this would at least make some small gains at the local level. Small gains would eventually accumulate to achieve greater gains if similar principles were practised nation-wide.

Finally, there are many ways in which improvements can assist homeowners to navigate the system with more certainty and reduced costs. Consistency in bush fire prone land mapping and streamlining development assessment processes would assist homeowners to understand their level of risk. This would assist in both development applications and in making insurance claims.

Although I have presented the maintenance point at the end of my submission, I believe that it holds a similar priority level to the creation of a National Land Use Planning Recovery Framework and the need to plan more strategically. Much of the hard work which goes in to ensuring good mitigation through the land use planning system is lost through the lack of a maintenance framework. National guidance on maintenance of bush fire protection measures is a must and an item for urgent action.

Summing up, the development of national bush fire planning principles in the following areas is critical to ensure the resilience of our communities now and into the future:

- The creation of a National Land Use Planning Recovery Framework which looks at ways in which immediate assistance can be provided to communities following a bush fire event.
- Examination of the 'build back better' principles and the need to take a strategic overview of a community prior to beginning the rebuild process.
- Moving towards a system of strategic bush fire planning where we avoid placing new communities in high risk areas.
- Applying an assumption against building or rebuilding in BAL Flame Zone.
- Focus on achieving good research outcomes and applying directly to policy creation.
- Streamlining the development process for homeowners in bush fire prone areas.
- Improving consistency in bush fire prone land mapping across Australia.
- Developing a system to ensure the maintenance of bush fire protection measures for the lifetime of a development.

There are many more technical details which would support all of the suggestions made within this report. This is the 'tip of the iceberg' so to speak and there is much more exploration and development required around the ideas suggested. I am passionate about this topic and I would be more than happy to provide further information or assist with any projects moving forward in this regard.

## References

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