



TECHNICAL: Maintenance of Street Fire Hydrants

The Building Policy Branch of Planning SA has been receiving numerous enquiries relating to the administration of the provisions in the Development Regulations for the maintenance of Essential Safety Provisions (ESP's) and how they relate to street fire hydrants, these comprising pillar hydrants and fire plugs (above and below ground fire hydrants respectively). This Advisory Notice seeks to address those queries.

INTRODUCTION

Clause E 1.3 (a) of the Building Code of Australia (BCA) requires fire hydrant systems to be provided to serve certain buildings in accordance with AS 2419 1994, *Fire hydrant installations: Part 1 System design installation and commissioning*. AS 2419.1 permits the use a pillar hydrant, or fireplug, located in a street or public place.

Where hydrants are installed as part of the development and are located on the site then maintaining their operational performance is clearly the responsibility of the building owner.

However, where the development is dependent on a hydrant that is located in a street, or public place, the degree of control by the building owner over the operational performance of that hydrant is diminished.

BUILDING RULES ASSESSMENT

The issue raises questions regarding the reliability of a street water supply for fire fighting purposes, which is particularly important when considering alternative solutions. In this regard the following points are relevant:

- A development can best secure an assured water supply for fire safety purposes by having on-site storage and pumping facilities. In some cases this is the only option available for the building owner.
- Reliance on the public water supply in the street can generally provide a sufficiently reliable water supply for fire safety purposes, however -
 - The street water supply has other functions and fire safety is not a prime function of the service. Street pillar hydrants and fireplugs are installed under SA Water's legislation and there is no Australian Standard that is applicable to water supply authorities.
 - Water pressures and flows vary due to changes in consumer demand, and a number of water supply authorities are reducing pressures as a water efficiency measure. There is no requirement on water authorities to maintain certain flows and pressures.
- When attending an emergency call the fire brigade must utilise whatever water is available and although they can boost the water pressure their capacity to increase the flow rate is more limited. This means that the fire safety in the first critical phase of fire development is reliant on a prompt response by the fire brigade. That prompt response is, in turn, dependent on the quality of monitoring/detection systems provided in the development to raise an alarm that is transmitted to the fire brigade.

Taking these matters into account, the sensitivity of fire safety for a particular design solution should be assessed as part of a risk analysis on the project.

Having determined that reliance on the street water supply is satisfactory, the question that then needs to be addressed is whether to have a fire hydrant system on the property or whether to rely on a street pillar hydrant or fireplug. The BCA allows reliance on a street fire hydrant/plug **provided the flows and pressures at the outlet(s) of pillar hydrants or the outlets of standpipes connected to fire plugs meet the requirements of AS 2419.1.** Where these requirements cannot be met, then an onsite system for hydrants is required. Accordingly, the status of the street water service for adequate pressure and flow needs to be checked before a building rules consent is granted.

MAINTENANCE

Street hydrants and fireplugs are provided as part of SA Water's own code of practice for the general water reticulation system (i.e. they are owned by the water supply authority). Their purpose is to provide general coverage of an area for use by the fire brigade. Whilst the distribution and location of pillar hydrants and fireplugs is generally compatible with fire fighting operations, they are not provided to service specific properties and are not maintained as such. Hence, if a development is dependent on a street pillar hydrant or fireplug there is an obligation on the building owner to ensure that it is being properly maintained and continues to provide the required flows and pressures that the fire safety of the development is dependent upon.

Transport SA has been known to inadvertently asphalt over fireplugs and they can also fill with soil washed in by stormwater. SA Water can also remove pillar fire hydrants and fireplugs at their discretion and while the maintenance is also the responsibility of SA Water as part of the general water reticulation system, there is no obligation to do this to a specific Australian Standard.

To ensure that a street hydrant is continuing to operate adequately, a building owner needs to make arrangements for the necessary testing to be carried out (at their cost) with the relevant water supply authority. This will usually be the SA Water Corporation, Metering Section (08 8207 1470).

Where several properties are reliant on a particular street pillar hydrant or fireplug, the relevant building owners could combine their testing requirements to minimise the cost.

If a test should fail (there may have been a substantial reduction in flows and pressures since the system was first tested for the development), then the impact on the fire safety of the development will need to be re-evaluated by the building owner. If the supply is unable to be increased by the water supply authority then the building owner may need to make provision for a more assured supply of water onsite.

Hence, **reliance by a building solution on street hydrants/fireplugs means that their maintenance must be included in the Schedule of Essential Safety Provisions.** This ensures that the building owner is aware of any changes in the performance of the water supply that might impact on the fire safety of the property. It is not an unreasonable requirement as the building owner is essentially offsetting the capital cost of an onsite supply (with a high degree of control on its reliability by the building owner) by reliance on the public water supply (with significantly less control on its reliability for fire safety purposes).

Further information

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