Nillumbik Shire Council

Bushfire Mitigation Strategy

Liveability in a bushfire prone landscape

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Bushfire Mitigation Strategy

Background:

The area of the Shire of Nillumbik was roamed for centuries by the Wurundjeri-willam clan of the Woi wurrung speaking people. From that time communities living within this area have co-existed with bushfire. Bushfire occurs naturally within this landscape. Many of the plants and animals in Nillumbik have evolved to survive fire events, and are reliant on bushfire to regenerate and maintain their health. For centuries humans have actively used fire as a land management tool.

Unplanned bushfires occur every year. Most are brought under control quickly. However, occasionally fires occurred in conditions where they cannot be controlled. Such conditions existed in February 2009. The Black Saturday Fires devastated our communities with tragic loss of life from a fire that burned a third of the landscape.

The Council Plan 2017-2018 has the vision: “Nillumbik is Australia’s most liveable Shire.” The characteristics that make Nillumbik so liveable also contribute to it being one of the most bushfire prone areas in the world. Liveability within a bushfire prone landscape can only be achieved if we acknowledge the risk and actively work in partnership with our community and others to manage that risk.

A priority action out of the Council Plan is to develop a “Comprehensive Fire Mitigation Strategy.” To initiate the development of this strategy a workshop was facilitated on 11 September 2017. This was attended by Councillors, council officers, residents who live in high bushfire risk areas and members of fire services including local brigades. A summary of Council’s current fire mitigation activities was provided. (Attachment 1). An outcome of that workshop was clarification that the scope of this strategy is restricted to mitigating bushfire risk.

Context:

Nillumbik Shire Council provides services to a community that is vulnerable to the impacts of bushfire. Having to deliver these services in a bushfire prone environment means that Council’s operations are also vulnerable to the impact of bushfire.

Council has a number of legislated responsibilities relating to bushfire mitigation.

In the *2018 Annual Community Survey Report*, residents ranked “Bushfire management/ prevention issues,” as their fourth highest issue of importance. In the rural precinct it is the second highest. In Greensborough/Plenty it is the fourth highest, in Eltham the fifth, and in North Eltham the eighth. It is only in Diamond Creek where it is not ranked as one of the top ten issues of importance.

Any strategy must meet both legislative requirements and high community expectations. However, strategy design and implementation will be impacted by external factors. Nillumbik Shire Council does not have control of or responsibility for all aspects of bushfire mitigation.

Legislation and policy of State and Federal government has the potential to both enable and restrict local governments' capacity to manage bushfire risk.

Nillumbik has a low rate base with limited alternative sources of revenue. With the requirement to deliver over a hundred other services, economic restraints will also be an influence.

Nillumbik's community is one of the least socially disadvantaged in Australia. Many are well informed about bushfire risk. However, the population is aging, potentially increasing many residents' vulnerability. Other factors such as an increase in "tree change" migration could decrease the community's collective understanding of bushfire risk.

Recent technological innovations such as fire ready apps have improved how residents are notified of bushfires. This could be accompanied by increased expectation of immediate information and a dependency on systems that are themselves vulnerable to bushfire risk.

The level of bushfire risk can greatly vary from season to season and on a daily basis during any given season.

An increased frequency and severity of bushfires is likely as a consequence of climate change. This could render current controls ineffective. There is the potential for an increased demand for both preventative mitigation controls as well as relief and recovery services.

In recent years there have been an increasing number of post-disaster class actions. If Nillumbik Shire Council was seen to be negligent in meeting its bushfire mitigation obligations this would have a compounding effect on the reputational and financial consequences of a bushfire event.

Risk Description

In order to provide a comprehensive bushfire mitigation strategy two separate, but inter-related risk descriptions have been developed.

1. *There is a risk that a bushfire can impact on the community of Nillumbik causing death and injury; loss of critical infrastructure and community assets that support community resilience; loss of residential property; damage to the local economy and damage to environmental assets.*

2. *There is a risk that a bushfire could impact on Council's staff and operations, causing death and injury; loss of council assets; failure of service delivery; financial and reputational loss.*

Council plays an important role in the mitigation of Risk 1; however this is a risk that is shared with communities, governments, agencies and business.

Council has primary responsibility for the management of Risk 2 and so owns this risk.

Causes

Causes of bushfire include natural occurring ignitions such as lightning strikes, infrastructure failure such as electrical faults and human intervention including arson, accidental ignition and planned burn escapes.

Consequence

Using the *Community Emergency Risk Assessment* process the Nillumbik Municipal Emergency Management Planning Committee has rated the maximum foreseeable consequence of a bushfire occurring in Nillumbik as Major.

Through the Business Continuity Planning process the risk*: "Failure to prepare for and respond to emergencies"*, is rated as "Catastrophic" (prior to controls) and "Medium" (after controls).

Strategic Controls

Through consultation with internal and external stakeholders, literature review of bushfire mitigation strategies and analysis of current practice, seven strategic controls have been identified for the comprehensive mitigation of bushfire. Four of these controls are primarily for the mitigation of Risk 1 and three are primarily for the mitigation of Risk 2. Successful implementation of any given control could be dependent on the successful implementation of other controls. Interdependencies will also exist for the effective mitigation of both risks.

The seven strategic controls are also characterised as being primarily:

a) Physical: designed to influence fire behaviour; reliant on physical intervention within the landscape
b) Cultural: designed to influence human behaviour; reliant on the actions of individuals, communities and organisations; or
c) Supportive: actions taken to support Physical and Cultural controls

Strategic Control 1 (Risk 1) - Community Partnerships

We will partner with the community to build community resilience.

Control Category: Cultural

***How*:** In 2017 Council endorsed the *2017-2020 Nillumbik Municipal Emergency Management Plan.* The plan includes a disaster resilience strategy and a program of implementation "2020 Vision". This program is the key driver of activities to implement this strategic control.

This partnering will focus on four themes (adapted from the *National Strategy for Disaster Resilience):*

- Values and risk
  - The community has values and identifies what could be at risk
  - The community is provided with risk and hazard information and guidance on managing risk
- Connectedness
  - Communities form and maintain effective networks and alliances
  - A community development approach utilises and builds social capital
- Participation
  - Communities have a volunteering and participation culture
  - Volunteering is supported and opportunities for participation are accessible to all
- Mitigation
  - Communities take steps to protect their assets
  - Mitigation works are identified and implemented

***Measuring Effectiveness*:** The program has a list of outputs that are due for completion by 2020. Innovative tools such as social network analysis are being used to measure outcomes. The data gained from this will inform the design of future programs.

What does this mean?

This includes developing location specific mitigation plans, location specific risk information and identifying assets, networks and community leaders to inform recovery planning.

A methodology for better working with the community to build resilience has been trailed in St Andrews. The effectiveness of the approach was recognised with a "Special Commendation" at the 2017 Fire Awareness awards. It has also been included in Monash Universities ""Compendium of Victorian Community-based Resilience Building Case Studies". The methodology will be applied in other high risk areas.

Strategic Control 2 (Risk 1) - Agency Partnerships

We will partner with other Agencies to ensure an integrated "we work as one" approach to supporting the community before, during and after emergencies.

Control Category: Cultural

***How*:** Council will continue to lead the facilitation of fire and emergency management planning at the local level. We will also continue to participate in planning at the regional and state level. Through joint exercising and training we will ensure that we are operationally ready to effectively fulfil our roles in responding to and coordination the recovery from fires.

Measuring Effectiveness: The Municipal Fire Management Plan is externally audited and found to be compliant. Evidence of participation in training and exercising is documented. Memoranda of Understanding for the provision of mutual aid are current.

What does this mean?

This integrated approach to fire management ensures that efforts across all agencies are coordinated to maximise benefit to our communities.

This also allows for mitigation programs such as planned burning where council works in close collaboration with local brigades to reduce risk.

Strategic Control 3 (Risk 1) - Active Advocacy

We will advocate effectively for our community in relation to bushfire risk at the state and federal level.

Control Category: Supportive

How: Advocate on important policy issues that affect the Nillumbik community and coordinate government and community leaders for an optimum outcome.

Measuring Effectiveness: *This will be reported against as a component of Priority Action 5.2.1of the Council Plan 2017-2018.*

> *What does this mean?*
>
> *Decisions about impact on bushfire management are made at different levels of government and by agencies that operate at regional or state level.*
>
> *Because of this Nillumbik Shire Council need to actively advocate ensuring that legislation, policy and infrastructure investment meets the needs of the Nillumbik community.*

Strategic Control 4 (Risk 1) - A Responsible and Responsive Authority

We will be discharging our duties of enforcement of state and local laws in a way that is responsive to our community needs.

Control Category: Physical

How: Where Council has the role of an enforcing state or local laws it will prioritise the enabling of compliance rather than an enforcer of compliance. This will be done through the effective communication and where necessary targeted education campaigns.

Measuring Effectiveness: A trending down of enforcement activities in relation to bushfire issues.

What does this mean?

As an example, fire inspection program is carried out every year. This results in approximately 900 Fire Prevention Notices being issued. By adopting an approach of supporting and advising rather than enforcing we are able to ensure that over 96% of issues are resolved without the need for punitive action.

Strategic Control 5 (Risk 2) - Organisational Resilience:

We will ensure that our organisation has the resilience to withstand sudden onset shocks and the agility to deliver relief and recovery services whilst maintain core business activities.

Control Category: Cultural

How: The development and testing of Business Continuity plans within a risk management framework. The development and implementation of a training plan to ensure sufficient staff have the skills to undertake roles to support bushfire affected communities.

***Measuring Effectiveness*:** Business continuity plans are current. Training of staff in business continuity and emergency management roles is schedules and delivered. Plans are tested through simulation or other methods.

What does this mean?

Plans are in place and understood.

Staff are trained to be able operate relief centres, provide assistance to emergency services and support the community through recovery.

Council has mutual support arrangements in place with other councils to maintain core business as well as respond to major emergencies.

.

Strategic Control 6 (Risk 2) - Service Delivery and Asset Management

We will ensure that safe work processes are in place to protect our staff who deliver services in high risk areas and that our assets are managed and maintained to standards that consider bushfire risk.

Control Category: Physical

How: Policy and procedures are in place that mitigate the risk of staff being exposed to bushfire. Facility maintenance occurs that considers bushfire risk.

Measuring Effectiveness: Policies and procedures are documented, available to and communicated to all staff and user groups. Facilities are maintained to appropriate standards.

What does this mean?

Council needs to operate within a bushfire prone area.

We set an example to our residents and other business by looking after our assets and people.

Strategic Control 7 (Risk 2) - Risk Reduction through vegetation management and infrastructure upgrades.

We will manage our land and infrastructure to reduce the likelihood and consequence of bushfires occurring.

Control Category: Physical

How: Risk-based methodology is used for targeting activities such as fuel management. Infrastructure improvements such as additional passing bays and water tanks are done in consultation with response agencies.

***Measuring Effectiveness*:** Vegetation management programs developed according to a documented risk-based process and implemented in a timely way. Programs are reviewed through the municipal fire management planning process.

What does this mean?

Fire mitigation programs includes an annual commitment of approx. $1.2million for roadside slashing, box clearance, woody weed removal and other fire hazard removal on council reserves.

Fifty two water tanks are maintained that provide over 4 million litres of firefighting water.

Electrical line clearance is conducted of more than 168 km of roads.

Road improvements including installing passing bays in locations identified by CFA brigades

Control Assessment

A control is effective if:

A. It is designed to meet management requirements;
B. It has been implemented and operation as designed; and
C. The control modifies the risk and must either reduce likelihood (Cause) and/or the impact of the risk (Consequence).[1]

In consideration of C in the context of bushfire, the ability of a control to modify a risk can be affected by the degree of bushfire risk on any given day.

To indicate the level of bushfire risk at any given time the Australian Bureau of Meteorology publishes: “Fire Danger Ratings”. This is a prediction of the level of bushfire risk for each day.

The diagram below shows the range of ratings from “Low-Moderate”" through to “Code Red (Catastrophic)”

The following descriptors are used to explain the ratings:

Low-Moderate/High/Very High:

> *If a fire starts, it can most likely be controlled in these conditions and homes can provide safety.*
>
> *Be aware of how fires can start and minimise the risk.*
>
> *Controlled burning off may occur in these conditions if it is safe*

Severe:

> *Expect hot, dry and possibly windy conditions.*
>
> *If a fire starts and takes hold, it may be uncontrollable.*
>
> *Well prepared homes that are actively defended can provide safety.*
>
> *You must be physically and mentally prepared to defend in these conditions.*

[1] Risk management Framework 2018-2022

Extreme:

Expect extremely hot, dry and windy conditions.

If a fire starts and takes hold, it will be uncontrollable, unpredictable and fast moving. Spot fires will start, move quickly and come from many directions.

Homes that are situated and constructed or modified to withstand a bushfire, that are well prepared and actively defended, may provide safety.

You must be physically and mentally prepared to defend in these conditions.

Code Red (Catastrophic):

These are the worst conditions for a bush or grass fire.

Homes are not designed or constructed to withstand fires in these conditions

The safest place to be is away from high risk bushfire areas

Nillumbik is in the Central Weather District. The table below shows the frequency of the various fire danger rating over a period of seven years from the summer of 2010-11 through to 2016-17.

Fire danger ratings 2010-11 to 2016-17 Central Fire District		
Rating	**Total Occurrences**	**Average Annual Occurrence**
Low-Moderate	553	79
High	428	61.14
Very High	140	20
Severe	22	3.14
Extreme	5	0.71
Code Red	0	0

The changing level of risk when moving through the spectrum from Low-Moderate through to Code Red needs to be considered when assessing controls. To do this three scenarios are considered:

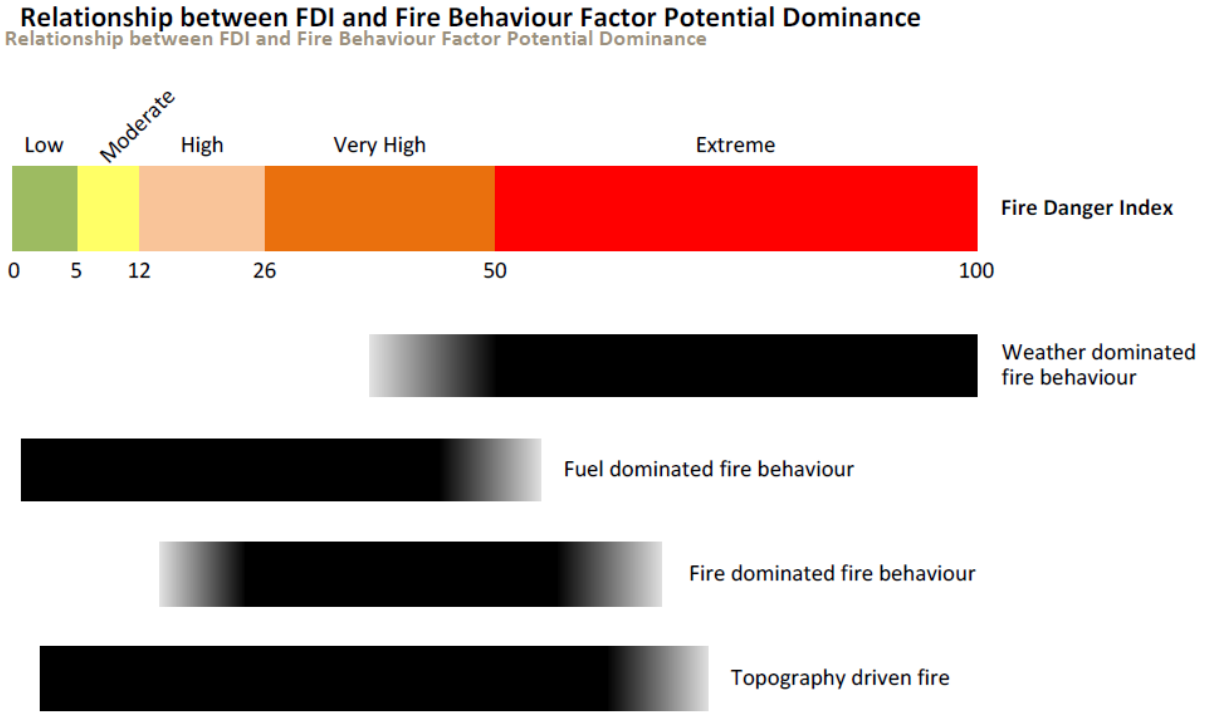
Scenario 1 Fire danger rating is Low-Moderate to Very High.

These conditions are statistically the most common on any day in any given summer. All strategic controls if properly implemented should effectively control bushfire risk under these conditions. However, those controls that are characterised as “Physical” will become less effective. This is because an increasing fire danger rating is indicative of changes in the physical landscape that promote more intense fire behaviour.

Scenario 2: Fire danger rating is Severe.

As can be seen from the table above these conditions occur about three times per year. These conditions will significantly reduce the effectiveness of Physical controls such as those reliant on fuel management.

The diagram below from *CFA Fire Ecology Guide* illustrates the relationship between fuel and weather influence on fire behaviour. (Note this uses old descriptors for fire danger ratings, Fire Danger Index 50 represents Severe.)



Source: Tolhurst (2010)

Other Physical controls such as land use planning and building controls can still be effective under these conditions. However, due to the complex interactions that affect outcomes on any given day, it should not be assumed that building sited and built to current regulations and standards will not fail.

Scenario 3: Fire danger rating is Code Red (Catastrophic).

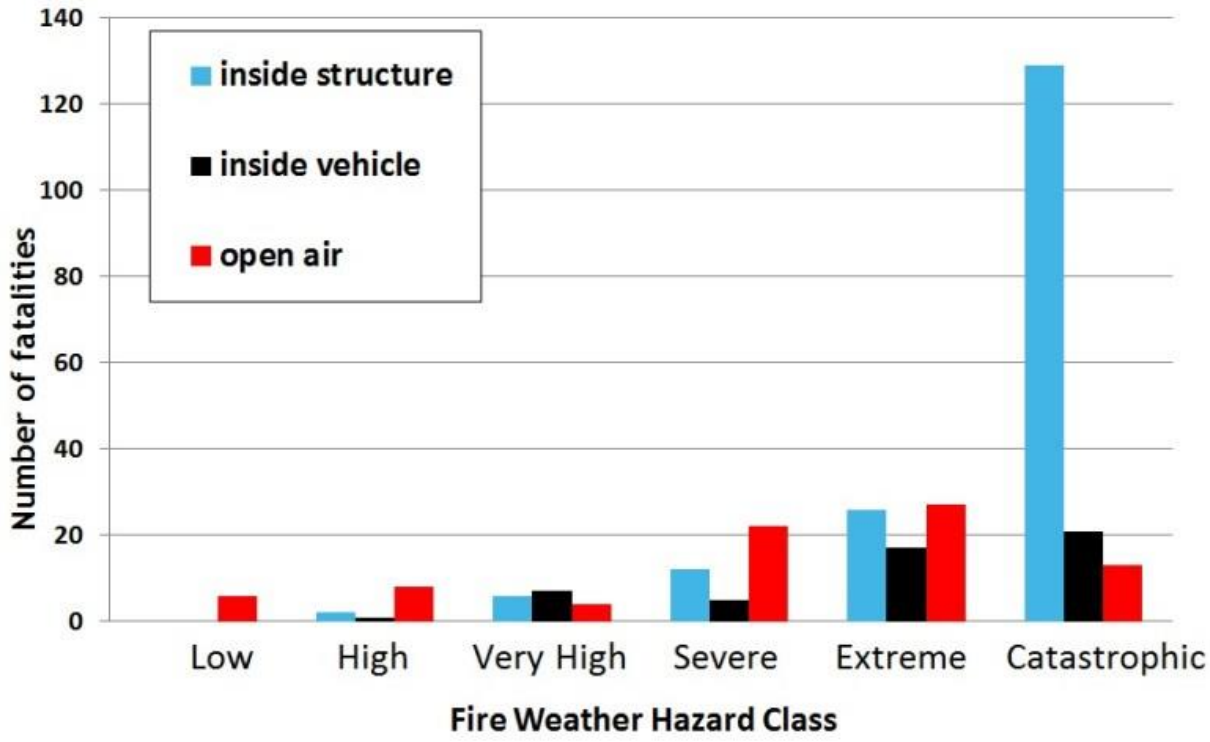
These conditions are rare. The last occurrence was in the Central Weather District was in 2009. These are the worst bushfire conditions. All controls categorised as Physical will be expected to fail. Under these conditions fire behaviour will be weather dependent not fuel dependent. In addition controls such as land use planning and building controls will be ineffective.

In its publication: “Learnings from 100 years of bushfire loss data” the CSIRO states:

Current building regulations are only designed to be effective only up to ‘extreme’ conditions, so, as (Justin) Leonard puts it: “All bets are off, even for a regulated house when you get to catastrophic.”

In these conditions our contribution to mitigating the risk to the community and our effective mitigation of risk to our organisation will be dependent of the successful design and implementation of controls categorises as Cultural.

It is in these conditions that loss of life is most likely to occur. Research done by the CSIRO shows that between 1901 and 2011, a total of 733 civilians and 92 firefighters lost their lives in bushfires in Australia. The graph below shows an exponential increase in loss of life in Code Red (Catastrophic) conditions.



Monitoring and Review

Implementation of these strategic controls is dependent on the implementation of programs at the operational level. These programs are monitored, reviewed and reported on through a number of mechanisms.

To provide assurance of the effectiveness of the strategic controls, a “line of defence model” that aligns with the Risk Management Framework needs to be developed.

These strategic controls will need to be reviewed as to their ongoing appropriateness given issues identified in the “Context” section of this strategy.

Communication and Consultation

A review of strategic controls will include a communication and consultation plan that aligns to the principles of the *International Association of Public Participation (IAP2).*

Implementation

Implementation of this strategy will be staged as follows:

Stage 1: Conduct detailed control assessment of each strategic risk using the Control assessment tool (Attachment 2).

Stage 2: Develop action plan for any identified actions based on outputs of Stage 1.

Stage 3: a). Conduct post-fire season reviews of all strategic controls as an ongoing continuous improvement program.

b). Review issues identified in the “Context” section of this strategy to confirm relevance of current controls and identify requirements for additional strategic controls.

Actions to implement controls at the operational level will need to occur across all directorates.

Conclusion

This strategy has been developed to mitigate the risk of bushfire to our community and to Nillumbik Shire Council as an organisation that serves our community.

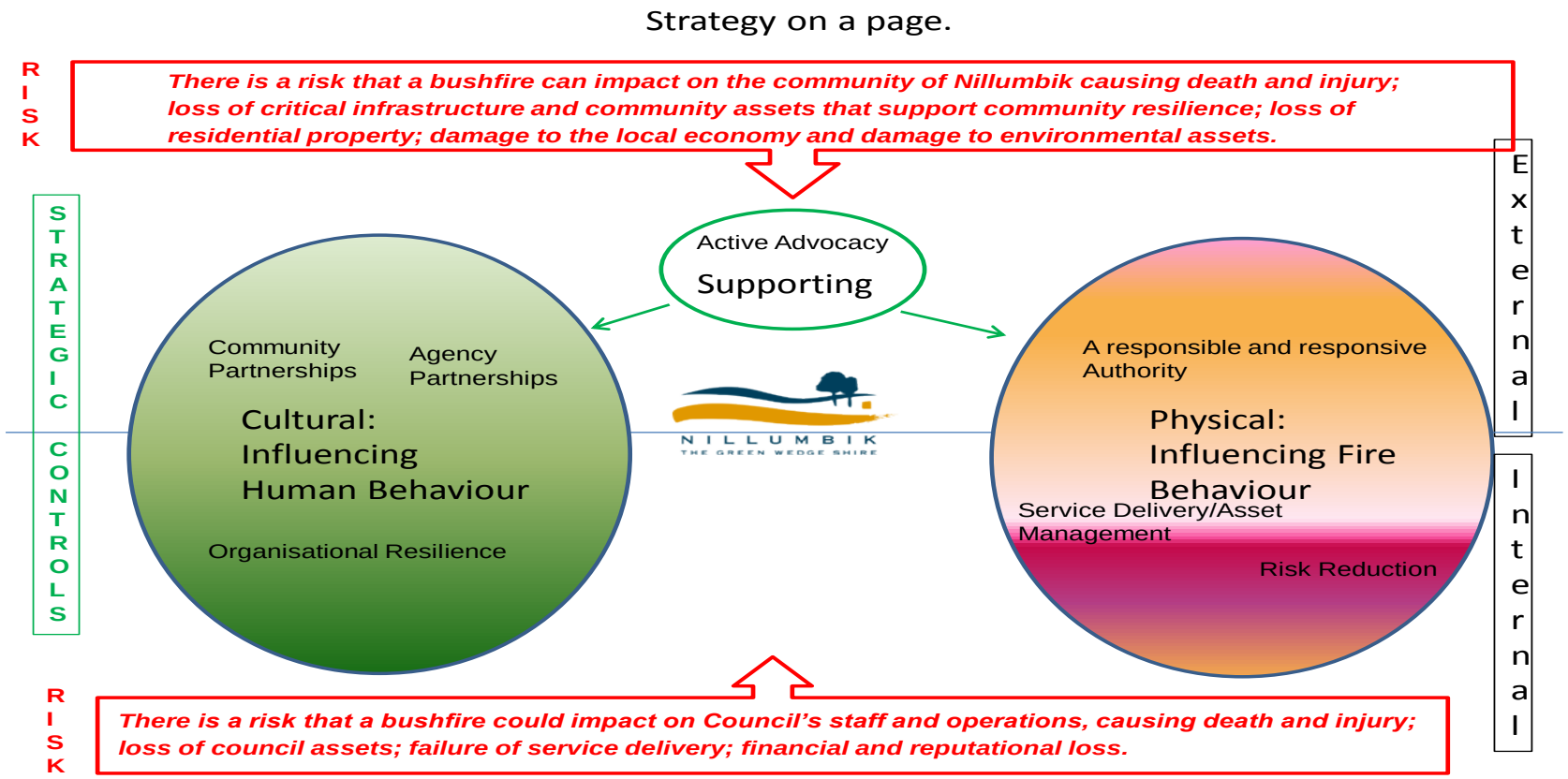
In doing this it acknowledges that bushfires have occurred and are likely to occur again in our landscape.

It also acknowledges that under catastrophic conditions not all of the strategic controls identified will be effective. However, this is not an acceptance that catastrophic conditions inevitably lead to catastrophic outcomes.

Nillumbik Shire Council is committed to working alongside our community and partner agencies to build safer communities more resilient to bushfire risk. We are committed to ensuring that as an organisation we have the adaptive capacity to meet our community’s needs when we are impacted by bushfire.

Participation in these activities enriches the liveability of our municipality regardless of whether or not bushfires occur.

Strategy on a page



Attachment 1

Fire Mitigation Strategy Workshop

Background

The Council Plan 2017-2021contains a Priority Action to: Develop a Comprehensive Fire Mitigation Strategy. To initiate the development of this strategy and ensure that the scope of this strategy meets the intent of the Council Plan a workshop will be held. This document gives an overview programs and actions that Council currently undertakes to mitigate fire risk.

The *Emergency Management Manual Victoria* defines mitigation as: Measures taken in advance of, or after, a disaster (emergency) aimed at decreasing or eliminating its impact on society and the environment.

Current Council Actions

1. Vegetation Management on Council Land

Discussion of Council's role in mitigating fire risk often focuses on vegetation management. Numerous policies and legislative requirements influence how Council manages vegetation roadside and reserves.

The key legislation in relation to fire risk is Section 43 of the *Country Fire Authority Act:*

> ***43 Duties and powers of councils and public authorities in relation to fire***
>
> *(1) In the country area of Victoria it is the duty of every municipal council and public authority to take all practicable steps (including burning) to prevent the occurrence of fires on, and minimise the danger of the spread of fires on and from—*
>
> *(a) any land vested in it or under its control or management; and*
>
> *(b) any road under its care and management.*

To meet the requirements of this legislation Council works in collaboration with other members of the Municipal Fire Management Planning Committee (MFMPC) in developing a Municipal Fire Management Plan.

Section 54A of the *Country Fire Authority Act 1958* states:

> *(1) A municipal council must prepare and maintain a municipal fire prevention plan for its municipal district in accordance with the advice and recommendations of the municipal fire prevention committee.*

The Nillumbik Municipal Fire Management Plan, has been audited by CFA and has been deemed to meet the requirements of section 54A.

Roadsides

The MFMPC recognises the importance of roads and roadside management in fire management. It also recognises the importance that the community places on roadside management. In developing the Municipal Fire Management Plan a working group was formed to address this issue The working group produced a report: *Evaluation of Roadside Vegetation Management for Fire Management Purposes.*

The findings of this report led to the development of Appendix C of the Municipal Fire Management Plan: *ROAD ACCESS AND EGRESS RISK TREATMENT PLAN (Vegetation Management*). This section of the plan informs Council's annual Bushfire Mitigation Program.

The strategy within the plan identifies roads that if they failed, would result in the greatest negative consequence for the community. Identified roads are prioritised for bushfire mitigation treatments.

These roads are classified as "Primary" and "Secondary" Roads.

Qualitative and quantitative data (if available) is used to determine which roads are primary roads. Factors considered for determining primary roads include:

1. Lack of alternative routes;
2. Locations of vulnerable groups;
3. Number of roads feeding into the road;
4. Number of residents likely to be isolated,
5. Road being cited in Community Information Guides;
6. Access to Neighbourhood Safer Places (NSP) or areas of relative safety;
7. Roads listed in CFA Local Response Plans (LRPs).

Secondary roads are roads that are less important but could provide alternative access and egress if a primary road fails. They receive the same treatments as Primary roads.

Mitigation treatments applied to these roads include:

Slashing: rearranging of grass fuel to decrease fire intensity enabling easier suppression.

Box clearing: clearing of obstructions within a 4.9m canopy above traffic lanes and shoulders to provide adequate clearance and sightlines.

Hazardous tree assessment: the identification and remove or making safe of trees that are at risk of immediate failure.

Woody weed removal: removal of exotic vegetation to decrease fuel loads enabling easier suppression.

These treatments are sometimes supplemented by conducting controlled burns.

In addition to works on primary and secondary roads, the annual Bushfire Mitigation Works Program includes treatments of other roads and areas that have been nominated by CFA brigades as being of strategic importance

Additional vegetation management is still being carried out as a consequence of the 2009 fires. This involves epicormics growth management and deadheading of trees in the fire affected area.

Council Reserves

A risk-based approach is used to inform mitigation treatments applied to other council land such as reserves. To ascertain the level of risk that the reserve presents, the following risk assessment criteria has been considered and applied:

1. Ignition sources such as power lines,
2. History of ignitions
3. The ability for fire to spread from the reserve
4. The proximity of assets such as houses, schools etc. and
5. Size of the reserve.

Treatments applied in council reserves includes: slashing, woody weed removal, brush cutting, removal of Yarra Burgan, maintain fire access tracks, fuel reduction burning and maintain fuel reduced asset management zones.

2. Electrical Line Clearance

The *Electrical Safety Act 1998* places obligations on councils for ensuring that trees are kept clear of electrical lines.

Section 84C specifies that:

A council responsible for the management of public land in an area declared under section 81 is responsible for the keeping of the whole or any part of a tree situated on the land clear of an electric line that is not a private electric line.

Council engages specialist contractors to undertake this work. (Note Council's responsibilities extend to urban areas only).

Other

Note: vegetation management is also carried out on roads and areas not listed in the bushfire mitigation works program. Other work carried out with the prime objective of providing amenity or meeting the objectives of the “Road Management Plan” will also contribute to mitigating bushfire risk.

3. Vegetation Management on Private Property

Property owners/managers are responsible for managing vegetation on their properties.

Under the CFA Act the fire prevention officer of a municipal council may serve a fire prevention notice on the owner or occupier of land in the municipal district of that council (other than a public authority) in respect of anything—

> (a) on that land, other than a building or in a building;
>
> (b) on the adjacent half width of any private street that abuts that land—(other than a prescribed thing or class of things) that by its nature, composition, condition or location constitutes or may constitute a danger to life or property from the threat of fire.

A fire prevention notice may be served only if the fire prevention officer forms the opinion—

> (a) that it is necessary, or may become necessary, to do so to protect life or property from the threat of fire; and
>
> (b) that there is no procedure under any other Act or regulations made under any Act that is more appropriate in the circumstances to address that threat.

Council’s Municipal Fire Prevention Officer (MFPO) conducts an annual inspection of properties (October/November/December depending on weather conditions) to ensure that land owners/managers are meeting their responsibilities.

This generally results in the issuing of 800 to 1000 fire prevention notices. Follow up inspections are scheduled to ensure that notices are complied with. Generally 15-20 properties will be found to be non-compliant on reinspection. When this happens, the MFPO will arrange for contractors to do the work. Costs will be claimed back from the land owner.

4. Land Use Planning and Building Controls

Council has statutory responsibilities under the *Planning and Environment Act 1987* and the Planning and Environment Regulations 2005. This includes:

> Councils in consultation with the relevant fire authority, ensure the application of State land use planning and building policies taking into account bushfire safety.
>
> Councils in consultation with the relevant fire authority are responsible for assessing property development projects for bushfire safety.

Councils are responsible for the enforcement of bushfire related planning and building permit conditions and considering applications against mandatory standards and decision guidelines.

The *Building Act 1993* gives Councils responsibility for the administration and enforcement of Parts 3,4,5,7 and 8. Including:

Supervising bushfire construction/ reconstruction standards

Granting of building permits

Inspection of damaged buildings and

Providing building assessments and advice.

5. Other Legislated Responsibilities

The *Emergency Management Act 1986,* places a number of obligations on Councils which are not bushfire specific but relevant to the mitigation of bushfire risk. This includes:

Section 20 Municipal emergency management plan

(1) A municipal council must prepare and maintain a municipal emergency management plan.

Section 21 Municipal co-ordination and planning

(1) A municipal council must appoint a person or persons to be the municipal emergency resource officer or municipal emergency resource officers.

(2) A municipal emergency resource officer is responsible to the municipal council for ensuring the co-ordination of municipal resources to be used in emergency response and recovery.

(3) A municipal council must appoint a municipal emergency planning committee constituted by persons appointed by the municipal council being members and employees of the municipal council, response and recovery agencies and local community groups involved in emergency management issues.

Municipal Emergency Management Plans are audited every three years by the Victoria State Emergency Service. The Nillumbik Municipal Emergency Management Plan was audited in 2017 and was certified as being compliant.

The *Emergency Management Manual Victoria* is published by Emergency Management Victoria. This gives guidance as to how organisations can meet their legislated emergency management obligations. Part 4 is the State Emergency Relief and Recovery Plan. Local government responsibilities are listed as:

Section 4.4 Local relief and recovery coordination roles and responsibilities

> Municipal councils are responsible for coordinating relief and recovery at the local level. Municipal councils work with local partners to determine local arrangements to manage relief and recovery activities.
>
> Each municipal council must appoint a staff member as its Municipal Recovery Manager.

To comply with this a Recovery Manager and Deputy Recovery Manager have been appointed.

A program that includes training and exercising has been developed to ensure that Council is capable of delivering relief and recovery services. Training and exercises are also run in collaboration with other Councils and emergency management agencies.

6 Other Activities to Mitigate Bushfire Risk Not Directly Related to Legislative requirements.

Infrastructure upgrades to aid response activities

Through the Municipal Fire Management Planning Process, Council collates request from brigades for infrastructure upgrades such as: installation of passing bays, road realignment, upgrades to fire access tracks and the installation of additional water storage tanks. Projects are prioritised and funded through capital expenditure budgets.

Existing fire access tracks are inspected annually any required maintained such as regrading, box clearance is funded through operational budgets of the roads and/or open space.

Building Community Resilience

Through the Municipal Emergency Planning process, the *Nillumbik Strategy for Disaster Resilience: Partnering to Improve Community Resilience and Emergency management at the Municipal Level* was developed. The development of this strategy was informed by global trends in disaster management including the *Sendai Framework for Disaster Risk Reduction*, the *National Strategy for Disaster Resilience* endorsed by COAG and Nillumbik's experience of the 2009 fires.

2020 Vision (Program to Implement the Nillumbik Strategy for Disaster Resilience) is designed to ensure that high-risk communities have the best available information to about managing bushfire risk. It is also designed to ensure that emergency management planning is better informed by the needs and values of the communities that are at risk.

In collaboration with DELWP, Nillumbik Shire Council has been successful in securing funding to pilot the implementation of this program in St Andrews.

Community Engagement and Education

Council is involved in a number of other programs intended to increase bushfire awareness and enable residents to make more informed decisions on how they manage their risk. These programs are undertaken in collaboration with other agencies and community groups.

Council has for the past 17 years hosted an annual preseason bushfire forum. The event was originally to support the work of Community Fire Guard groups. It now attracts a wider audience.

For the past five years, Council has supported events run by the Warrandyte Community Association including their annual community preparedness forum.

Bush fire preparedness street meetings are held on other high risk areas such around the Plenty Gorge. This is coordinated through the Plenty Gorge Fire Management Committee.

Council also promotes through social media and traditional media channels programs such as CFA's Fire Ready Victoria program.

The "Whittlesea Diamond Valley Community Engagement Working Group" is a CFA initiative that Council participates in. This provides a forum for better coordination and mutual assistance with community engagement activities across brigades and councils.

Attachment 2

Control assessment

A control is effective if:

A. It is well designed and meets management requirements;
B. It has been implemented and operating as designed; and
C. The control modifies the risk and must either reduce likelihood (Cause) and /or the impact of the risk (Consequence).

(A + B + C)/3 = Control Effectiveness

Step 1 - Determining if the control is well designed and meets management requirements

A control is well designed if it:

- Meets management requirements;
- Provides continuity with previous controls;
- Is current and does not require review;
- Fits with other controls; and
- Is easily understood.

(A)	Design Description	Meaning
1	Not Effective	Control requires major improvement and/or is not capable of preventing or detecting weaknesses or deficiencies. May be aspirational in design.
3	Reasonably Effective	Control currently individually or in combination with other controls is generally capable of preventing, or detecting and correcting weaknesses and deficiencies, however there are identifiable deficiencies.
5	Effective	Control currently individually or in combination with other controls is capable of preventing, or detecting and correcting weaknesses and deficiencies.

Step 2 - Determine that the control has been implemented and is operating as designed

A control has been implemented effectively if it:

- Has been rolled out to all users;
- Operating effectively;
- Is easily administered; and
- Is cost effective.

(B)	Effectively Implemented	Meaning
1	Not Effective	Control is not applied or applied incorrectly. May not be cost effective or is aspirational.
3	Reasonably Effective	Control is generally operational, but occasionally is not applied as intended. Rework or review may be required to be more effective or has not been completely rolled out. I.e. The control may be new or old.
5	Effective	Control is currently performing as intended.

Step 3 - Determine that the control modifies and reduces either Likelihood or Consequence

(C)	Modifies Description	Meaning
1	Not Effective	The individual control does not change likelihood or consequence.
3	Reasonably Effective	The individual control reasonably modifies likelihood or consequence to acceptable, however there are identifiable deficiencies.
5	Effective	The individual control reduces likelihood or consequence to acceptable levels

Step 4 - Effectiveness of controls

Use the following table to determine the effectiveness of the control.

Calculate the control effectiveness

(A + B + C) / 3 = Effectiveness of Control

E.g. (1 + 2 + 3) /3 = 2

The control effectiveness is “Negligible”

	Effectiveness	Meaning
1	**None or Not Effective**	Not effective at all in mitigating the risk (will not have any effect in terms of reducing the likelihood and/or consequence of the risk) Management has no confidence that any degree of control is being achieved due to poor control design or very limited operational effectiveness
2	**Negligible**	Partial control in some circumstances (will have very little effect in terms of reducing the likelihood and/or consequence of the risk) Either the control does not treat root cause or do not operate at all effectively.
3	**Reasonably Effective**	Partial control most of the time (will have some effect in terms of reducing the likelihood and/or consequence of the risk)

		Either the control has not been effectively designed or it is not operating effectively.
4	**Mostly Effective**	Effective in most circumstances (will have a reasonably significant effect in reducing the likelihood and/or consequence of the risk) Some additional work is required to improve the effectiveness or there is some doubt about operational effectiveness or reliability.
5	**Effective**	Fully effective at all times (will significantly reduce the likelihood and/or consequence of the risk at all times) Management believes the control is effective and reliable at all times.

Step 5 - Control Criticality

Determine how critical the control is by using the following table.

Criticality	Descriptor
1	The control has little to no impact on the management and reduction of the risk. It is unlikely this control is required.
2	The control has some impact on the management and reduction of the risk. Depending on the criticality of the other controls, an analysis should be undertaken to determine the necessity of this control.
3	The control is important to the management and reduction of the risk. If this control is ineffective or partially effective, the likelihood and/or consequence of the risk will increase (i.e. increases likelihood or consequence by 1 level)
4	The control is very important to the management and reduction of the risk. If this control is ineffective or partially effective, the likelihood and/or consequence of the risk will increase (i.e. increases likelihood or consequence by 2 levels)
5	The control is absolutely critical to the management and reduction of the risk. If this control is ineffective or partially effective, the likelihood and/or consequence of the risk will increase significantly (i.e. increases likelihood or consequence by 3 or more levels)