

BUILDING FOR BUSHFIRE

Firefighting Water Supplies



Water supplies are an essential requirement for firefighting; and developments in bushfire-prone areas require a dedicated firefighting water supply to be provided for the site. Firefighting water supply must be adequate, accessible and reliable.

Firefighting water supplies include fire hydrants connected to reticulated water infrastructure and - in non-reticulated areas - static water supplies such as a water tank, dam or swimming pool.

Reticulated water supplies are typically found in more urbanised areas; and in addition to providing potable water for domestic use, the reticulated system also provides pressurized water for firefighting.

To meet the Deemed-to-Satisfy requirements for firefighting water supply; firefighting water supplies must be designed and constructed to comply with the following:

STATIC WATER SUPPLY FOR FIRE FIGHTING

Distance between building to be protected and static water supply

- The building to be protected must be located within 90 metres of the water connection point;
- The distance between the water connection point and the farthest part of the building must be measured as a hose lay.

To measure a distance as a hose lay is to simulate the way a fire hose would need to negotiate a distance. That is, not measured as a straight line but around the buildings and other obstacles.

Static water supply volume and construction

- The water connection point may be attached directly to the water supply or may comprise of a remotely located off take connected to the static water supply;
- May be a supply for combined use (firefighting and other uses) but the specified minimum quantity of firefighting water must be available at all times;
- Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including firefighting sprinkler or spray systems;
- Must be metal, concrete or lagged by non-combustible materials if above ground; and
- If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959, the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by:
 - (i) Metal;
 - (ii) Non-combustible material; or
 - (iii) Fibre-cement a minimum of 6mm thickness.

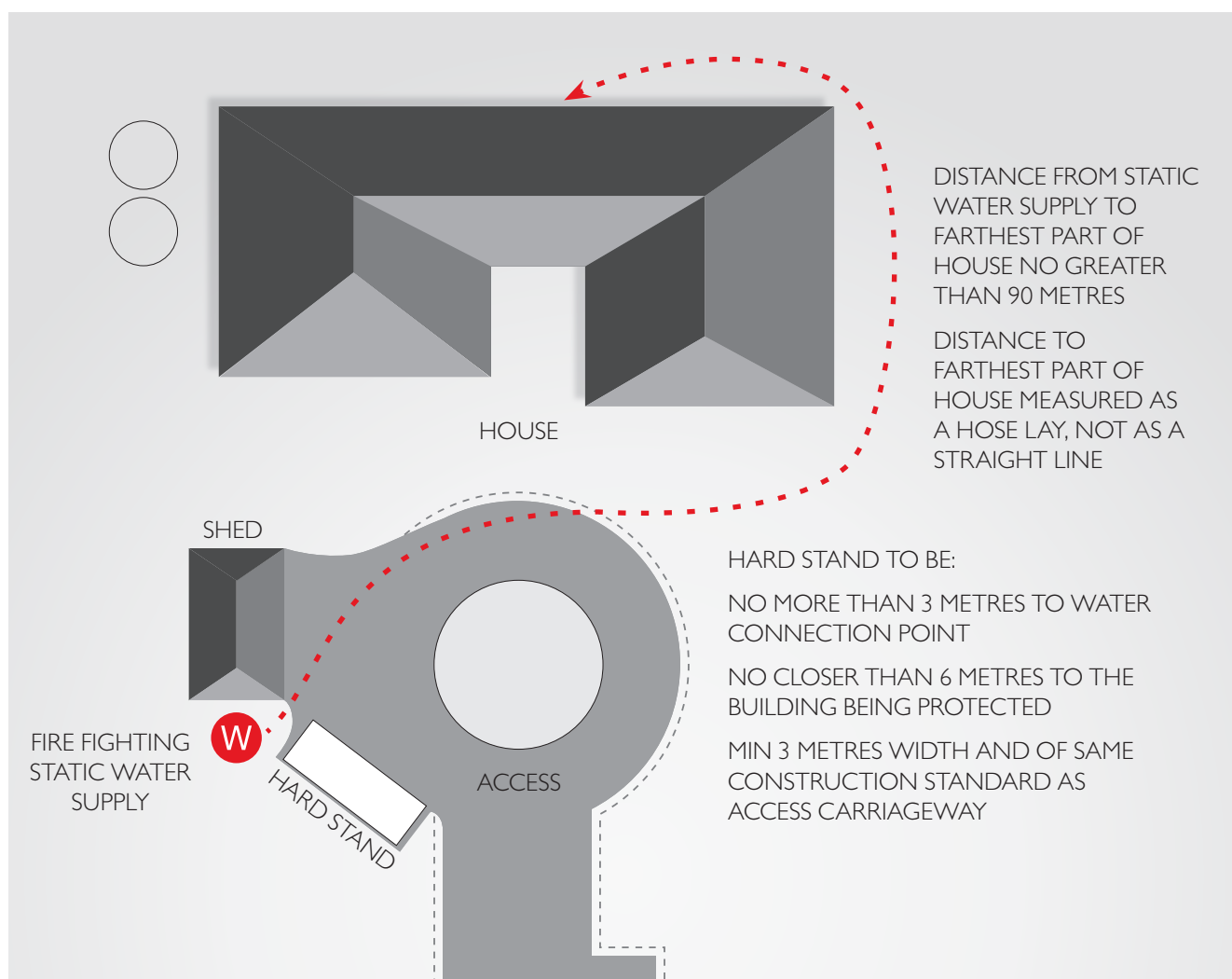


Figure I The requirements for a static water supply



Figure 2 Compliant 10,000 litre firefighting water tank

Fittings, pipework and accessories (including stands and tank supports)

- Have a minimum nominal internal diameter of 50mm;
- Be fitted with a valve with a minimum nominal internal diameter of 50mm;
- Be metal or lagged by non-combustible materials if above ground;
- Where buried, have a minimum depth of 300mm (compliant with AS/NZS 3500.1 Clause 5.23);
- Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to firefighting equipment;
- Ensure the coupling is accessible and available for connection at all times;
- Ensure the coupling is fitted with a blank cap and securing chain (minimum 220 mm length);
- Ensure underground tanks have either an opening at the top of not less than 250 mm diameter or a coupling compliant with this Table; and

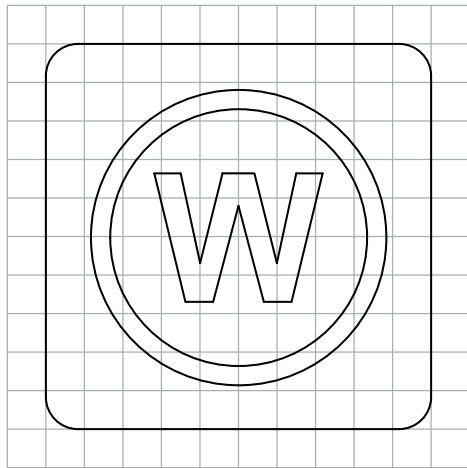


Figure 3 A water connection point with Storz coupling

- Where a remote offtake is installed, ensure the offtake is in a position that is:
 - (i) Visible;
 - (ii) Accessible to allow connection by firefighting equipment;
 - (iii) At a working height of 450 – 600mm above ground level; and
 - (iv) Protected from possible damage, including damage by vehicles

Signage for static water connections

The firefighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The current building regulations require signage to be consistent with the *Tasmania Fire Service Water Supply Signage Guidelines*.



GRID MODULE X = 30mm Y = 30mm

OVERALL SIGN DIMENSIONS (mm): 300 x 300, +/- 5
SURFACE AREA OF SIGN (sq m) : 0.0895

LEGEND COLOUR: RETROREFLECTIVE WHITE CL. 1
BACKGROUND COLOUR: SIGNAL RED R.13

FOR SIGN FIXING AND LOCATION REQUIREMENTS, REFER TO
TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES

FOR LEGEND SPECIFICATIONS AND MANUFACTURING DETAIL
REFER TO TASMANIA FIRE SERVICE WATER SUPPLY SIGNAGE GUIDELINES

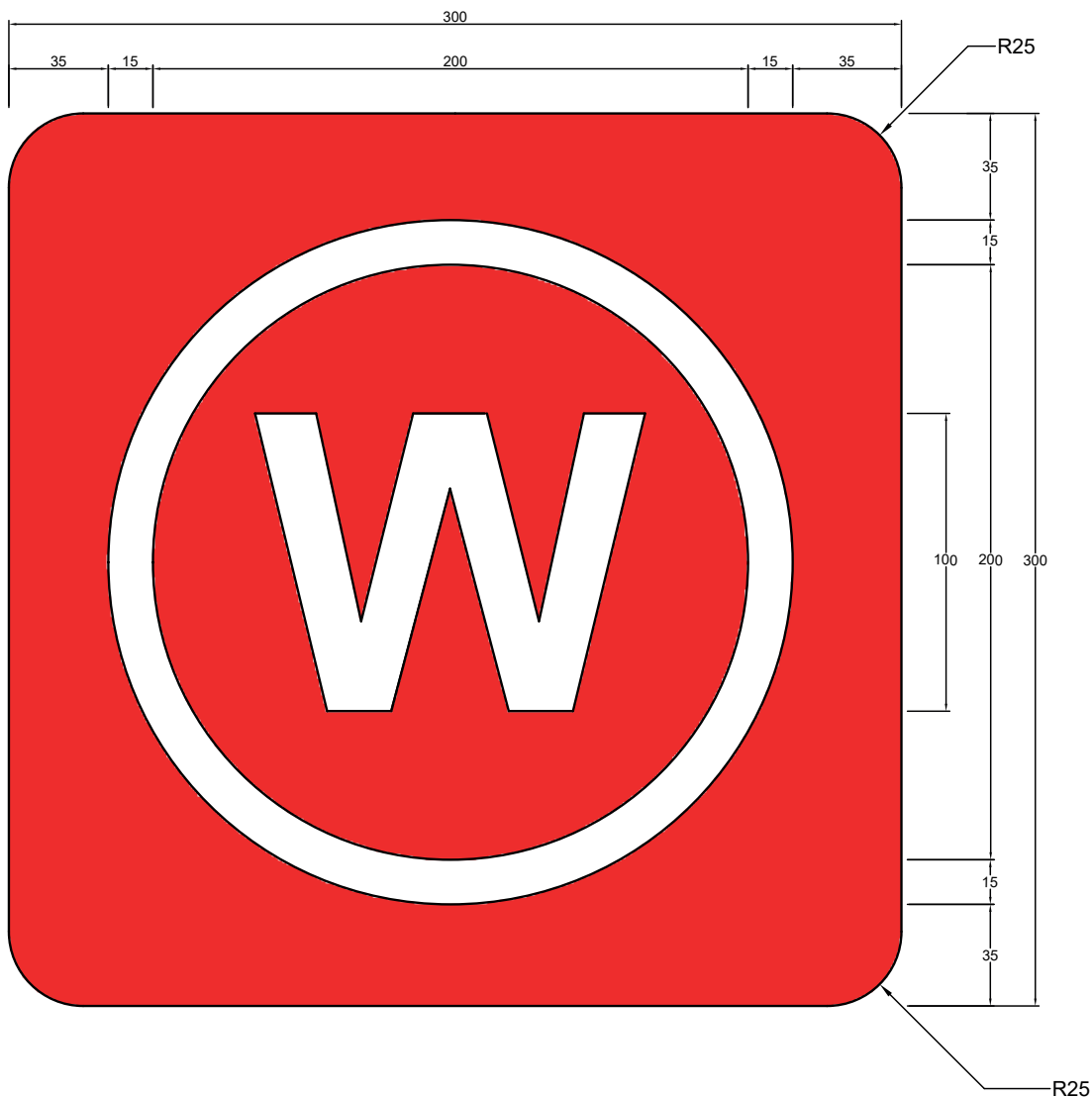


Figure 4 Static water supply sign design

RETICULATED WATER SUPPLIES

Distance between building to be protected and reticulated water supply

The following requirements apply:

- The building area to be protected must be located within 120 metres of a fire hydrant; and
- The distance must be measured as a hose lay, between the water connection point and the furthest part of the building

Design criteria for fire hydrants

The following requirements apply:

- Fire hydrant system must be designed and constructed in accordance with TasWater Supplement to Water Supply Code of Australia WSA 03 – 2011-3.1 MRWA Edition 2.0; and
- Fire hydrants are not installed in parking areas.

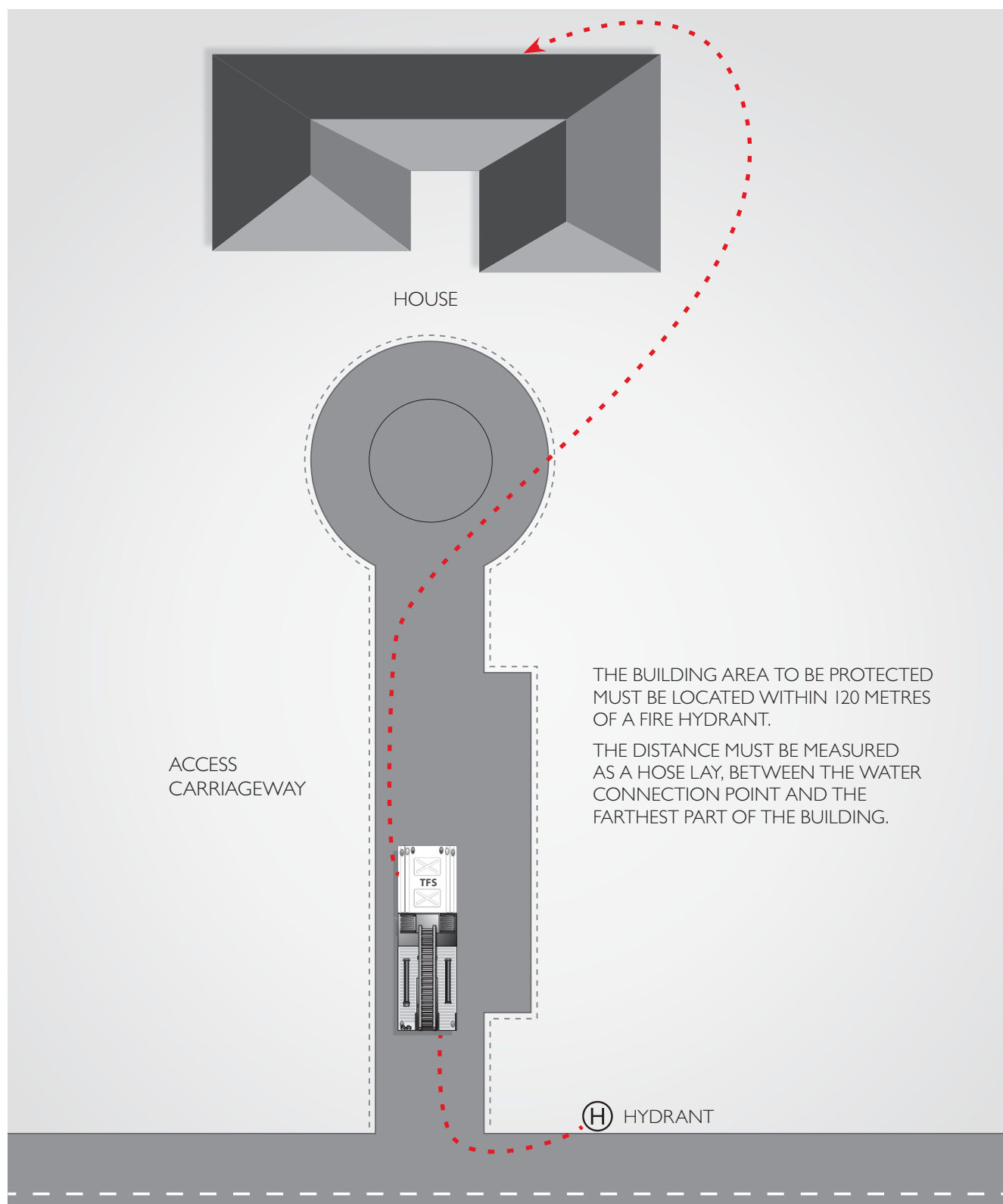


Figure 5 Typical hydrant connection

HARDSTAND

A hard stand is a suitably drained area beside a water connection point which provides stability for fire appliances. An area beside a water connection point which was unstable, soft or boggy could result in a truck becoming stuck or bogged. At its best this might result in unnecessary delays with pumping operations or relocating the fire appliance, but at its worst, it may endanger crews if they are not able to relocate if conditions worsen.

Design Criteria for Hardstand:

- no more than three metres from the water connection point, being a hydrant or static supply, measured as a hose lay (including to the minimum water level in dams, swimming pools and the like);
- No closer than six metres from the building area to be protected;
- With a minimum width of three metres constructed to the same standard as the carriageway; and
- Connected to the property access by a carriageway equivalent to the standard of the property access.

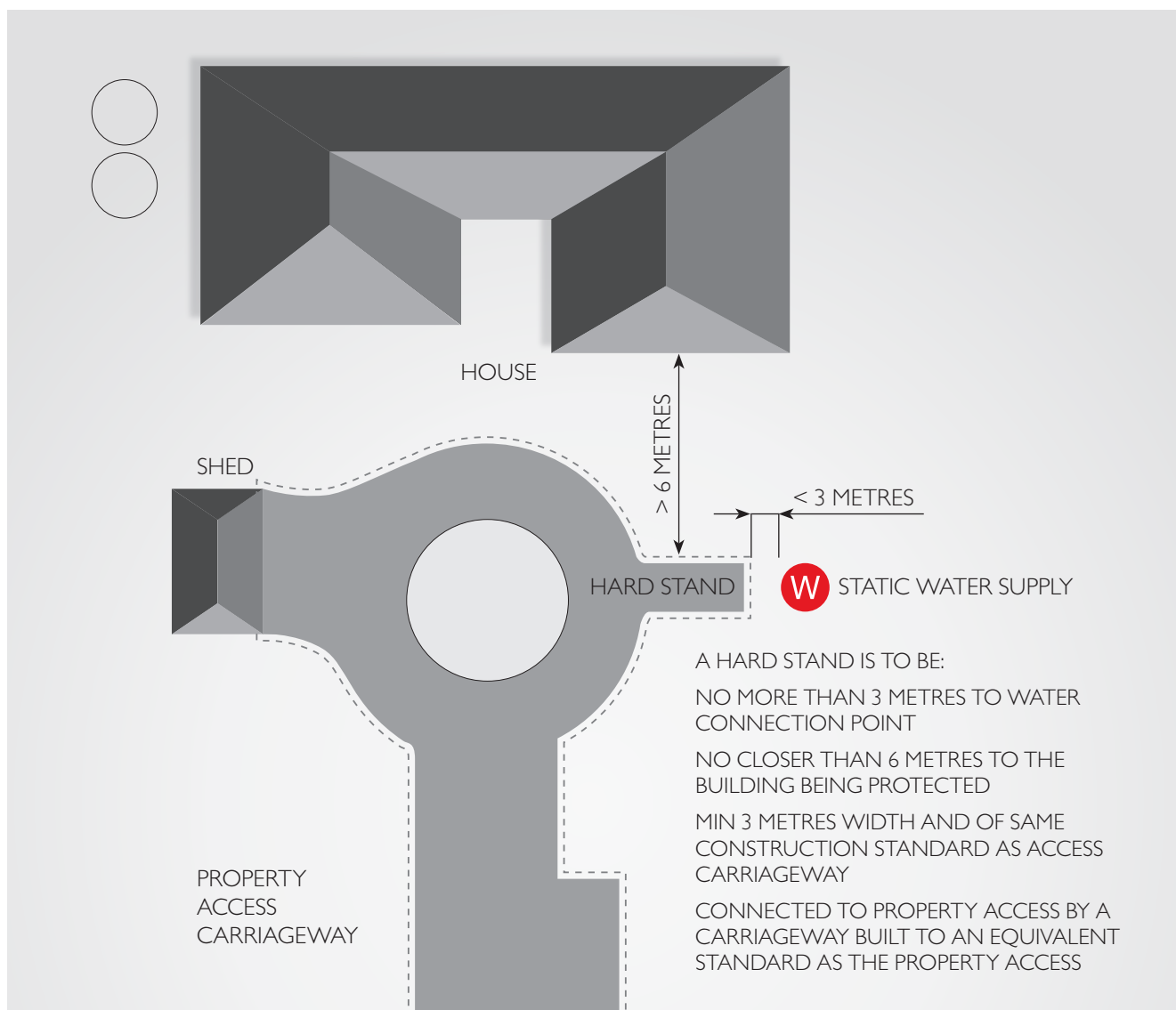


Figure 6 Typical hydrant connection

GLOSSARY OF TERMS

Bushfire-prone area means:

- (a) land that is within the boundary of a bushfire-prone area shown on an overlay on a planning scheme map; and
- (b) (i) where there is no overlay on a planning scheme map; or
- (ii) where the land is outside the boundary of a bushfire-prone area shown on an overlay on such a map, land that is within 100m of an area of bushfire-prone vegetation equal to or greater than 1 hectare.

Deemed-to-Satisfy – provisions which are deemed-to-satisfy the performance requirements.

Fire hydrant – as described in AS 2419.1 Fire hydrant installations – System design, installation and commissioning: An assembly installed on a branch from a water pipeline, which provides a valved outlet to permit a supply of water to be taken from the pipeline for firefighting.

Hardstand – an identifiable and clearly marked trafficable all-weather pavement providing access and capable of supporting a fire brigade pumping appliance during firefighting operations.'

Hose-lay – the distance between two points established by a fire hose laid out on the ground, inclusive of obstructions.

Reticulated water supply – a continuous supply of water which has been made available from a network of pressurised underground mains which are supplied from the municipal water supply.

Static water supply – water stored in a tank, swimming pool, dam, or lake, that is available for firefighting purposes at all times.

TFS – Tasmania Fire Service.

Firefighting water point – the point where a fire appliance is able to connect to a water supply for firefighting purposes. This includes a coupling in the case of a fire hydrant, offtake or outlet, or the minimum water level in the case of a static water body (including a dam, lake or pool).



Tasmania Fire Service



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fire.tas.gov.au

Bushfire Risk Unit GPO Box 1526 Hobart Tasmania 7001
Phone (03) 6166 5544 | bfp@fire.tas.gov.au