Nillumbik Municipal Fire Management Plan

2016-2019

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Purpose

This plan is written to guide the activities of the all those responsible for management of fire risk within Nillumbik.

It is a sub plan of the Municipal Emergency Management Plan (MEMP). It has been written to meet the requirements for a Municipal Fire Prevention Plan under the *Country Fire Authority Act 1958.*

Changes in Victoria's Emergency Management arrangements including legislative change are likely to occur during the life cycle of this plan. (Refer to www.emv.vic.gov.au for further information).

Regardless of these changes this plan and the activities of the Nillumbik Municipal Fire Management Planning Committee are guided by Victoria's emergency management sector's vision of:

"Safer and more resilient communities".

The objective of this plan is to documents steps taken to reach the sector's goal of:

"A sustainable and efficient emergency management system that reduces the likelihood and consequences of emergencies.

This plan provides treatment options to reduce the risk of fire. However, implementation of this plan yet will not eliminate all risk. Nillumbik communities must acknowledge they will continue to reside in highly fire prone areas. There are a number of localities within the municipality where there will be a significant risk from bushfire, even when all available treatment options have been applied. During a fire event, property loss in these locations is likely and loss of life possible. Living in these areas requires an acceptance of this risk.

It is actions taken at a community and household level that will have the biggest impact on reducing the risk from fire; not the actions of the agencies responsible for this plan.

The Committee

The Nillumbik Shire Council Fire Management Committee (MFMPC) is a subcommittee of the Nillumbik Municipal Emergency Management Planning Committee (MEMPC) and is responsible for the development of this plan.

The committee has representatives from the following organisations:

- Country Fire Authority
- Melbourne Water
- Metropolitan Fire Brigade
- Nillumbik Shire Council
- Parks Victoria
- Vic Roads
- Victoria Police

- Other members as required.

The terms of reference of the committee forms Appendix A of this plan.

Nillumbik Municipal Profile

Located 25 kilometres northeast of Melbourne, the municipality of Nillumbik covers 431.94 square kilometres, and has an estimated population of 62,882. The most southerly point is bound by the Yarra River and is characterised by predominately urbanised residential allotments, including Eltham, Hurstbridge and Diamond Creek. It extends 29 kilometres north to Kinglake National Park and stretches approximately 20 kilometres from the Plenty River and Yan Yean Road in the west to Christmas Hills, and the Yarra escarpment in the east, all characterised by an urban-rural interface.

The municipality includes a wide variety of topographies, ranging from gentle undulating slopes at Kangaroo Ground to very steep and heavily treed areas around Plenty Gorge, North Warrandyte and the Kinglake National Park. There are over 828 hectares of nature and recreation reserves within the municipality. Ground cover in grassland areas is generally medium to heavy depending on the extent of grazing.

Nillumbik is covered by vegetation, environmental and landscape-based overlays, which seek to protect native vegetation. The Nillumbik Green Wedge covers 91 per cent of the municipality, yet whilst the municipality of Nillumbik is referred to as the 'Green Wedge Shire'; in Land Use Planning terms, green wedge land is defined as being outside the urban growth boundary. The Nillumbik Green Wedge supports a diverse range of species and their habitats. It is home to 1,000 indigenous flora species, 64 of which are listed significant species.

The Nillumbik Green Wedge is in the catchment of the Yarra River and is bordered by the Plenty River in the west and the Yarra River to the south and south-east. Apart from natural waterways, the Nillumbik Green Wedge is the location for key parts of Melbourne's infrastructure for potable water storage. As a result, the development pattern across the municipality is one that consists of dwellings located in environmentally significant landscapes susceptible to bushfires and often connected to single access roads.

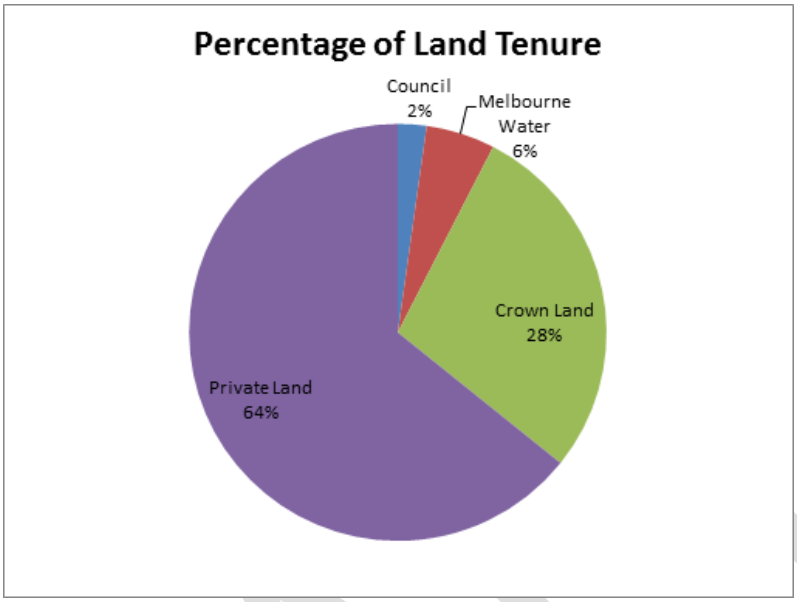
Within the rural areas of the municipality, there are a number of communities with restricted access and egress. This is due to the pattern of existing roads (both minor unsealed access roads and major arterial roads), being predominantly single carriageways that follow the topography and landscape. This creates challenges in planning bushfire mitigation programs. There are additional concerns relating to the ability of road networks to accommodate the evacuation of an area's population during a fire event, and emergency fire fighting vehicles and police being unable to respond in certain areas and under certain conditions.

The majority of the green wedge area of Nillumbik falls into a designated Bushfire Prone Area (BPA)—a statewide building control with specific bushfire construction standards aimed at improving bushfire protection for residential buildings.

In addition to BPA, parts of Nillumbik fall under the Bushfire Management Overlay (BMO), a statewide planning control that considers localities with highest exposure to bushfire risk.

Any development in these areas must contain the appropriate bushfire protection measures before any development can proceed.

Most of the land in Nillumbik is private property. The following chart shows the breakdown of land tenure by percentage of area:



Bushfire History

Bushfire seasons are generally restricted to the summer months during late December–February. The Fire Danger Period (FDP) is therefore introduced to reduce the risk of fire, and enforced generally from November to early April depending on weather conditions.

Over the past 70 years there have been a number of major fires throughout the Municipality that have resulted in the loss of life and property. In February 2009 Black Saturday fires resulted in the Strathewen, St Andrews and Christmas Hills areas experiencing devastating and damaging fires that caused extensive life and property loss.

Years of significant fires:

1939 – Fires in Strathewen

1957 – Fires impacted from Plenty down into Greensborough

1962 – Major fire front from St Andrews through to Warrandyte & Wonga Park

1964 – Plenty Gorge Area

1969 – Diamond Creek through to Research and Warrandyte

1978 – Plenty Gorge Area

1980 – Plenty Gorge Area

1990 – Plenty Gorge Area

1991 – Pound Bend (Warrandyte)

2009 – Black Saturday Fires (Strathewen, St Andrews and Christmas Hills)

2014 – Koos Rd Kangaroo Ground

Structure Fire History

The municipality has also experienced significant structural/residential fires in recent history. Unlike neighbouring municipalities, Nillumbik lacks large industrial areas but does have a major hazard facility—the Winneke Water Treatment Plant.

Fire Management Strategies

The Municipal Fire Management Planning Committee will use the following strategies to meet the objectives of this plan:

1. *Identify, analyse and treat fire risk by utilising best practise methodology as described by AS/NZS ISO 31000:2009. This will be done by utilising a range of tools and guides designed for this purpose.*

2. *Build and support community resilience in Nillumbik's high bushfire risk environment by developing programs to effectively engage with the community and promote local community and household planning.*

3. *Develop sustainable risk mitigation programs; this will be achieved by continually reviewing the effectiveness of mitigation programs and advocating for additional funding where required programs cannot be funded locally.*

4. *Ensure that Municipal planning objectives are aligned to regional fire management planning objectives; will be achieved by reviewing local plans and active participation in the regional planning process.*

Actions Taken to Implement these Strategies

Strategy 1	*Identify, analyse and treat fire risk by utilising best practise methodology as described by AS/NZS ISO 31000:2009. This will be done by utilising a range of tools and guides designed for this purpose.*
Action Taken (2013-2016) Planning Cycle	1. MEMPC has through the CERA[1] process assessed Bushfire risk as being "High" for Nillumbik. 2. VFRR[2] has been used to make a qualitative assessment of specific locations in Nillumbik. 3. A series of workshops were facilitated using "Bowtie" risk software to analyse the causes of bushfire in

[1] Community Emergency Risk Assessment, refer: www.ses.vic.gov.au for further information.
[2] Victoria Fire Risk Register, refer: www.vfrr.vic.gov.au for further information.

	Nillumbik. 4. DELWP[3] have used Phoenix Rapid-fire bushfire simulation to develop the "Profile of Bushfire Risk within Manningham City and Nillumbik Shire.
Planned Actions (2016-2019) Planning Cycle	1. Conduct scheduled review of VFRR 2. Consider using V-BERAP[4] to analyse risk in the built environment. 3. Work in collaboration with the East Central Bushfire Risk Landscape (ECBRL) team to utilise data in the Profile of Bushfire Risk.
Strategy 2	*Build and support community resilience in Nillumbik's high bushfire risk environment by developing programs to effectively engage with the community and promote local community and individual planning.*
Action Taken (2013-2016) Planning Cycle	1. Programs including Fire Ready Victoria have been ongoing. 2. Annual Community Forums conducted. 3. "Health Safe Summers" campaign for seniors run in 2014 and 2015. 4. St Andrews Fire Safety Awareness Project undertaken 5. Participation in the "Be Ready Warrandyte" project. 6. Formation of the Whittlesea Diamond Valley Group Community Engagement Working Group
Planned Actions (2016-2019) Planning Cycle	1. Seek opportunities to better coordinate efforts of all agencies undertaking community engagement activities. 2. Analyse success factors from previous campaigns to inform future campaigns. 3. Utilise ECBRL outputs for more effective engagement tools. 4. Contribute to the implementation MEMPC's Disaster Resilience Programs. 5. Continue to develop, implement and review programs
Strategy 3	*Develop sustainable risk mitigation programs; this will be achieved by continually reviewing the effectiveness of mitigation programs and advocating for additional*

[3] Department of Land, Water and Planning, refer: http://bushfire-planning.delwp.vic.gov.au/east-central

[4] Victorian Built Environment Risk Assessment Process

	funding where required programs cannot be funded locally.
Action Taken (2013-2016) Planning Cycle	5. Comprehensive evaluation of roadside vegetation management undertaken and report published. 6. Review undertaken of "Priority Roads" leading to update of roads listed and update of terminology to "primary" roads to provide constancy. 7. Tabletop review followed by field trip to roads leading to identify any areas for strategic fuel management might be possible. 8. Funding successfully sought for upgrades to and additional static water supplies. 9. Funding successfully sought for Gills Rd fire access track. 10. Planned burns undertaken at various locations.
Planned Actions (2016-2019) Planning Cycle	1. Ongoing monitoring and review of mitigation works. 2. Identify, prioritise and seek funding for additional infrastructure improvements. 3. Identify further opportunities for vegetation management across land tenures. 4. Review listed planned burns .
Strategy 4	*Ensure that Municipal planning objectives are aligned to regional fire management planning objectives; will be achieved by reviewing local plans and active participation in the regional planning process.*
Action Taken (2013-2016) Planning Cycle	1. Plan developed to align with Regional Plan. 2. Representation maintained on Regional committee.
Planned Actions (2016-2019) Planning Cycle	1. Continue to contribute to Regional planning. 2. Monitor regional and municipal planning to ensure ongoing alignment.

Monitor and Review

An action plan will be used to record the progress of these actions for the 2016-2019 planning cycle.

Authorisation and Endorsement

This Municipal Fire Management Plan was endorsed by the Nillumbik Municipal Emergency Management Planning Committee on 23rd May 2016 as a sub-plan of the Nillumbik Municipal Emergency Management Plan. The plan was adopted by Nillumbik Shire Council on ……

Appendix A

NILLUMBIK FIRE MANAGEMENT PLANNING COMMITTEE

Terms of Reference

Purpose

The Committee's purpose, of which the development of a municipal fire management plan is part, is to provide a municipal-level forum to build and sustain organisational partnerships, generate a common understanding and shared purpose with regard to fire management and ensure that the plans of individual agencies are linked and complement each other.

Membership

The Municipal Fire Management Planning Committee, appointed by the Municipal Emergency Management Planning Committee, has representation from the following organisations:

- Country Fire Authority
- Melbourne Water
- Metropolitan Fire Brigade
- Nillumbik Shire Council
- Parks Victoria
- Vic Roads
- Victoria Police
- Other members as required.

Role of the Committee

The Committee is to:

- Plan for fire management in a manner that coordinates fire management activities across agencies
- Provide information to and engage with the community on matters related to fire management planning
- Develop and maintain a Municipal Fire Management plan
- Monitor, review and report on the delivery actions contained within the Fire Management Plan
- Advocate to the Regional Strategic Fire Management Planning Committee on municipal fire management issues
- Work with the Municipal Emergency Management Planning Committee to align planning activities
- Share knowledge and create an environment of continuous improvement.

Governance

The Municipal Fire Management Planning Committee is established and undertakes planning as a sub-committee of the Municipal Emergency Management Planning Committee formed under s. 21(3) of the *Emergency Management Act (1986).*

- The MFMPC will be chaired from within its own membership
- The agency chairing will be agreed at the first meeting of each year
- The MFMPC will receive support from the Regional Strategic Fire Management Planning Committee
- Composition will be as determined by the MEMPC.

The MFMP may convene Working Groups, as required.

Reporting

The Municipal Fire Management Committee will report quarterly to the Municipal Emergency Management Planning Committee and the Regional Strategic Fire Management Planning Committee.

The Chair has responsibility for providing these reports.

Meeting Schedule and Processes

The Committee will meet at least quarterly unless otherwise required.

Agenda items will be sought two weeks before the meeting. Agendas distributed one week before the meeting.

It is the role of the chair to facilitate the meeting ensuring that the agenda is adhered to.

Decision Making and Dispute Resolution

Decision making will be by consensus. Disputed issues will be escalated to the MEMPC for resolution.

Document Management

Nillumbik Shire Council will provide documentation management of the Municipal Fire Management Plan, agendas, minutes and associated documents.

Review of Terms of Reference

Terms of reference will be reviewed every three years or as required by the committee. Changes will be referred to the Municipal Emergency Management Planning Committee for approval.

APPENDIX B Statutory Audit Obligations

B.1 HAZARDOUS TREES

Hazard trees – identification and notification procedures

The Electricity Safety Act 1998 (Vic) (**ES Act**) provides that a municipal council must specify, within its Municipal Fire Management Plan:

(a) procedures and criteria for the identification of trees that are likely to fall onto, or come into contact with, an electric line (**hazard trees**); and

(b) procedures for the notification of responsible persons of trees that are hazard trees in relation to electric lines for which they are responsible.

Under the ES Act, the person responsible for maintaining vegetation and clearance space around power lines is referred to as the 'responsible person'.

The procedures outlined in this section of the MFMP seek to address the requirement detailed above.

Each responsible person should have its own internal procedure regarding the steps that will be taken when it receives notification of a potentially hazardous tree.

What is a hazard tree?

According to the ES Act, a hazard tree is a tree which ‘is likely to fall onto, or come into contact with, an electric line’.

The Electricity Safety (Electric Line Clearance) Regulations 2010 (**the Regulations**) further provide that a responsible person may cut or remove such a tree ‘provided that the tree has been assessed by a suitably qualified arborist; and that assessment confirms the likelihood of contact with an electric line having regard to foreseeable local conditions.’

Due to legal requirements which require a clearance space be maintained around an electric line, hazard trees are usually located outside the regulated clearance space. Despite being outside the clearance space, the tree may still have the potential to contact the line due to its size or because of a structural fault or weakness which renders part, or all, of the tree likely to contact or fall onto the line.

Who is responsible for a hazard tree?

Under the ES Act, the person responsible for maintaining vegetation and clearance space around power lines is referred to as the 'responsible person'. This includes responsibility for keeping the whole or any part of a tree clear of the line.

Under the ES Act, responsibility is allocated between distribution businesses and other owners of electricity infrastructure, land owners and occupiers, public land managers such as municipal councils and VicRoads.

Municipal councils are responsible for trees on public land within their municipalities, for which they are the land manager, where these are also within a Declared Area for the purposes of the ES Act. Primary responsibility for vegetation clearance and management within the municipality, for areas which are not within a Declared Area, will usually fall to the relevant electricity distribution company.

Responsible Persons within Nillumbik City Council

There are a number of organisations that have responsibility for line clearance in Nillumbik, including:

- SP Ausnet
- In the Declared Areas – Nillumbik

Other relevant information

Responsible persons, other than private persons, must have an electric line clearance management plan in place for areas for which they have responsibility *(refer Electricity Safety (Electric Line Clearance) Regulations 2010)*

Procedures and criteria for identifying hazard trees

In the course of everyday duties, potentially hazardous trees may come to the attention of staff or volunteer members of the entities with representation on the Municipal Fire Management Committee (**the Committee**), staff of the distribution business(es) or other persons, including members of the public.

There are a range of factors which may indicate that a tree is a hazard tree. That is, a tree which is likely to fall onto, or come into contact with, an electric line. Some of these factors will be obvious when looking at the tree but many may only be apparent when the tree is assessed by a person with specific expertise and training, such as an arborist.

The following criteria may be used to assist in identifying a hazard tree:

- The size of the tree suggests that it is likely to come into contact with the electric line, for example because it appears to be encroaching or growing into the line clearance space.

- There is an excessive lean on the tree, or branches hanging off the tree and the tree is in proximity to an electric (power) line.
- The size or appearance of the tree suggests it could come into contact with the line including under foreseeable local conditions.

If a potentially hazardous tree is identified, the notification procedure outlined below should be followed. Where a responsible person becomes aware of a potentially hazardous tree for which they have responsibility, they must follow their own applicable internal procedure and the notification procedure described below does not apply.

Procedures and criteria for notifying hazard trees

To ensure that information regarding potentially hazardous trees is captured in an efficient manner and, as appropriate, referred to the responsible person for action, the following procedure for the notification of hazardous trees should be followed:

- The person nominated by the Committee (the primary responsible person) is the person to whom potentially hazardous trees should be reported.
- The primary responsible person (or their representative) is referred to in these Procedures as the primary responsible person representative (PRPR).
- Where any person becomes aware of, or receives a report of, a potentially hazardous tree within the municipality, this should be referred to the PRPR. Where the Committee becomes aware of, or receives a report of, a potentially hazardous tree within the municipality, this must be referred to the PRPR.
- Reports of potentially hazardous trees must be provided to the PRPR for action as soon as practicable. Reports must include, at a minimum:
- The name and contact details and any relevant qualifications where known of the person making the report
- As much detail as possible about the location of the tree (including, where known, GPS coordinates, details of numerical/name plate on nearest pole, name of nearest road or crossroads, closest landmark, whether tree is on private land or road reserve etc.)
- A description of the tree (including, if known, the genus and species of tree)
- The primary reasons given for the tree being identified as potentially hazardous (eg. tree is in proximity to an electric line AND there is evidence of structural weakness and/or excessive lean and/or appears to be encroaching into line clearance space etc.)
- An indication of whether or not urgent action is required.
- The PRPR must take all necessary steps to advise the person responsible for the tree that it may be hazardous.

Primary Responsible Person Representative (PRPR)

For the purposes of this part of the Plan, the primary responsible person is the Parks Co-ordinator for Nillumbik Shire Council.

Contact details for the Parks Coordinator, are as follows:

Agency name	Nillumbik Shire Council
Position title of contact person	Environment and Open Space Coordinator
Telephone Number	9433 3111
Email address	Nillumbik@nillumbik.vic.gov.au

Procedures for Notification of Responsible Persons

Where a potentially hazardous tree has been reported to the PRPR, the PRPR should follow the procedure outlined below.

Step 1	Report provided to PRPR.	
Step 2	PRPR to determine who the responsible person is in relation to the reported tree. (If necessary, the PRPR can seek assistance from ESV for this step.)	
Step 3	Is the responsible person the primary responsible person?	**Yes =>** applicable internal procedure for referral and assessment of potentially hazardous tree to be followed.
		No => proceed to Step 4.
Step 4	Did the report indicate that urgent action is required?	**Yes =>** the responsible person should be notified as soon as possible, and by the close of the next business day..
		No => the PRPR must advise the responsible person of the existence and location of a potentially hazardous tree in accordance with the timelines below.*

* The PRPR should put in place mutually agreed arrangements for the manner in which it passes on reports of potentially hazardous trees to responsible persons. (By E-mail).

Reporting Timelines

The PRPR should provide reports to the relevant responsible person as soon as practicable.

In circumstances where:

- the potentially hazardous tree is located within a high bushfire risk area (as per s.80 of the ES Act) and the potentially hazardous tree is reported during the fire danger period declared under the Country Fire Authority Act 1958 (Vic); or
- the report indicates that there is an imminent danger that the tree will contact or fall onto lines as a result of minor environmental changes;

the potentially hazardous tree must be referred to the relevant responsible person for action as soon as possible, and by the close of the next business day.

Each responsible person (other than the primary responsible person) must provide the PRPR with contact details of the person (position title) to whom reports should be provided. It is the responsibility of each responsible person to ensure that the PRPR is provided with up-to-date contact details.

Register

The PRPR will maintain a register in which all notifications are recorded together with the date of receipt of the notification and the date the notification was reported to the responsible person. This will be achieved by the use of Council's Electronic Document handling system.

It is recommended that responsible persons also maintain a register of notifications received of hazardous trees for which they are the responsible person.

PRPR Consultation

The Committee notes that the Primary Responsible Person was consulted in relation to the development of these procedures.

B.2 NEIGHBOURHOOD SAFER PLACES- PLACES OF LAST RESORT (NSP-PLR)

Neighborhood Safer Places (NSPs) are places of last resort when all other bushfire plans have failed.

They are:

- Locations that may provide some protection from direct flame and radiant heat, but they do not guarantee safety.
- Not an alternative to planning to leave early or to stay and defend your property; they are a place of last resort if all other fire plans have failed.

- An existing location and not a purpose-built, fire-proof structure.

There are currently seven Neighbourhood Safer Places—Places of Last Resort designated in the Shire of Nillumbik:

- Diamond Hills Reserve Oval, Plenty River Drive, Greensborough (Melways Ref 11 B9).
- The Outdoor Performance Centre, Civic Drive, Greensborough (Melways Ref 11 l).
- Diamond Creek Community Centre, Main Hurstbridge Road, Diamond Creek (Melways Ref 12 A6).
- Yarrambat Golf Course Clubrooms, Yan Yean Road, Yarrambat (Melways Ref 184 F5).
- Collendina Reserve, Collendina Crescent, Greensborough (Melways Ref 10 F10).
- Car park between Arthur and Dudley Streets, Eltham (Melways 21 K 5).
- Hurstbridge Basketball Stadium, Greysharps Rd., Hurstbridge (Melway 185 J8).

For more information on NSP's visit, www.cfa.vic.gov.au

B.3 COMMUNITY FIRE REFUGES

Nillumbik does not have any identified Fire Refuges.

Appendix C ROAD ACCESS AND EGRESS RISK TREATMENT PLAN

(Vegetation Management)

Access and Egress in an emergency context

Roads provide access and egress for the community, emergency services and other service providers. In an emergency context this means facilitating residents leaving an impacted or threatened area, residents returning to the area, emergency services responding into an area and the delivery of recovery services.

Note: THERE SHOULD BE NO EXPECTATION THAT ROAD TRAVEL WILL BE SAFE IMMEDIATELY BEFORE, DURING AND IMMEDIATELY AFTER FIRES OR OTHER EMERGENCIES.

The Risk

There is a risk that impacted roads will fail, leading to the following consequences:

Residents will be trapped and unable to escape the fire

Emergency services will not be able to respond into impacted areas

Residents will not be able to return to their homes

The recovery services will not be able to be delivered.

Risk treatments

The risk will be treated by:

Treatment	Responsible Agency
Managing the roadside vegetation	NSC/VicRoads
Community education.	MFMPC
Development of a road recovery plan	NSC in consultation with MEMPC/MFMPC

Managing the roadside vegetation

Roadside vegetation management will be primarily managed by***:***

Slashing- rearrangement 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. (Refer: Nillumbik Shire Council has developed a *Tree Policy,* with accompanying guidelines for further information on the assessment process.)

Burning- to remove fine fuel, reducing the likelihood of ignition and enabling easier suppression.

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

Application of treatment

It is not practicable to apply all these treatments to all roads in Nillumbik. To provide greatest risk reduction, treatments will be applied to roads that if rendered un-trafficable would result in the greatest negative consequence for the community. These roads are 'Primary Roads' i.e. the primary access and egress routes for residents and emergency services.

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

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. Are listed in Local Response Plans (LRPs).

For all primary roads the following treatments will be applied where practicable:

Slashing

Box clearance

Proactive Hazardous trees assessment

Primary roads are listed in the table below.

Primary Road	**Rationale**
Arthurs Creek Road	Provides primary access/egress to Arthurs Creek and linking to Strathewen Rd. Listed in both LRPS and CIG.
Bannons Lane	Links Yan Yean Rd providing primary access/egress from Yarrambat to Hurstbridge and linking to Bannons Lane North, listed in LRP/CIG.
Bannons Lane North	Bannons Lane North provides primary link to Mine Road and also links to Doctors Gully Road and Bannons Lane.
Buttermans Track	Buttermans Track provides only link to Christmas Hills/Yarra Glen. This track also provides access in to remote areas. i.e. Everad track.
Cottles Bridge-Strathewen Rd	Provides primary access/egress from Hurstbridge to Strathewen and listed in LRP/CIG of both Hurstbridge and Arthurs Creek FBs.
Cherry Tree Rd	Provides primary access/egress from Panton Hill to Hurstbridge. Also listed in both Hurstbridge and Panton Hill FB CIG/LRPs.
Diamond Creek Rd	Arterial road which provides access/egress to all areas north of Greensborough.
Doctors Gully Rd	Provides alternative access/egress from the intersection of Mine Road/ Hurstbridge-Arthurs Creek Nutfield to Doreen.
Broad Gully Rd	Provides primary access form Diamond Creek to Hurstbridge and is listed in Diamond Creek LRP.
Eltham Yarra Glen Rd (Vic Roads)	Arterial road provides major access/egress to all areas north of Eltham and also provide access to Yarra Glen, listed in LRP/CIG.
Greens Road	Provides a vital link between Arthurs Creek Rd and Strathewen- Cottles Bridge Rd providing primary access/egress from Strathewen west to Yan Yean Rd.
Haley Gully Rd	Continuation of Bannons Lane providing access/egress from Yarrambat to Hurstbridge and listed in LRP/CIG.
Heidelberg/Kinglake Rd (Vic Roads)	Arterial road provides access/egress to all areas north of Greensborough provides major access to Kinglake, listed in LRP/CIG.
Hurstbridge-Arthurs Creek	Provides a primary link to Mine Rd and also to Arthurs Creek area. The road is listed in both the Arthurs Creek and

Rd	Hurstbridge Fire Brigades' LRP/CIG.
Ironbark Rd	Provides access/egress route from Diamond Creek to Yarrambat.
Kangaroo Ground-St Andrews Rd	Arterial road providing access/egress form Eltham to St Andrews. and listed in LRP/CIG.
Kurrak Rd (Vic Roads)	Arterial road provides major access/egress form Yan Yean Rd Plenty to Gorge Rd South Morang, listed in LRP/CIG
Nankervis Rd	Provides link between Arthurs Creek Rd and Cottles Bridge-Strathewen Rd.
Research-Warrandyte Rd (Vic Roads)	Arterial road provides major access/egress form Eltham to Warrandyte, listed in LRP/CIG
Kangaroo Ground-Warrandyte Rd (Vic Roads)	Arterial road provides access/egress form Warrandyte to Kangaroo Ground, listed in LRP/CIG
Kangaroo Ground-Wattle Glen Rd (Vic Roads)	Arterial road provides access/egress form Wattle Glen to Kangaroo Ground, listed in LRP/CIG
Yan Yean Rd (Vic Roads southern section)	Arterial road provides access/egress from Greensborough to the north.

Secondary roads are roads that are less important and/or could provide alternative access and egress if a primary road fails will also be treated.

For all secondary roads the following treatments will applied where practicable:

Slashing

Box clearance

Proactive Hazard tree assessment

These roads are listed in the table below:

Secondary Road	**Rationale**
Clintons Road	Provides access/egress in to the areas of One Tree Hill and Smiths Gully, links to Kangaroo Ground Rd St Andrews Road
Eagles Nest Rd	Eagles Nest Rd provides an alternative access/egress from Strathewen to Arthurs Creek
Flat Rock Rd	Provides an alternative access/egress from Hurstbridge to Kangaroo Ground
Heard Ave	Provides alternative link to Yan Yean Rd in the event that the road is block and also as part of the Plenty Gorge Traffic Management Plan
Henley Rd	Provides access/egress in to Christmas Hill/Bend of Island, listed in the Eltham LRP
Hewitts Rd	Provides alternative link to St Andrews and also links to Hildebrand Rd
Hildebrand Rd	Provides alternative access/egress from Strathewen and areas north west of St Andrews.
Memorial Drive	Provides access east/west from Yan Yean Rd and is the main access to Plenty Gorge /Yellow Gum Park, listed in Plenty's LRP
Mittons Bridge Rd	Provides alternative link from Strathewen to St Andrews.
Mount Pleasant Rd	Provides access/egress to areas along the Yarra River and into the east side of Research, listed in the Eltham's LRP
Sutherland Road	Provides access east/west from Diamond Creek to Plenty.
Wilson Rd	Provides an alternative access/egress Wattle Glen to the southern area of Yarrambat
Worns Lane	Provides access east/west from Yan Yean Rd and provides access to the Plenty Gorge.

In addition to work done on primary and secondary roads additional work will be done where there is an identified benefit. Refer following tables.

Fuel modified roadside/areas	**Treatment: Slashing where possible**
Allendale Road	Ryans Road to Donaldson Road
Alma Road	Main Rd to Rodger / Cracknells Rd
Anzac Road Reserve	Approx. 500m
Aqueduct Track	Main Rd. to Ingrams Rd ,Ingrams Rd. to Afton St., Afton St. to Allendale Rd.1,550m
Astons Lane	Approx. 1,600m
Blackgully Road	Approx. 4 400m.
Broadgully Road	Landex Dr to Haleys Gully Road.
Bourchiers Lane	Approx. 340m
Cassells Road	Ingrams Rd to Crest Rd.
Chase Road, North Warrandyte	Approx. 300m
Carter Lane, Kangaroo Ground	Approx. 820m
Church Road, Hurstbridge	Approx. 300m
Christian Road	Approx. 2,400m
Cochranes Lane	Approx. 450m open area beneath electric line
Dawsons Road, Kangaroo Ground	Approx. 2,000m
Flatrock Road, Hurstbridge	Approx. 4,000m
Gosfield Road	North side approx. 2,00m
Gumtree Road	Approx. 1,400 m
Hacketts Lane	North from Ironbark Road both sides
Herberts Lane	Approx 1,000m

Hillmartin Lane	Approx. 1,470 m
Hurstbridge-Arthurs Creek Road	From Main Hurstbridge Road to Patullos Road
Ingrams Road, Research	Margaret Street to Allendale Road
Ironbark Road, Diamond Creek	From No.76 to Yan Yean Road including small road reserve at the intersection of Ironbark and Murray Road and under the power line easement
Lambert Street	Approx. 500m
Licola Street, Yarrambat	Approx.
Manuka Road	South end of Cherry Tree Road
Margaret Street, Research	From the Aqueduct to Ingrams Road
Menzies Road, Kangaroo Ground	Approx. 6,800m
Middle Hut Road	Approx. 2554 m
Mills Road	Cherry Tree Road to the creek area off Gosfield Road
Milthorpe Road	Approx. 3,000m
Mooney Road	Approx. 600m
Murray Road	Approx. 3,600
Ness Lane, Kangaroo Ground	Approx. 600m
Nicholas Lane, Kangaroo Ground	Approx. 1,586m
Pullen Drive	North end off Heidelberg-Kinglake Road
Research Avenue / Esplanade area	Approx. 500m
Reynolds Road, Eltham	Approx. 1,050m
Reynolds Road, Wattle Glen	West side only 1,050 Lorimer Road to Kangaroo Ground-Wattle Glen Road

Ridge Road, Yan Yean	From 885 to the intersection of Yan Yean Road and Arthurs Creek Road)
Ridge Road, Christmas Hills	Approx. 1,000m
Starling Road, Diamond Creek	Approx. 600m
St Andrews Street, St Andrews	Approx. 500m
Smiths Gully Road	Approx. 2,800m
SEC Transmission easement, Research	4Ha Parsons Road to Main Road, Main Road to Nyora Rd
Worns Lane, Yarrambat	(both sides) 2,400m

Reserves and open areas	**Area of reserve/open area**
Heidelberg - Kinglake Road	
Temple Ridge reserve area	2 ha
Temple Ridge firebreak	260m x 20m
Dry Creek Greensborough area	2Ha
Aqueduct Track	950m
	1,050m
Main Rd. to Ingrams Rd where possible.	
Ingrams Rd. to Afton St.	1,550m

Afton St. to Allendale Rd.	
Ness Street Reserve Diamond Creek work to be done by hand	1ha
Transmission Easement Research Parsons Road to Main Road and Main Road to Nyora Rd	4Ha

If requested by local CFA brigades, other agencies or residents, consideration will be given to carrying out mitigation works not listed in this. The application of other treatments or works in locations not specified will be, considered on a case by case basis. These additional treatments will be applied if they are consistent with the aims of the Municipal Fire Management Plan and within available budget.

Community education:

The MFMPC will develop and deliver programs that the risks associated with road travel during emergencies and managing the consequence of road closures.

Development of a road recovery plan

A road recovery plan will be developed as component of the MEMP.

References:

The following publications were considered in the development of this treatment plan:

CFA Roadside Management Guidelines

2009 Victorian Bushfire Royal Commission final report

Road Bushfire Assessment Guidelines and Methodology

Evaluation of roadside vegetation management for fire management purposes

APPENDIX D PROPOSED FIRE ACCESS INFRASTRUCTURE IMPROVEMENT PROJECTS

	Brigade Priority	Municipal Priority
Arthurs Creek		
1. New water tanks at Strathewen cricket ground	1	
Christmas Hills		
1. Ridge Rd / Muir Rd The area around this intersection is clear and large enough for a tank. The Christmas Hills station could be a control point or staging area for local incidents and would benefit strategically with having a good supply of water.	1	
Hurstbridge		
Intersection of Kendall's Land and Springhill Rd 130,000 water storage tank	1	
St Andrews		
1. Kangaroo Ground-St.Andrews Road vicinity of Flora Crescent 130,000 lt	1	
2. Buttermans Track corner Tarra Place 130,000 lt Note This tank will be installed as per a subdivision requirement		
Water Tank upgrade		
1 Heidelberg-Kinglake Road corner Olives Lane 130,000 lt		
2. Hildebrand Road corner of Shaws Road130,000		

2. Road improvement Works		
1. Black Cameron Road The 500mt stretch of road north west of Brens Rd needs two or three passing bays at locations to be determined by council staff. The steep stretch south of the creek/Proctor St, needs 2 passing bays, at 100mt and 200mt south of the bridge.		
2. Rifle Range Road The first 150mt of road south of Salters Rush Rd needs a passing bay at a location to be determined by council.		
3. Dodd Street About 200mt from the eastern end of Buttermans Track, a passing bay is needed on the north side of the road at the location of the widening of the ground next to the road.		
4. Shaftesbury Ave Council advice is needed on the creation of passing bays and intersection upgrade at the corner of St Andrews and Shaftesbury Ave.		
5. Wild Dog Creek Road Passing bay needed on the steep hill about 1.4km east of Heidelberg Kinglake Rd. Passing bay needed near no 290, near the eastern side of the road. At the corner of Dinsdale Road Nth, about 900mt east of Heidelberg Kinglake Rd, intersection upgrade needed to allow tankers to exit in either direction.		
6. School Road About 200mt south of Hildebrand Rd, 2 passing bays are needed on the western side of the road, about 40mt north and 40mt south of the middle of the bend respectively. Scrub clearance needed from No's 150 to 131.		

7 Buttermans Track corner of Pindari Lane, intersection upgrade needed to allow tankers to exit in either direction.		
8. Improving the intersection of Eagles Nest Rd and Chads Creek Rd. Turning north into Chads Creek Rd from Eagles Nest Rd is very difficult, especially for the larger fire appliances.		
9. Widening of Bowden Spur Rd between Rankines Rd and the water tank on the boundary of National Park. This road is currently very narrow and very difficult for two trucks to pass each other.		
10. The Boulevard and Cooks Cres – request for road access to be improved for safety.		
11. Upgrading of footbridge crossing Diamond Creek at Hurstbridge as part of the Diamond Creek to Hurstbridge Trail Proposal		

This list to be reviewed by MFMPC on an ongoing basis.

APPENDIX E PROPOSED BURN SCHEDULE

Prescribed burns can be used to manage vegetation to meet both fire management and ecological objectives. However, use the use of burning also carries risk which can result in: burns escaping; environmental damage and long term increase in fuel loads.

Burns must be carried strictly in accordance with the prescribed conditions. Failure to do so can result in prosecution. Ideally, burns should take place either in summer or autumn.

Note: During the declared Fire Danger Period, Nillumbik Shire Council will only issue Permits to Burn in exceptional circumstances.

Prior to the issuing of a Schedule 12 permit, Burn plans must be submitted to the MFPO for information and CFA's Operation Managers to sign off on the plan.

On Council owned reserves, burning maybe required for both fuel reduction and/or ecological purposes. In this case, the fire brigade could be asked to assist in the burn and Council will develop burn plans with the assistance of the CFA.

All fuel reduction activities as specified in the tables below should be implemented. The Municipal Fire Management Planning Committee will undertake annual review of the effectiveness of such works.

Hurstbridge Fire Brigade has identified the following area for possible prescribed burning.

Road	Area to be burnt	Side
Mine Road	Selected areas along the road with the view to have the entire length of Mine Road to be fuel reduced over a 4 year period.	Both

This list to be reviewed by MFMPC on an ongoing basis.

MFMPC ACTION PLAN (Chair to update following each meeting)

Action	Progress	Notes
1.1 Conduct scheduled review of VFRR		
1.2 Consider using V-BERAP5 to analyse risk in the built environment.		
1.3 Work in collaboration with the East Central Bushfire Risk Landscape (ECBRL) team to utilise data in the Profile of Bushfire Risk		
2.1 Seek opportunities to better coordinate efforts of all agencies undertaking community engagement activities		
2.2 Analyse success factors from previous campaigns to inform future campaigns.		
2.3 Utilise ECBRL outputs for more effective engagement tools.		
2.4 Contribute to the implementation MEMPC's Disaster Resilience Programs.		
2.5 Continue to develop, implement and review programs		
3.1 Ongoing monitoring and review of mitigation works.		
3.2 Identify, prioritise and seek funding for additional infrastructure improvements		
3.3 Identify further opportunities for vegetation management across land tenures.		
3.4 Review listed planned burns		
4.1 Continue to contribute to Regional planning.		
4.2 Monitor regional and municipal planning to ensure ongoing alignment		

2020 Vision

(A Program to Implement the Nillumbik Strategy for Disaster Resilience)

The Background

The *Nillumbik Strategy for Disaster Resilience: Partnering to Improve Community Resilience and Emergency Management at the Municipal Level* has been developed.

The Municipal Fire Management Planning Committee has identified the need for a more coordinated approach to community engagement to implement the Fire Management Plan.

The *Profile of Risk within Manningham City and Nillumbik Shire 2015- East Central Bushfire Risk Landscape* has recently been published. This uses *Phoenix RapidFire Simulation* to analyse bushfire risk across the municipalities. St Andrews has been identified as the most “at risk” community in Nillumbik.

Community Safety Coordinators have been appointed for each CFA Brigade. This position makes an ideal conduit for local knowledge that validates and challenges assumptions and outputs of fire modelling.

The local inclusion provides for credibility within the community. The Community Safety Coordinator from St Andrews CFA has been very active in developing a community engagement project.

Recent community engagement activities in Nillumbik have been very successful when they have involved effective dialogue with local communities about local issues.

The Vision

By 2020, all communities in Nillumbik will have opportunity to access the best available information to inform decisions about living with bushfire risk.

By 2020, municipal emergency management arrangements and landscape fire planning will be informed by a better understanding the values, needs and capacity of all the communities in Nillumbik.

The Method

1. Map and profile communities in Nillumbik Shire Council including identifying key community leaders.
2. Develop engagement tools to utilise the information contained in the profile of bushfire risk.
3. Prioritise which communities to initially engage with.
4. Evaluate the success of this engagement as an ongoing activity.

5. With lessons learned update emergency management arrangements and fire planning as an ongoing activity.
6. Implement agreements and other mechanisms for sustainable partnerships with all of Nillumbik's communities.
7. Partner with communities in a business as usual approach to emergency management.

The Outputs

1. A community map of Nillumbik.
2. Bushfire information in multiple formats and outlets.
3. Evidence of opportunity for dialogue between community and the emergency management sector.
4. Evidence of community input in Municipal Emergency Plans and landscape fire planning.
5. Demonstration of a whole of government "We work as one" approach to community resilience.

The Outcome

Safer more resilient communities in Nillumbik.

Conclusion

The 2020 Vision program provides a frame work for the effective coordination the efforts of all agencies on the MFMPC/MFMPC. It provides a way of providing risk information to the communities.

By establishing a dialogue with the communities in Nillumbik emergency management arrangements are better informed by the values and needs of our communities.

This community focussed approach aligns to the goal[1] and aim[2] of the emergency management sector.

The identification of St Andrews as being the most "at risk" community and the proactive work undertaken by the St Andrews Community Safety Coordinator, makes this this logical location to initiate this program.

[1] Safer and more resilient communities

[2] A sustainable and efficient emergency management system that reduces the likelihood, effect and consequences of emergencies.