

Report No:	REP12-02-06
File No:	L218
Date:	16 February 2012
<b>Decision Required</b>	

## REPORT SUMMARY

**Report to:** Environment & Planning Committee  
**Meeting Date:** Wednesday, 29 February 2012  
**Report Author:** Mary-Anne Baker, Policy Planner

**Subject:** **FIRE PROTECTION FOR RURAL DWELLINGS (TRMP Change 34 Notification)**

### EXECUTIVE SUMMARY

The Council made Change 19 to the Tasman District Council Resource Management Plan (TRMP) in May 2010 to alter the fire fighting connection on water storage tanks for rural dwellings from a 50mm camlock coupling to a 100 mm female thread coupling.

Further assessment as to the effects of this change led to a conclusion that the amendment proposed by Council is not the best solution for managing fire risks for rural dwellings. (See the previous report REP11-08-10).

A proposed new approach to fire risk management for new rural dwellings was released for public comment in December.

This is a report back of issues raised during consultation and includes recommendations and a draft change to the TRMP for new fire risk management requirements.

### RECOMMENDATION

It is recommended that the Committee:

**Approve** the Plan Change for Managing Fire Risk to New Dwellings (TRMP Change Notification) shown as Appendix 3 in Report REP12-02-06 for public notification in March 2012.

### DRAFT RESOLUTION

**THAT the Environment & Planning Committee receives Report REP12-02-06 FIRE PROTECTION FOR RURAL DWELLINGS (TRMP Change 34 Notification) and adopts the draft TRMP Change 34 Managing fire risk to rural dwellings for notification in March 2012.**

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## **1. PURPOSE**

- 1.1 The Council considered options for managing fire risk for rural dwellings through REP11-08-10 and released for public consultation during January, a draft proposal amending requirements for fire risk management at new dwellings.
- 1.2 This report summarises the feedback received, describes the issues arising and makes a recommendation for public notification of TRMP changes..

## **2. BACKGROUND**

- 2.1 The TRMP rules for new dwellings in unreticulated areas in the rural zones regarding the management of fire risk are potentially ineffective and require up-dating. The issues are described in REP11-08-10.
- 2.2 Council considered a number of options relating to the extent to which new dwellings would require fire risk management provisions to be provided.
- 2.3 Public feedback was sought on the options. A number of comments were received.
- 2.4 This report discusses further some of the issues raised and makes a recommendation for a plan change.

## **3. PRESENT SITUATION/MATTERS TO BE CONSIDERED**

### **3.1 Fire Risk**

The NZ Fire Service provided a letter of support for the draft proposed changes. Information from the Fire Service states that rural residents face a higher risk of losing more property from fire than in urban areas because fires are not noticed as quickly in sparsely populated areas. Response in rural areas can often take a longer time. Imperfect access to remote dwellings, especially during winter months, and lack of adequate water supply can also delay quick intervention.

### 3.1.1 Fire Data

The NZFS has provided information on the number of structure fires in Tasman in recent years. They note that lack of adequate water supply was a feature for every one of the fires and that considerable damage always occurred to the structure and fire spreading away from the structure also happened often.

**Table 1: Number of structure fires attended by NZFS in Tasman**

Year (July-June)	Number of Dwelling Fires	Number of Structure Fires (other)	Total
2006	34	27	<b>61</b>
2007	31	23	<b>54</b>
2008	23	20	<b>43</b>
2009	28	15	<b>43</b>
2010	28	12	<b>40</b>
2011	29	19	<b>48</b>
2012 (to date)	19	10	<b>29</b>

### 3.2 Fire Risk Management Options

Feedback (provided in appendix 1) was generally supportive of the change to providing homeowners with choices that included water storage, access to some other (reliable) supply and home sprinkler systems. Concern was expressed about the “blanket” nature of the proposal which does not account for location and access differences across the district, size of house etc).

A couple of parties commented on the increased fire risks as dwellings were located further from services. The need to provide on-site measures was supported.

Also noted was the risks to home owners where the property was serviced by a narrow, windy or over-grown access. Having water storage tanks on-site but not accessible by fire trucks is not particularly effective.

Better signage for location of rural dwellings has also been suggested. The Sandy Bay Fire Trust suggests identifying those properties where a full tank of water is kept solely for fire fighting - perhaps a sticker next to the property’s emergency number may work. This is more appropriate as a community based response rather than a planning provision as it relies on encouraging actions by existing property owners.

### 3.3 Water Storage Volume

There was some concern about the amount of water that may potentially be required to be stored on-site. The current requirement is for a single tank (23,000Litres) that can be con-currently used for domestic supply.

The new requirement may mean up to three tanks are required; two (45,000 litres) for potential fire protection and a further one for domestic use.

The 45,000 litres requirement has been calculated by the NZFS as the minimum required to adequately manage a structure fire, including managing the spread of fire from a structure to neighbouring vegetation.

To be useful during a fire, the tanks (or alternative water supply) also need to be located within a minimum distance (less than 90 metres) of the house, but not too close (more than 6 metres) in case it melts or is unsafe to access. Tanks can also be located some distance from a house as long as there is a suitable pipe connection for fire appliances within the 90/6 metre distance.

The water storage requirement may be onerous for small sites or where topography limits options for locating several tanks.

Not only do three tanks take up a significant amount of space, their appearance can detract from site amenity and landscape values. (For example on a relatively small section in St Arnaud). Burying tanks is an option in some cases, but will add to costs.

Requiring a separate water supply for fire protection is one way of increasing the likelihood that some water will be available in the event of a fire compared with a single multi-use storage tank. Where a single tank is used for both fire protection and domestic water supply, the chances are that the tank will be (nearly) empty in a drought. However, while the risk that all three tanks will be empty is lower - the risk still exists as the stored fire water may still be used to water gardens in drought conditions. Increasing storage volumes on-site may just give a false sense of security if access to the property is difficult or remote or if flammable vegetation is not managed.

The draft change is amended so that:

- (i) the requirement for 45,000 litres of water remains and that the rule is clarified to require this in addition to a potable domestic supply.
- (ii) the text is clarified to allow remote location of tanks, provided the pipe access is within the specified distances.

### **3.4 Sprinkler Systems**

The proposed requirements for water storage are likely to prompt more people to consider sprinkler systems as a cost efficient and very effective alternative for fire risk management. In some cases, practicalities and costs for home owners will mean that, in effect, sprinklers become the only reasonable choice.

Sprinkler systems are currently installed relatively infrequently in the district. They are not part of requirements under the Building Act. Their installation is subject to a NZ Standard (NZS 4517:2010).

A building consent issue may arise where installation of a sprinkler system is part of a domestic supply. The building consent process must consider if this is likely to compromise the potability of the water. If the sprinkler system is on a separate water supply this issue does not arise.

Home sprinklers are a preferred solution by the NZFS as they can greatly reduce risk of fire spreading and are very effective at immediately controlling and containing house fires to the room in which they start. This is a particular benefit when a fire appliance is some distance away.

The same water supply can be used for both a sprinkler system and domestic supply, and the sprinkler system plumbing can be built as part of the domestic supply system at the time of building construction. There are some water pressure and piping requirements, but they are fairly easily met in the vast majority of cases.

In terms of cost they are very comparable to a separate water tank storage solution. At approximately \$350 per room and on average \$3,000 per house it is potentially cheaper to install than the water tanks and avoids issues of spacing and amenity caused by storage tanks.

Sprinklers allow immediate response to a house fire and are a way of providing better fire management in remote areas or where access is limited.

The disadvantages of sprinkler systems in comparison with the water storage option are minor. The current number of installers is relatively low, but increasing demand is likely to change that. It is certainly easier and more cost effective to install at the time a house is being built. (Retrofits to existing houses are possible they may cost more and not be suited to all houses. Retrofits cannot be required by council).

### **3.4.1 Building Permits/Resource Consents**

The design and installation of sprinkler systems is specified by a NZ Standard NZS 4517:2010 Fire Sprinkler Systems. The draft TRMP change requires that a sprinkler system be designed and installed according to the NZS, but reference to this external document is unlikely to be helpful in a rule. This is because installations in rural areas can depart from the standard where water supply or pressure issues need alternative solutions (P Hilleard pers comm.). A situation where the strict requirements of the NZS 4517 cannot be met and the activity defaults to a controlled or discretionary activity when an acceptable alternative solution is available is not cost effective and is potentially counter-productive.

A fire sprinkler system is not subject to the Building Act unless the same water supply is used for both fire and domestic supply. Issues of potability and risk to water quality are addressed through the BA but not aspects of design and performance of the sprinklers.

It has been a matter of good practice by the building team in this council that, where a dwelling includes a sprinkler system that is separate to the domestic supply, building inspectors will check design and make recommendations for improvements where necessary. However, Council has no power to actually require standards to be met.

There is responsibility for the plumbers installing a sprinkler system to ensure good design and operation. They are subject to liability for a non-performing sprinkler system under the normal provisions of the Consumers Guarantee Act.

The proposed change has been amended so that compliance with the Standard is not part of the rule, but is included as a reference for home builders.

## **4. OTHER ISSUES ARISING**

### **4.1 Flammable Vegetation/Landscape**

Management of flammable vegetation is also a key consideration to managing risks in rural areas. The Waimea Rural Fire Authority (WRFA) is particularly active in trying to raise awareness about risks to existing rural dwellings and measures to reduce them. (See appendix 2 for a recent newspaper article) The WRFA produce information brochures and issue regular messages about fire safety throughout the year.

One suggestion was that Council consider implementing rules in relation to flammable vegetation setbacks.

There have also been discussions around wider issues relating to managing fire risk including land use and vegetation controls and integration between landscape considerations where vegetation requirements are in conflict with objectives relating to fire risk management in some specific locations. This is particularly in relation to recent discussion with ratepayers in Tokongawa/Sandy Bay area where an issue arose in relation to landscape versus fire safety. A conflict was identified where the TRMP/resource consent conditions required recessive colours and planting to reduce impacts of dwellings in the landscape.

Consent conditions for new buildings in some situations such as in the two Landscape Priority Area locations (St Arnaud and the Takaka Hill) or the Coastal Environment Area can be imposed in respect of landscaping and the amenity and character especially effects on native vegetation.

This discretion and potential consent conditions may conflict with a fire risk management approach that would see “defensible space” around a building where non-flammable vegetation would be maintained to protect a house from wild fires or protect sensitive vegetation from fires originating at a structure. The landscape rule covers the landscape effects where a significant natural area is modified; in addition the applicable zone rules require fire risk management for any new dwelling. There is scope within consent processes to ensure fire risk management is accounted for according to the risks at the site - both to and from the house. There is not a perfect fit between rules, but staff advise that the potential conflicts are manageable without plan changes.

No amendments to the proposed change in respect of this issue are suggested. Processing of resource consents for new dwellings in landscape areas include assessment of fire risk management in relation to amenity and landscape values. The planned changes to protect outstanding landscape areas and to review rural land management will also take this issue into account. New rules on flammable vegetation setbacks will be difficult in practice to both specify and monitor.

## **4.2 Other Suggestions**

The Motueka Community Board also suggests low interest/interest free loans. The cost of fire risk management is just one of many contenders associated with house building to achieve best practices. This option has not been explored any further because the costs of setting up and administering such a scheme, as well as the actual costs to Council of providing any subsidy are likely to be significant.

The suggestion of a two tier system whereby houses closer to a rural brigade be required to have a smaller volume of stored water has been considered. However, rural often voluntary brigades are not first responders to structure fires and do not have primary responsibility for structure fires.

House identification and compliance monitoring are useful but create complexities, additional costs and residual risks.

No further changes to the proposed plan amendments are made in relation to these suggestions.

## **4.3 Related Legislation**

The NZ Fire Service has functions and duties under the Fire Service Act.

The Waimea Rural Fire Authority has functions and powers under the Forest and Rural Fires Act. Among other things, they manage a fire permit system to reduce risks of uncontrolled fires and also play an active role in promoting fire safety in the region.

Council also has powers under the LGA to manage fire risks posed by vegetation growth. The compliance team respond to dozens of service requests each year in relation to unmaintained property causing fire hazards.

The functions and duties of council under the RMA and the LGA and those of both the Fire Service and the Waimea Fire Authority are complementary.

While the proposed changes do not address all aspects of fire risk management, there is some scope for providing people in urban and rural areas with information and advice in a co-ordinated manner.

Staff will continue to liaise with all the agencies in providing timely and appropriate information to people about managing fire risks. No plan change is needed to accommodate this.

## 5. FINANCIAL/BUDGETARY CONSIDERATIONS

- 5.1 While there are little or no budget implications for Council, except for any plan change process costs, the greatest impact will be for people building new houses in unreticulated rural areas. There may be minor costs for Council associated with preparation of any advocacy/best practice material.
- 5.2 The plan provisions aim at adequately addressing fire risk to new dwellings can mean higher costs to homeowners, as well as impose site and design restrictions for the new dwelling which may be more or less severe depending on the size, shape and location of the site and the option chosen. The new provisions provide scope for choice by new home builders..

## 6. SIGNIFICANCE

- 6.1 The decision of how much fire risk management to impose on rural dwelling owners is significant to new home builders in rural, unreticulated areas of Tasman because it imposes additional costs onto the building of new dwellings and may introduce issues about options for siting and location of water storage tanks.

The management of fire risk is however, something the Council is required to address as an effect of providing opportunities for rural living. The proposed Plan Change allows for choices to be made by the home builder.

## 7. RECOMMENDATION

- 7.1 It is recommended that the Committee:

**Approve** the Plan Change for Managing Fire Risk to New Dwellings (TRMP Change Notification) shown as Appendix 3 in Report REP12-02-06 for public notification in March 2012.

## 8. DRAFT RESOLUTION

**THAT the Environment & Planning Committee receives Report REP12-02-06 FIRE PROTECTION FOR RURAL DWELLINGS (TRMP Change 34 Notification) and adopts the draft TRMP Change 34 Managing fire risk to rural dwellings for notification in March 2012.**



Mary-Anne Baker  
Policy Planner

### Appendices:

- |              |  |
|--------------|--|
| Appendix 1 – | <i>Consultation Feedback</i>             |
| Appendix 2   | <i>Recent fire Publicity</i>             |
| Appendix 3   | <i>Proposed Plan Change to the TRMP.</i> |



**Summary of Feedback on Draft Proposal**

Submitter	Feedback	Response
The Sandy Bay Fire Smart Trust	<ul style="list-style-type: none"> <li>• support the proposal</li> <li>• request that there be some form of encouragement to existing owners to review their availability of stored water for fire fighting,</li> <li>• request a requirement for at least one 23,000 tank be kept topped up during the high fire risk season for exclusive fire fighting use.</li> </ul>	<p>Co-ordination with other fire authorities to ensure sufficient information is provided to home owners is recommended.</p> <p>Practically impossible to ensure compliance with suggested requirement</p>
Peter Wilkes	<ul style="list-style-type: none"> <li>• Blanket provision too onerous and fire risk dependant on many site specific factors</li> <li>• Seeks flammable vegetation setback requirements and more visible property identification</li> <li>• Amenity compromised by large tanks</li> <li>• Implement two tier system based on distance to nearest rural brigade</li> <li>• Concerned that water storage on its own only gives false sense of security</li> </ul>	<p>Agree risk can vary but differentiating on basis of location potentially complicated and confusing.</p> <p>Requiring vegetation setbacks potentially very complex and results in compliance officers having to decide on landscape and garden layout. Some control possible through LGA.</p> <p>Agree water storage may still not address fire risk adequately, but rule now more likely to lead to sprinkler installations.</p>
NZ Fire Service Commission	<ul style="list-style-type: none"> <li>• Supports TDC approach. Commends collaborative approach.</li> </ul>	Council to work further with NZFSC in promoting and requiring fire risk management
Landowner- St Arnaud	<ul style="list-style-type: none"> <li>• Concerned about requirements for water storage on small sites in high value landscape areas.</li> <li>• Also noted the possible power requirements for sprinkler systems in areas without power.</li> </ul>	Options allow sprinklers .
Landowner – Moutere	<ul style="list-style-type: none"> <li>• Concerned about water storage requirements for small dwellings and ‘sleep-outs’.</li> </ul>	As above
Motueka Community Board	<ul style="list-style-type: none"> <li>• Interim support (pending confirmation at meeting on the 14<sup>th</sup>).</li> <li>• Sought consideration of inters free or low interest support for new homeowners.</li> <li>•</li> </ul>	Interest free suggestion costly to set up and administer and also one of many initiatives that could be considered by Council. The Council’s proposal means the cost of risk management is met by a home owner rather than the ratepayer.



**Access issues:** Dangerous access mean this Glenhope home could not be saved by fire fighters in 2009. Photo: MARTIN DE RUYTER.

## No chance for homes at risk

Homes which cannot be safely accessed by rural fire tankers during major bush fires will be left to burn.

Waimea Rural Fire Committee chairman Martin Rodd warned increasing weather extremes would bring tinder dry conditions and the threat of forest fire to the region more often.

There were potentially hundreds of homes the Waimea Rural Fire Authority's 1 million hectare region with narrow inaccessible driveways overhung by trees, he said.

Rural and semi-rural at-risk areas included Lake Rotoiti, Atawhai, Hira, Wakapuaka, Milnthorpe, Dovedale and Ngatimoti, Martin said.

He was concerned people would have to die before the risk forest fires posed to homes was taken seriously.

The region's fire authority was not asking homeowners to remove all their trees but to think about safety issues such as vegetation density, ground slope and prevailing wind and put a Fire Smart plan in place.

International experience showed it took loss of life and property for the owners of homes surrounded by bush to realise the risk posed by fire.

"The Waimea Rural Fire Authority has considerable equipment and expertise.

"But when the fire risk is high or very high our ability to stop a fire is quite slim."

Martin said he was disappointed only 30 residents attended a Fire Smart meeting in Riwaka last Thursday night despite the Waimea Rural Fire Authority doing a letter

box drop to all homes between Kaiteriteri and Marahau.

"Those who attended are the people who are astute and recognise the risk.

"But what does it take to get the rest of them listening?"

Homeowners with high risk flammable vegetation close to their homes were advised to thin out the lower branches or understorey which removed fuel for a ground fire and lowered its intensity.

People wanted trees close to the home should plant low risk broad-leaves, such as five-finger, which was not as flammable, he said.

They should also consider the access to their homes.

Fire fighters would not take tankers onto properties which did not provide safe access and turning space.

"If it is considered too dangerous we will not be coming in," Martin said.

Property owners should also consider what is stored under and around their homes.

A Glenhope house destroyed by fire in 2009 had timber stored under it which caught fire when embers were blown under the home. While there was defensible space around the home the drive was surrounded by trees.

"If the driveway was clear there is a chance the home would have been saved," Martin said.

The Authority had taken the Fire Smart programme out to all the rural fire crews across the region.

"They all knew of high risk homes in their areas," he said.

**TASMAN DISTRICT COUNCIL**  
**PROPOSED TASMAN RESOURCE MANAGEMENT PLAN**  
**PROPOSED CHANGE NO. 34**

**Fire Risk Management for New Rural Dwellings**

**Notified**

**EXPLANATORY STATEMENT**

The TRMP rules for new dwellings in unreticulated areas in the rural zones previously required at least 23,000 litres (23 cubic metres) of on-site water storage is required for managing fire risk. The domestic supply could also be met by water from the storage tank. A particular coupling was also specified.

The New Zealand Fire Service (NZFS) has primary responsibility as the first response to any structural fire (in both rural and urban areas) and their fire appliances have specific needs for rapid and efficient access to stored water.

The NZFS have a Fire Fighting Water Supplies Code of Practice (SNZ PAS 4509: 2008) to assist in the management of fire risk (in both urban and rural areas) and contains a range of measures designed to provide appropriate levels of protection for house fires in the absence of a reticulated supply.

The Council has reviewed its provisions for managing fire risk in rural areas where there is no water reticulation in consultation with both the NZFS and the Waimea Rural Fire Authority in particular. The requirements for having sufficient stored water near any new dwelling are now more demanding however, Council has also provided for alternative fire protection options including in particular, home sprinkler systems, but also nearby dams or pools..

The NZFS promotes home fire sprinkler systems as particularly effective in managing house fires efficiently and effectively, particularly in rural areas where location, access and water supply limitations place rural dwellings at greater risk.

**EVALUATION OF ALTERNATIVES UNDER SECTION 32 OF THE RESOURCE MANAGEMENT ACT**

Council has considered options in relation to the management of fire risk at new rural dwellings. It has considered the benefits and costs, and effectiveness, efficiency and appropriateness of these amendments. The key Section 32 reference documents for Change No. are:

Report REP11-08-10; Managing Fire Risk at Rural Dwellings

Report REP12- - ; Managing Fire Risk at Rural Dwellings (TRMP Change)

## SCHEDULE OF AMENDMENTS

The Tasman Resource Management Plan is amended in accordance with the following schedule.

1. For each rule 17.5.3.2, 17.6.3.1, 17.7.3.2, and 17.8.3.1 amend the provisions for fire fighting as shown by the following strikeouts or new provisions shown by underlining as follows:

*(\*) Except where any dwelling is connected to a reticulated water supply:*

- incorporating water mains fitted with fire hydrants; and*
- the closest fire hydrant is no more than 135 metres from the*

*dwelling,  
the dwelling is:*

*(i) ~~provided with on-site water storage of not less than 23,000 litres and whether the storage is provided by an above-ground or an underground tank, the tank is fitted with an accessible 100mm female thread coupling to enable connection with fire fighting equipment;~~*

*provided with a water supply accessible to fire fighting equipment within 90 metres but no closer than 6 metres of the dwelling which can be is accessible that is either:*

*a stored volume of at least 45,000 litres or*

*a water supply that provides at least 25l/sec for 30 minutes*

*or*

*a home fire sprinkler system that is fitted with a reliable year round water supply;*

*and*

*(ii) is connected to a reticulated supply that is capable of supplying a potable water supply, or if such a supply is not available, the dwelling is supplied from:*

*a rainwater supply; or*

*a surface water source; or*

*a groundwater source*

*that is both reliable and potable and where stored on-site is at least 23,000 litres in volume*

**Note:** *~~1. The storage tank can also be used for the purpose of domestic water supply.~~*

**Note 1:** *Further advice about managing fire risk and storage of water for fire fighting and including appropriate fittings for connection with fire appliances can be obtained from the New Zealand Fire Service.*

**Note 2:** *The sprinkler system should be designed, installed and maintained to NZS 4517:2010 Fire Sprinkler Systems for Houses*

**Note 3:** *Fire risk can be further reduced through appropriate management of flammable vegetation near structures and ensuring fire appliances can locate and reach the dwelling in the event of a fire. Further information about managing fire risks is available from the NZ Fire Service or the Waimea Rural Fire Authority.*

2. For each of the principal reasons for rules in the applicable sections (17.5.20, 17.6.20, 17.7.20 and 17.8.20) amend as follows:

### **Water Supply**

Where water reticulation is available, new dwellings will be expected to connect to the service. In Rural and Rural Residential zones, except in locations where a high pressure reticulation is present, new dwellings are required to have access to install sufficient stored water for fire protection or install a home sprinkler systems for the purpose of fire protection or and to install water collection and storage systems to ensure that a minimum potable water supply is available in times of drought and for the purpose of fire fighting. The potential for adverse landscape and amenity effects of water storage tanks, especially on mall sections is acknowledged, however, an efficient fire risk management solution can also be provided by home sprinkler systems.