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25 August 2023

Attention: Independent Hearings Panel

Dear Independent Hearings Panel

Western Bay of Plenty District Council: Proposed Plan Change 92 – MDRS

Fire and Emergency New Zealand (Fire and Emergency) made a submission on Proposed Plan Change 92 – Medium Density Residential Standards (PC92). Fire and Emergency have decided not to attend the hearing scheduled to commence 11 September 2023, and in lieu, request that this letter be tabled at the hearing for the Independent Hearing Panel's (the Panel's) consideration.

Fire and Emergency's submission addressed matters relating to activities required to be undertaken to enable an effective emergency response and to provide for the health and safety of people and communities in the Western Bay of Plenty district. Issues of particular interest and relevance to Fire and Emergency broadly included:

- ensuring emergency service appliances and Fire and Emergency personnel can adequately access both built and natural environments across the district in the event of an emergency, and
- ensuring new development, including infill development, is adequately serviced by firefighting water supply, and
- maintaining and developing Fire and Emergency's property estate (e.g. fire stations) in strategic locations and at appropriate times to enable Fire and Emergency to continue to meet the demands and expectations of communities as they grow and change.

A number of requested changes were sought to the proposed policy framework (where there was scope to do so) to reinforce Fire and Emergency's concerns and to strengthen the ability for Council in its regulatory function to consider the impacts that medium density development can have on emergency services when assessing resource consent applications.

The section 42A Hearing Reports (42A report) on PC92 have been received. There is general acceptance of the recommendations within the 42A reports. The outstanding matters of which Fire and Emergency would like the Panel the turn their minds to are set out below.

Section 12 Subdivision

Topic 8 – Rule 12.4.4.2 and 12.4.4.4 – Road Reserve and Pavement Widths for Privateways

Fire and Emergency's submission requested that all Urban Roads enable emergency appliance access by implementing the following minimum widths and maximum grade:

- The minimum widths should not be less than 4m with the road reserve width to be 5m. This width is required for firefighters to efficiently work around the fire appliance to access hoses and pumps.

- A clear vehicle crossing of no less than 3.5m wide should be provided as site entrances, internal entrances and between buildings.
- The maximum negotiable gradient is 1:5, but in general the roading gradient should not exceed 16%.
- Carriageways need to be wide enough to allow fire and emergency vehicles to get through them easily and to allow Fire and Emergency to carry out emergency operations, including provision of a hardstand mid point passing bay.

This is reflected through proposed amendment to 12.4.4.2 Table 1, and minimum access width sought in 12.4.4.4(e). This is prescribed in the Designers' Guide to Firefighting Operations Emergency Vehicle Access F5-02 GD.

42A report recommendation

For a privateway serving 1-2 dwellings

The 42A report outlines that a road reserve width of 2.7m is appropriate to service up to two dwellings as these types of ROWs are created by infill subdivision, noting the ROWs are limited to a maximum length of 35m meaning that fire appliances can park on the road berm and provide suitable hose coverage to a rear dwelling. Increasing the ROW road reserve width would be less enabling for development and could force many infill subdivisions into being non-complying.

In respect of Fire and Emergency request to increase the carriageway width from 2.5m to 4m, the 42A report states that there is no benefit of providing wider carriageway when the road reserve is what provides for sufficient access to a rear site.

In respect of the proposed gradient, the 42A report outlines that maximum private way length of 35m means that an appliance can operate from the road and provide personnel and hose access to a rear site.

For a privateway serving 3-6 dwellings

The 42A report states that the additional carriageway width sought by Fire and Emergency, which is an increase in formed carriageway width from 3.5m to 4m adds no further benefit than the 5m road reserve in terms of access for a fire appliance and movement of personnel, and that the 5m road reserve width provides for sufficient access width, formation space and assess around an emergency vehicle.

In response to the request for additional wording which seeks for the private access to provide for hardstand in accordance with SNZ PAS 4509:2008 at the midpoint passing area, if greater than 70m from the road frontage, the 42A report states that there is no need to add this as design and construction will be to the Development Code and may be utilised as hardstand surface.

Fire and Emergency's response

Fire and Emergency do not wish to unduly restrict urban development, and we support well-designed, functional development which provides for the safety and well-being of its inhabitants and the surrounding community. The access provisions sought are to enable emergency response and are based on the SNZ PAS 4509:2008 and experiences in the field.

Fire doubles in size with time – i.e., it is an exponential fire growth curve, so every minute counts. Thus, the faster Fire and Emergency can set-up their hoses and apply water, the higher the chance Fire and Emergency can catch the fire before it becomes too large. The rationale behind Fire and Emergency's requests for changes to the rule are to enable emergency response through sufficient access and facilitate the fastest set-up of equipment to put water on the fire.

Enabling Access through Adequate Width and Gradient

Fire and Emergency accept that there may be circumstances where a vehicle crossing width of less than 3.5m may be suitable for residential developments. For example, where a dwelling is road fronting and Fire and Emergency are able to operate the fire appliance from the street and access the property on foot with equipment. However, where there are rear lots or buildings on long sections located remotely from street boundaries, Fire and Emergency may need to access the property with their vehicles in order to get closer to the building and operate the fire appliance from a suitable hardstand. This is why Fire and Emergency need to be provided with a clear vehicle crossing no less than 3.5m in width.

It is worth also noting that the difference in width between the formed carriageway and road reserve width may mean that the unformed area is grassed, a kerb and channel may be formed along the length formed or planted in trees and shrubs. Unless level and grassed, the use of this area will likely restrict emergency personal' ability to move around the fire appliance effectively,

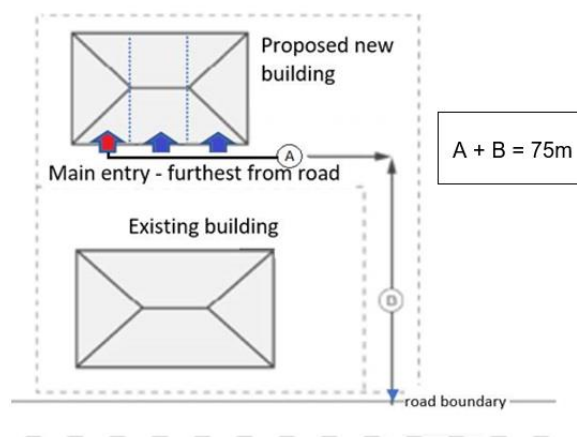
Bear in mind, Fire and emergency attend numerous emergency scenarios, as outlined in Fire and Emergency original submission, and their attendance is not restricted to fire emergency alone.

Hardstand Requirements

While the mid-point passing bay may be a good location for hardstand, it will be imperative that this is designed in compliance with the Designers' Guide to Firefighting Operations: Emergency Vehicle Access F5-02 GD in order to be effectively used by emergency services. F5-02 GD provides minimum hardstand requirements, and includes such details as regarding axle loads, dynamic pressure, and dimension measurements for effective hardstand construction. We were unable to locate reference to the F5-02 GD within Council's Development Code in respect of this matter.

In the event that a hardstand is not constructed in accordance with F5-02 GD the hardstand may be deemed unsuitable, and fire operations will have to operate from the street. This would then cause issues for hose run length from the street down to the private access which may be greater than 70m long. Hose run length is described as follows.

The maximum fire hose run distance allowed in C/AS2 or C/VM2 of the Building Code is 75m which is on average¹ three lengths of fire hose carried by Fire and Emergency. This is in very simple terms illustrated below.



¹ Fire hoses start out as 30m (when new) and (over their lifetime of repairs) get discarded when they are 20m, so the average length is 25m.

As illustrated, a 75m hose run is intended to get the hose to the main entry of the further residence from the road where a fire appliance will likely be operating from, or potentially in this scenario, from a suitable hardstand located at the midpoint passing bay.

Based on the data from Australian Fire Authorities Council Fire Brigade Intervention Model², the process of setting up additional hose length would require extra time and resources, which could potentially cause an additional delay of at least three minutes. Distances beyond the 75m limitation must therefore consider time delays and inefficiencies from connecting additional hose lengths and reduced water pressure.

When accounting for 75m hose run length, there are several influencing factors. The manner of how Fire and Emergency lay the hoses out (in a slight wavy pattern) does use some of this length as does obstructions such as vehicles, fences and landscaping which are all things expected in the urban environment. There is also some friction loss per length of hose – but this does not have a significant bearing at these relatively short lengths.

To further support this rationale, a case study from Auckland research is provided in Attachment 1 of this letter. Case study 1 (19 Derrimore Heights) was a real fire that occurred at a rear site being developed with three new standalone, two storey dwellings at the time of the fire. Access to the rear site was via a 3m wide, 40m long driveway that was insufficient for a fire appliance to access. This fire was logistically difficult for several reasons, but the longer driveway meant hose lengths from the street to front door of the furthest unit was approximately 70m, whereby to enter and reach the source of fire to the rear of site required much longer hose lengths to the site, thereby reducing water pressure and delaying response. In this case, the cumulative challenges of this site meant that the fire developed, and heat radiation caused three other occupied adjacent properties to be severely damaged beyond the original house being destroyed.

Overall, in urban environments, where there is higher likelihood of obstructions and greater risk to people and property (i.e. fire spread) the longer it takes for Fire and Emergency to set up their hoses the greater the risk to life and property.

New Zealand Building Code

Retirement Villages Association of New Zealand Incorporated and Ryan Healthcare oppose the relief sought by Fire and Emergency, and the reason for this is to state that *'the Building Act provides the framework for considering access to sites for fire-fighting purposes. The plan provisions should not duplicate or alter requirements of the Building Code.'* No further detail is provided beyond this statement.

Fire and Emergency acknowledge that the New Zealand Building Code (NZBC) includes Part C which deals with access and safety for firefighting operations. C5 specifies access and safety requirements for firefighting operations, where certain buildings must be designed and constructed so that there is low probability of firefighters or other emergency services personnel being delayed in or impeded from assisting in rescue operations and performing firefighting operations. The focus of that document is the 'design and construction' of the building – i.e., built features that address fire safety issues. Of note Clauses 5.3-5.8 require that the structural features that allow the fire service vehicles to deploy near the building that gave firefighters the ability to get to the fire and back out of the building, and that ensure clear information about fire safety systems in the building and any hazardous substances present. There is also a requirement that there is the means for getting firefighting water around (i.e., within the building), and that the building be provided with

² Australian Fire Authorities Council – Fire Brigade Intervention Model Manual: https://www.afac.com.au/docs/default-source/doctrine/afac_fbim-manual_v30123ea391b1e86477b58fff00006709da.pdf?sfvrsn=2&download=true

unobstructed path from a hardstand to the building. These requirements do not apply to detached dwellings or household units in multi-unit dwellings.

In terms of access, Clause C5 is potentially the most relevant part of the Building Code. However, while clause C5 outlines the access requirements for buildings it does not cover provision of and access to the building or site more generally and does not specify hardstand construction requirements.

Given the shortfalls with the NZBC (C5) and the lack of clarity/consistency in the interpretation/application of the NZBC and the RMA, Fire and Emergency are concerned that inadequate access provisions can prevent efficient access to properties by responders in event of a fire or emergency or to use tools and equipment effectively if required, this has the potential to significantly increase the risk to life and property.

Given this Fire and Emergency consider referencing design requirements within the Plan may be more suitable as well as referencing the Water Supplies Code of Practice.

Section 14A - Ōmokoroa and Te Puke Medium Density Residential Part 2

Topic 7 – Rule 14A.3.4 – Discretionary & Non-Complying Activities

The establishment of new emergency service facilities and activities are not provided for in the Medium Density Residential Zone and are therefore a non-complying activity under this rule. Fire and Emergency therefore request that emergency service activities are added to the list of discretionary activities, and a new definition for 'emergency service activities' is included to support this activity. The proposed definition is:

“Emergency Services Activities Those activities and associated facilities that respond to emergency call-outs, including police, fire, civil defence and ambulance services, but excluding health care facilities and hospitals.”

42A report recommendation

Council reporting staff do not consider it appropriate that emergency services are located within the Medium Density Residential Zone and consider Commercial and Industrial zones to be the preferred location for the establishment of new facilities.

Fire and Emergency's response

The ability to construct and operate fire station in locations which will enable reasonable response times to fire and other emergencies is paramount to the health safety and wellbeing of people in the community. Fire stations therefore need to be strategically located within and throughout communities to maximise their coverage and response times so that they can efficiently and effectively respond to emergency call outs in a timely way, thus avoiding or mitigating the potential for adverse effects associated with fire hazard and other emergencies.

New fire stations may be necessary in order to continue to achieve emergency response time commitments in situations where development occurs, and populations change. In this regard it is noted that Fire and Emergency is not required by a requiring authority under section 166 of the RMA and therefore does not have the ability to designate land for the purposes of fire stations. Provisions within the rules of the district plan are therefore the best way to facilitate the development of any new fire station within the district as urban development progresses.

Topic 22 – Rules 14A.4.2(e) – Other Standards – Vehicle Crossing and Access

Fire and Emergency's submission sought the inclusion of specifying the minimum allowable vehicle crossing width of 3.5m, and additionally requiring a height restriction at site entrances of no less than 4m. As written, this rule specifies the maximum width without providing a minimum width.

42A report recommendation

Councils reporting team do not consider it necessary for the minimum width to be stipulated within this rule, as the minimum 3.5m width is contained within Council's development code and within rule 12.4.4.2 (to serve 3-6 units), and the intent of the rule is to promote good urban design.

The 42A report outlined that currently the Development Code and District Plan do not limit clear passage height at a site entrance, and that the rules regarding setbacks and height in relation to boundary manage building and structures. The 42A report noted that other structures and trees are the responsibility of the property manager.

Fire and Emergency's response

Earlier in this letter we outlined the benefits of maintain emergency access. As well as proving good outcomes for emergency access, Fire and Emergency consider that the additional wording sought in rule 14A.4.2 creates good plan legibility and improves reader understanding of the rule framework. This proposed addition provides consistency with the Development Code, as demonstrated in the 42A report, and the Council has an example of utilising this wording in rule 12.4.4.2, which is applied to accessway's serving 3-6 units and so the inclusion is not inconsistent with the drafting of the plan.

The additional height restrictions will aide in maintaining clear access and prevent emergency services inability to access a property.

Fire appliances carry tools onboard to aide their access, and so other light impediments such as tree branches would be cut away in the event that these restrict access.

Section 14A – Ōmokoroa and Te Puke Medium Density Residential Part 3

Topic 5 - Rule 14A.7.A – Non-compliance with Setbacks

Fire and Emergency seek additional matters of discretion which consider the efficient movement of residents and emergency services personnel (including carrying equipment such as medical equipment and stretchers) in the event of non-compliance with setback rules contained within the plan:

Front yard

- d. The extent to which the non-compliance compromises the efficient movement of residents and emergency services and the provision for the health and safety of residents in meeting their day-to-day needs.

Side and rear yards

- f. The extent to which the non-compliance compromises the efficient movement of residents and emergency services and the provision for the health and safety of residents in meeting their day-to-day needs.

As expressed in Fire and Emergency's submission, it is of our opinion that this provides for a well-functioning urban environment that enables all people and communities to provide for their social, economic, and cultural well-being, and for their health and safety now and into the future.

Fire and Emergency request that the Panel consider the inclusion of a specific matter of discretion that requires the consideration of the risk of front and side yard setbacks being less than 1m from an emergency response and egress perspective.

42A report recommendation

The 42A report notes that such a matter of discretion may only occur when written approval for a 'deemed permitted boundary activity' under s87BA of the RMA is not provided, and that this is not very likely to occur. The report suggests that this issue is best remedied through appropriate legislation in relation to building

design. It is also noted that provision for efficient access for emergency vehicles is a matter of discretion in relation to the development of four or more residential units.

Fire and Emergency's response

Reducing the minimum building setbacks from boundaries and between buildings in the Medium Density Residential Zone to increases the risk of fire spreading and can inhibit Fire and Emergency personnel from getting to the fire source (or other emergency such as medical assistance). The difficulty of access may also increase the time for fire to burn, thereby increasing the heat radiation in a confined area.

Fire and Emergency acknowledge that Rule 14A.4.1 incorporates the medium density residential standards required by Part 2 of Schedule 3A of the RMA. Fire and Emergency also acknowledge that firefighting access requirements and building setback controls are managed through the New Zealand Building Code (NZBC) however they also consider it important that in the event of non-compliance it is important to consider emergency response scenarios.

Topic 15 - Rule 14A.7.14 – Non-compliance with Vehicle Crossings and Access

Fire and Emergency seek consideration of emergency services access with the inclusion of additional matter of discretion. This is proposed as: *d. Providing efficient and effective access for emergency vehicles and service vehicles.*

42A report recommendation

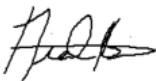
The 42A report outlines that this additional matter of discretion is not required as the intent of the rule is to restrict the size of vehicle access and associated vehicle crossings.

Fire and Emergency's response

Fire and Emergency seek a specified minimum width to be included within rule 14A.4.2(e) (refer to Topic 22 above). Fire and Emergency request that in the event of non-compliance with this rule that specific consideration is given to ensure emergency access is maintained and that this is a contributing factor in decision making.

Thank you for giving consideration to the contents of this letter and the matters raised.

Yours sincerely



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