Subdivisions in bushfire prone areas need careful planning to provide for public safety in these areas of increased risk.

The subdivision of land in bushfire-prone areas is subject to the provisions of the Bushfire-Prone Areas Code and is regulated through the planning system. This is to ensure that use and development is appropriately designed, serviced and located to reduce the risk to human life and property, associated with bushfires.

A subdivision of land within a bushfire prone area must be able to demonstrate how all lots which are bushfire affected can accommodate adequate hazard management building areas, firefighting water supplies and vehicular access. This protection must be provided to all lots in each stage of a staged subdivision. These concepts are discussed in greater detail in the following sections.
HAZARD MANAGEMENT AREAS

A subdivision must provide sufficient separation between building areas and bushfire prone vegetation to reduce the risks associated with radiant heat, direct flame and ember attack to acceptable levels. To achieve this, each lot must be provided with adequate hazard management areas which must be shown on a bushfire hazard management plan. Each lot must be able to achieve accommodate a BAL-19 (or lesser rated) building area for the subdivision to be acceptable. The bushfire attack level (BAL) is determined using assessment methods specified in AS3959-2009 Construction of Buildings in Bushfire Prone Areas and must be completed by an Accredited Bushfire Hazard Practitioner.

Hazard management areas must be appropriate to:

- The risk posed to lots at any stage of a staged subdivision (interim hazard management areas may be necessary until the development is completed);
- The nature of the bushfire-prone vegetation including the type, fuel load, structure and flammability;
- The topography, including the slope on site;
- Any other potential forms of fuel and ignition sources;
- The suitability of building areas to accommodate future development;
- The practicalities associated with future maintenance of hazard management areas (e.g. slope, land ownership, etc); and
- Any advice from the TFS.

PUBLIC AND FIREFIGHTING ACCESS

Access roads to and within a subdivision must allow safe access to and egress from the lots within the subdivision. Fire fighting crews and vehicles must be able to gain access to water supplies and homes to defend the properties and must be able to adequately manoeuvre vehicles throughout the subdivision. The road systems must be designed to allow for connectivity and possibly to provide multiple evacuation points where needed.

The specific requirements for roads, fire trails and property access roads are enlarged upon as follows.

STANDARDS FOR ROADS

Unless the development standards in the zone require a higher standard, the following requirements apply:

- Two-wheel drive, all weather construction;
- Load capacity of at least 20 tonnes, including for bridges and culverts;
- A minimum carriageway width of 7 metres for a through road, or 5.5 metres for a dead end or cul-de-sac road;
- A minimum vertical clearance of 4 metres;
- A minimum horizontal clearance of 2 metres from the edge of the carriageway;
- Crossfalls of less than 3 degrees (1:20 or 5%);
- Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads;
- Curves have a minimum inner radius of 10 metres;
- Dead-end or cul-de-sac roads are not more than 200 metres in length unless the carriageway is 7 metres in width;
- Dead-end or cul-de-sac roads have a turning circle with a minimum 12 metre outer radius; and carriageways less than 7 metres wide have ‘No Parking’ zones.
CROSSFALLS ARE TO BE LESS THAN 3 DEGREES (1:20 OR 5\%)

Figure 1 Cross fall angles

CLEAR AREA

2 METRES

MINIMUM CARRIAGEWAY WIDTH
4 METRES FOR A FIRE TRAIL
5.5 METRES FOR A CUL-DE-SAC
7 METRES FOR A THROUGH ROAD

A MINIMUM 2 METRES CLEARANCE IS TO BE PROVIDED ON EACH SIDE OF CARRIAGEWAY

2 METRES

MINIMUM 4 METRES OVERHEAD CLEARANCE

Figure 2 Carriageway width and clearance

7 METRE MINIMUM WIDTH

5.5 METRE MINIMUM WIDTH

PARKING PERMISSIBLE ON BOTH SIDES

PARKING ONE SIDE ONLY

12 METRES

Figure 2 Dead-end roads or cul-de-sacs

DEAD-END OR CUL-DE-SAC ROADS MUST BE LESS THAN 200 METRES LONG UNLESS CARRIAGEWAY WIDTH IS 7 METRES OR MORE

DEAD-END OR CUL-DE-SAC ROADS MUST HAVE A TURNING CIRCLE WITH A MINIMUM OUTER RADIUS OF 12 METRES
STANDARDS FOR PROPERTY ACCESS

A. Property Access is less than 30 metres; or access is not required for a fire appliance to access a water connection.
   • There are no specific design and construction requirements.

B. Property Access length is 30 metres or greater; or access for a fire appliance to a water connection point is required. The following design and construction requirements apply to property access:
   • All weather construction;
   • Load capacity of at least 20 tonnes, including for bridges and culverts;
   • Minimum carriageway width of 4 metres
   • Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;
   • Cross falls of less than 3 degrees (1:20 or 5%) 
   • Dips less than 7 degrees (1:8 or 12.5%) entry and exit angles;
   • Curves with a minimum inner radius of 10 metres;
   • Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and
   • Terminate with a turning area for fire appliances provided by one of the following:
     i) A turning circle with a minimum outer radius of 10 metres; or
     ii) A property access encircling the building; or
     iii) A hammerhead “T” or “Y” turning head 4 metres wide and 8 metres long.

C. Property Access is 200 metres in length or greater. The following design and construction requirements apply to property access:
   • The requirements for B above;
   • Passing bays of 2 metres additional carriageway width and 20 metres length provided every 200 metres.

D. Property length is greater than 30 metres, and access is provided to 3 or more properties. The following design and construction requirements apply to property access:
   • The requirements for B above; and
   • Passing bays of 2 metres additional carriageway width and 20 metres length must be provided every 100 metres.

STANDARDS FOR FIRE TRAILS

A. The following construction standards apply to all fire trails:
   • All weather, 4-wheel drive construction;
   • Load capacity of at least 20 tonnes, including for bridges and culverts;
   • Minimum carriageway width of 4 metres
   • Minimum vertical clearance of 4 metres
   • Minimum horizontal clearance of 2 metres from the edge of the carriageway
   • Cross falls of less than 3 degrees (1:20 or 5%)
   • Dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;
   • Curves with a minimum inner radius of 10 metres;
   • Maximum gradient of 15 degrees (1:3.5 or 28%) for sealed fire trails, and 10 degrees (1:5.5 or 18%) for unsealed fire trails;
   • Gates, if installed at fire trail entry, have a minimum width of 3.6 metres, and if locked, keys are provided to the TFS; and
   • Terminate with a turning area for fire appliances provided by one of the following:
     • A turning circle with a minimum outer radius of 10 metres; or
     • A hammerhead “T” or “Y” turning head 4 metres wide and 8 metres long.

B. If the fire trail is 200 metres long or more, the following requirements apply.
   • The requirements for A above; and
   • Passing bays of 2 metres additional carriageway width and 20 metres length provided every 200 metres.
**FIREFIGHTING WATER SUPPLIES**

It must be demonstrated at the subdivision stage that allowances have been made for the protection of life and property associated with the subsequent use and development of bush-fire prone areas. Proposed subdivisions must ensure that adequate, accessible and reliable water supplies are available for the purpose of firefighting.

Municipal and zoning requirements will dictate whether a proposed subdivision will be required to include a reticulated water supply, or whether lots within the subdivision will rely on static water supplies to meet statutory requirements. The developer will generally not be responsible for the supply of static water supplies to households. Provision of these supplies will normally be a requirement for individual land owners and residents, and will most likely be met through installation of tanks which capture rain water. In most cases where reticulated water is specified, developers will be required to meet these requirements. They will also be required to ensure that all lots within the subdivision can meet the requirements for access to building areas where static water supplies might be located. Factors including the steepness of the block will need to be considered as will distance requirements for fire hydrants.

The requirements for reticulated water supplies are addressed in the following sections.

**RETICULATED WATER SUPPLIES**

**Distance**

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 area.

**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 4 Hydrant detail

The building area to be protected must be located within 120 metres of a fire hydrant. The distance must be measured as a hose lay, between the water connection point and the farthest part of the building.
GLOSSARY OF TERMS

Bushfire Attack Level (BAL) – means the bushfire attack level as defined in AS3959 –2009 Construction of Buildings in Bushfire Prone Areas as ‘a means of measuring the severity of a building’s potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared, and the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire’.

Bushfire hazard management plan – means a plan showing means of protection from bushfires in a form approved in writing by the Chief Officer of the Tasmania Fire Service.

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.

Bushfire-prone vegetation – means contiguous vegetation including grasses and shrubs but not including maintained lawns, parks and gardens, nature strips, plant nurseries, golf courses, vineyards, orchards or vegetation on land that is used for horticultural purposes.

Carriageway – means the section of road formation which is used by traffic, and includes all the area of the traffic lane pavement together with the formed shoulders.

Fire hydrant – means as described in AS 2419.1-2005 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 fire-fighting.

Hazard management area – means the area, between a habitable building or building area and bushfire-prone vegetation, which provides access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.

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

Property access – means the carriageway which provides vehicular access from the carriageway of a road onto land, measured along the centre line of the carriageway, from the edge of the road carriageway to the nearest point of the building area.

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

TFS – means Tasmania Fire Service.

Water connection point – means 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).