



Department of
Planning



PLANNING IN BUSHFIRE PRONE AREAS

BUSHFIRE POLICY FRAMEWORK



SPP 3.7
Planning in
Bushfire
Prone Areas

Guidelines for
Planning in
Bushfire
Prone Areas

FACTSHEET

Version 2, January 2016

BAL CONTOUR MAPS

Guidance on how to prepare a BAL Contour Map
and when they can be used



PLEASE NOTE

This fact sheet must be read in conjunction
with *Australian Standard 3959:*
Construction of Buildings in Bushfire-Prone
Areas (AS 3959).

PLANNING IN BUSHFIRE PRONE AREAS

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If you are a Bushfire Planning Practitioner you may need to prepare a **Bushfire Attack Level (BAL) Contour Map** to support a strategic planning proposal or a subdivision application in a designated bushfire prone area.

If you are a decision-maker you may need to review a BAL Contour Map that is used to support a strategic planning proposal, subdivision application, development application or building permit application.

This fact sheet contains information on how and when to prepare a BAL Contour Map so that BAL Contour Maps are prepared to a high standard and used consistently and can be considered appropriately when used to support a proposal or application.

WHAT IS A BAL CONTOUR MAP

A Bushfire Attack Level (BAL) Contour Map is a scale map of a development site including the proposed lot layout, which identifies indicative BAL ratings across the development site and within the immediate surrounding area.

A BAL Contour Map illustrates potential bushfire attack levels and radiant heat impacts in relation to any classified vegetation that will remain within 100 metres of the assessment area once development is completed.

A BAL Contour Map identifies land suitable and unsuitable for development and guides the location of building envelopes within a development site.

WHEN CAN A BAL CONTOUR MAP BE USED

A BAL Contour Map is used to inform subdivision design and lot layout by ensuring areas of unacceptable impact are avoided and that appropriate mitigation is incorporated into the design to reduce impact to an acceptable level.

A BAL Contour Map may be prepared:

- in place of a Bushfire Hazard Level assessment for a strategic planning proposal, where the proposed lot layout has been determined; or
- in a subdivision application.

Where a BAL Contour Map was prepared for a subdivision application and exists for a particular lot, and is accompanied by a compliance certificate or report, it may be used in place of a site-specific BAL assessment:

- in a development application; or
- to demonstrate compliance with the Building Code of Australia (BCA) as part of the building approval process.

Where a subdivision is proposed to be developed using a staged approach, a BAL Contour Map should be prepared for each stage of the subdivision proposal.

Where a strategic planning proposal or subdivision application is changed or modified through the approval process (i.e. amended subdivision plans) in a way that would affect the indicative BAL ratings, a new BAL Contour Map should be prepared.

Where a BAL Contour Map is being used in place of site-specific BAL assessment for a subsequent development application, or as part of the building approval process, the decision-maker or building surveyor for the relevant development has the discretion to refuse to accept the BAL Contour Map and request a site-specific BAL assessment. This may include for example, where they are of the opinion that the site conditions have changed, the scale or level of detail is insufficient, or there is an error in the existing BAL Contour Map.

In all circumstances, a BAL Contour Map being used at a subsequent stage in place of a site-specific BAL assessment should be accompanied by a compliance certificate or report that verifies the accuracy of the BAL Contour Map after the works are complete.

ASSESSMENT METHODOLOGY

A BAL Contour Map is based on an assessment of the development site and surrounding area as they will be when the proposed development is constructed (i.e. when the land has been cleared and all the subdivision works have been undertaken). It needs to take into account any vegetation that will remain or will be introduced when the works are complete.

A BAL Contour Map will generally be prepared using the same parameters as a BAL assessment prepared in accordance with the simplified procedure (Method 1) of AS 3959. A BAL Contour Map should only be undertaken by an accredited Bushfire Planning Practitioner (BPAD Level 2 or 3) as the BAL Contour Map is beyond the accredited practice of a Level 1 BAL Assessor.

Whilst the assessments required to prepare a BAL Contour Map will be undertaken by an accredited Bushfire Planning Practitioner (BPAD Level 2 or 3), the map itself may be prepared by another non-accredited individual with specialist mapping skills (i.e. a geographic information system (GIS) analyst).

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There are some limited circumstances (listed below) where the inherent assumptions of the simplified procedure (Method 1) may result in the development site being unable to be developed, or would cause the BAL ratings to be significantly overestimated. In these circumstances a BAL Contour Map could be prepared using the detailed procedure (Method 2) of AS 3959, but only by an accredited Level 3 Bushfire Planning Practitioner (BPAD Level 3).

The circumstances where a BAL Contour Map may be prepared in accordance with detailed procedure (Method 2) are limited to:

- small restricted urban closed interfaces such as public open spaces, wetlands or vacant urban lots that are less than 1ha in area but cannot otherwise be excluded;
- road verge vegetation exists in a narrow strip and abuts a development protected by a substantial boundary wall (e.g. Kwinana Freeway road reserve); and
- the decision-maker for the strategic planning proposal or subdivision application deems it suitable.

SITE VISIT

A site visit is necessary to determine the classification of the vegetation within the assessment area. However, because this area extends 100 metres beyond the development site, it may not always be possible to enter the land surrounding the development site.

In circumstances where permission to enter land to undertake a thorough assessment cannot be obtained, the assessment may rely on the interpretation of aerial photos, and where available land contour data, supported by a general assessment of the area.

ASSESSMENT POINTS

Sites with varying vegetation types and topography across the assessment area will require multiple assessment points to account for the changing conditions.

When classifying vegetation, a new assessment point should be used for each type of vegetation. Photos of the vegetation being classified should also be taken at each assessment point and included with the BAL Contour Map.

The perimeter of the vegetation will need to be measured. Where possible, this should be undertaken by being walked in the field and captured using a GPS tracker or multiple waypoints. However, there may be circumstances where the vegetation perimeter may need to be measured using the canopy coverage as shown on an aerial image.

When determining the slope of the land under the classified vegetation, a new assessment point should be used for each change in the slope of the land, or at intervals of 50 metres where the slope of the land does not significantly vary. Where there are variations in the slope of the land, the steepest slope should be used for the assessment.

BAL CONTOURS

The BAL contours will be formed by combining the bushfire attack level assessments at each of the assessment points.

A BAL rating should be allocated to all areas within the assessment area, even where these areas fall outside the mapped extent of the BAL contours (i.e. areas of BAL-LOW). Where multiple BAL ratings apply to a single area, the higher BAL rating should apply.

The proposed lot layout should be overlaid on the map with the scale of the map such that the proposed lot numbers, building envelopes and indicative BAL ratings are clearly shown on the BAL Contour Map.

LOT LAYOUT AND DESIGN

Subdivision applications should consider the location, siting and design, and infrastructure available to the new lots to achieve a combination of bushfire protection measures. The lot layout and design of a subdivision should be responsive to the bushfire hazard and provide that all new lots have the potential to be developed for their likely future use.

In accordance with *SPP 3.7 Planning in Bushfire Prone Areas*, proposed lots where a BAL-40 or BAL-Flame Zone (FZ) rating is indicated on the BAL Contour Map will generally not be supported except where it meets the definition of unavoidable development. If the BAL for a proposed lot does indicate BAL-40 or BAL-FZ, the proposed lot needs to be of significant enough size to ensure that all building envelopes are located outside these areas. Proposed lots where a BAL-12.5 to BAL-29 is indicated on the BAL Contour Map will be subject to further consideration, including notification placed on title.

Refer to *SPP 3.7 Planning for Bushfire Prone Areas* and the supporting *Guidelines for Planning in Bushfire Prone Areas* for further information.

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INFORMATION TO BE INCLUDED IN A BAL CONTOUR MAP

A BAL Contour Map should provide adequate information to inform the preparation and assessment of a strategic planning proposal or subdivision application.

A BAL Contour Map prepared for planning purposes should also be detailed enough to be considered suitable for use with subsequent development and/or building permit applications, to avoid duplication of assessment.

It is important that all the assumptions made in the preparation of the BAL Contour Map are clearly stated in the report supporting the BAL Contour Map. For example, the report might state an assumption such as:

- 'the parkland within the subject site is considered to be managed in a low threat state compliant with AS 3959 section 2.2.3.2'.

A BAL Contour Map will integrate the necessary elements of AS 3959 with additional information such as:

- aerial image of the development site and surrounding area;
- boundaries and orientation of the development site;
- boundaries of the assessment area (the development site and the surrounding 100 metre area);
- labelled areas of classified vegetation and excluded vegetation (if any);
- BAL contours and indicative BAL ratings for the assessment area;
- proposed layout of the development at a scale where individual lots can be clearly identified;
- details of the Bushfire Planning Practitioner that prepared the BAL Contour Map (i.e. name, accreditation number, accreditation level, expiry date);
- version of AS 3959 used, including the amendment number, and the dates assessments were undertaken; and
- any supporting material (i.e. aerial images, photos of vegetation) and details of any photography or documents used.

A BAL Contour Map may also show any other features of the development site that are relevant bushfire considerations. For example:

- land contours on and surrounding the development site; or
- dimensions of site boundaries and area.

SUBMISSION REQUIREMENTS

A BAL Contour Map submitted with a subdivision application must be in the appropriate format required by the decision-maker. These requirements are outlined in *Form 1A – Application for approval of freehold and survey strata subdivisions*.

Form 1A along with the subdivision application, BAL Contour Map and any other supporting documents or files, can be submitted electronically using the Western Australian Planning Commission's [e-lodgement portal](#) or emailed to: spatialdata@planning.wa.gov.au.

COMPLIANCE CERTIFICATE / REPORT

A BAL Contour Map is based on an assessment of the development site as it was proposed to be developed at the time the subdivision application was submitted for approval.

To confirm the indicative BAL ratings identified on the BAL Contour Map are still accurate after subdivision works have been completed, a compliance certificate or report will be required to be submitted before titles can be issued

- Where the BAL Contour Map was prepared in accordance with the simple procedure (Method 1) of AS 3959, the compliance certificate or report may be prepared by an accredited Bushfire Planning Practitioner (BPAD Level 2 or 3).
- Where the BAL Contour Map was prepared in accordance with the detailed procedure (Method 2) of AS 3959, the compliance certificate or report may only be prepared an accredited Level 3 Bushfire Planning Practitioner (BPAD Level 3).

The compliance certificate or report should certify that the BAL Contour Map is correct for the as-constructed subdivision and provides an equivalent BAL assessment to one determined under AS 3959 for each individual lot in the subdivision.

Where the indicative BAL ratings identified on the BAL Contour Map are no longer accurate after subdivision works have been completed, a compliance certificate or report should not be given.

At this point, it is considered appropriate that a copy of the GIS shape files used in the preparation of the BAL Contour Map be provided.

These files should be in the following projected / grid coordinate system format:

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Source	MGA (Map grid of Australia)
Datum	GDA94
Projection	Transverse Mercator, utilising 6 degree zones, scale factor at the Central Meridian 0.9996 in conformity with the Universal Transverse Mercator system
Units	International metre
False Coordinate Origin (All zones)	Northing 10,000,000 metres. Easting 500,000 metres
Zone (for WA)	49-52 as applicable

Further information on the compliance certificate or report process will be provided as part of the Level 2 and Level 3 Bushfire Planning Practitioner accreditation training program.

ADDITIONAL RESOURCES

You can find further information about BAL Contour Maps Bushfire or the Accreditation Framework by visiting the Department of Planning's website www.planning.wa.gov.au/bushfire.

FURTHER INFORMATION

You can find further information about when a BAL Contour Map is required by visiting the Department of Planning's website www.planning.wa.gov.au/bushfire.

You can also find information on building in bushfire prone areas by visiting the Building Commission's website www.commerce.wa.gov.au/building-commission or by contacting your local government.

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