

June 2015

Bushfire and Landslide Hazard Evaluation Report

This document responds to the requirements of the Queensland State Planning Policy July 2014 for a natural hazard evaluation report for bushfire hazard and landslide hazard.

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Context

The Queensland Government's *Sustainable Planning Act 2009 (SPA)* requires councils to review their planning scheme on a regular basis (every 10 years). Since 2011, Moreton Bay Regional Council (**Council**) has been working towards developing a new single planning scheme that will replace the former schemes of Caboolture, Redcliffe and PineRivers Councils.

In December 2013 the Council submitted an initial draft planning scheme to the Queensland Government for approval to place the draft planning scheme on public display. In June 2014, the planning Minister approved the draft planning scheme to go on public display subject to a number of conditions.

Following this approval, Council issued a draft planning scheme for community feedback in July 2014. Council received significant feedback on that draft scheme, mainly in relation to management of natural hazards including Bushfire. Council carefully considered all feedback and incorporated updated mapping, information and new planning requirements from the State Government into a new version of the draft scheme.

Under State Government requirements specifically through the State Planning Policy, Council must consider Bushfire hazard areas as part of planning considerations for development, particularly new lots created.

The initial draft planning scheme was prepared using the previous State Planning Policies, in particular State Planning Policy SPP1/03 Mitigating the adverse impacts of flood, bushfire and landslide which was current at the time the scheme was being prepared. Just prior to the draft planning scheme being submitted for state interest review, the State Government introduced a new State Planning Policy (SPP) and associated new bushfire mapping. The new SPP included a different methodology for mapping bushfire hazard.

Given the timeframes, it was not possible to neither amend the methodology nor adopt the new mapping for inclusion in the draft planning scheme. Since release of the initial draft planning scheme, the mapping prepared by the State Government to support the SPP has again been updated and Council has reflected this in the Overlay map – Bushfire hazard.

The new draft Moreton Bay Regional Council Planning Scheme (**new draft scheme**) released for community consultation on 1 July 2015 aims to address a number of current and future challenges facing the region. These include the following:

- responding to growth and increasing population;
- encouraging economic development opportunities;
- sustainable living including improved transport options;
- housing choices to improve affordability; and
- improving community resilience to natural disasters.

Background and approach to bushfire and landslide hazard

The background to and Council's approach to bushfire and landslide hazard is summarised as follows:

1. Under the initial draft scheme released in July 2014, bushfire and landslide hazards were mapped in accordance with the previous *State Planning Policy 1/03 Mitigating the adverse impacts of flood, bushfire and landslide (SPP1/03)*.
2. The new *State Planning Policy (SPP)*, commenced just as Council was lodging the draft planning scheme for state interest review in December 2013. While the policy direction between the two documents is generally consistent, it is recognised that the detail of how the policy is to be implemented is different, particularly the requirement for risk assessments.
3. Council completed a bushfire hazard management strategy for the whole Moreton Bay region in December 2011 (under the previous SPP1/03). The methodology used was in accordance with SPP1/03 as was the mapped produced to show bushfire hazard. This map was included in the version of the draft planning scheme submitted for state interest review in December 2013.
4. After consultation on the initial draft scheme in July 2014, Council assessed the state's bushfire mapping prepared for the SPP and shown in the SPP Interactive mapping system against the mapping prepared in the bushfire hazard management strategy.
5. The updated mapping from the State utilised a new methodology that Council considered to be an improvement on that provided under the SPP1/03. In this regard decided to incorporate the SPP mapping in the new draft planning scheme.
6. For landslide hazard, Council decided on the minimum position of identifying land with a slope of 15% or greater.
7. Separate bushfire hazard and landslide hazard overlay codes have not been developed and applied.
8. Bushfire assessment criteria and landslide assessment criteria have been developed and apply to both material change of use and reconfiguring a lot. These criteria are located in Part 6 Zones and Part 9, section 9.4.1 Reconfiguring a lot code.
9. A broad risk assessment was undertaken for application of both bushfire hazard planning provisions and landslide hazard planning provisions. The provisions are located in the body of the zone codes (Part 6) under the heading 'Values and constraints'. The application of the assessment criteria (i.e. in which zone they are to apply) is based on the level of risk to people and property. Where a low level of risk is identified, assessment criteria have not been included in the zone codes.
10. Material change of use - Assessment criteria are in the form of a set of bushfire constraint and landslide constraint provisions (self-assessable and assessable provisions). The assessment criteria are to apply to all development in the zone, where considered relevant, based on the broad risk assessment. For both bushfire hazard and landslide hazard, provisions are not included in the zone codes for the following zones – Centre, General residential, Industry, Township and not included in the Redcliffe Kippa-Ring local plan code. It is noted that other more general slope requirements are included in the General residential zone code.
11. Reconfiguring a lot – Assessment criteria for both bushfire hazard and landslide hazard are contained in this code (section 9.4.1) in the various sections.
12. Although not endorsed or included within the SPP, Council have also reviewed the draft Bushfire Hazard Model Code that was provided by the State. Following an assessment of the criteria provided within the Model Code, Council has decided to continue with its own provisions which are consistent with the intent of the draft Model Code.

State interest – natural hazards, risk and resilience – Bushfire hazard

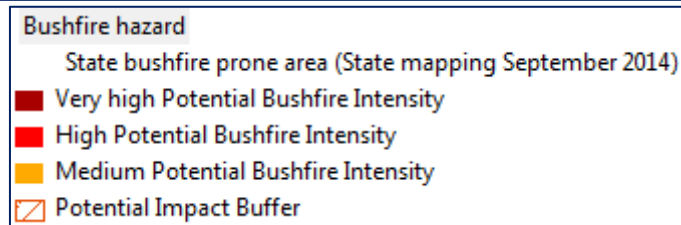
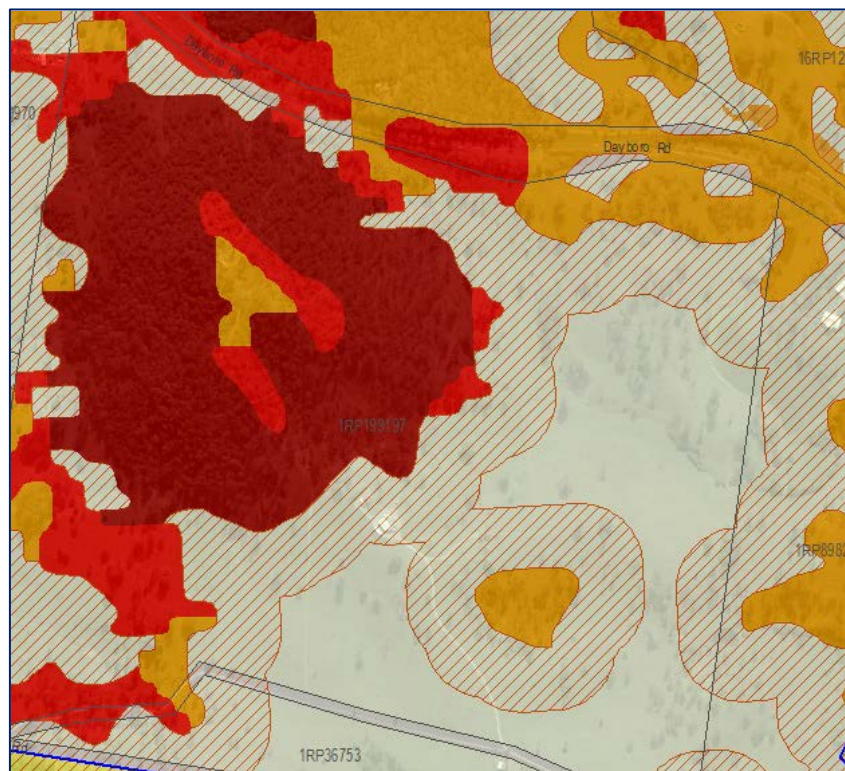
The SPP identifies the state interest as follows:

The risks associated with natural hazards are avoided or mitigated to protect people and property and enhance the community's resilience to natural hazards.

When making or amending a planning scheme, the Council is required to 'appropriately integrate' the state interest into the planning scheme. The SPP Technical Manual Evaluation report: Bushfire hazards August 2014 provides guidance on how to appropriately integrate the state interest into the planning scheme. This section identifies how the Council has achieved this.

(1) identifying natural hazard areas

Land being subject to medium, high and very high bushfire hazard is identified on the Overlay Map Bushfire hazard located in Schedule 2 Mapping, 2.5 Overlay maps – 2.5.3 Bushfire hazard. This mapping information uses the Department of State Development, Infrastructure and Planning SPP Interactive Mapping System for bushfire hazard area. An example of mapping is provided below.



Example:- Bushfire Hazard Overlay – State Bushfire Prone Areas

No field visit, localised bushfire hazard studies or 'fit for purpose' bushfire investigation exercise have been undertaken for the region. On this basis, State-wide mapping is considered the most reliable data for identifying bushfire hazard areas and has been adopted accordingly.

(2) including provisions that seek to achieve an acceptable or tolerable level of risk, based on a fit for purpose natural hazards study and risk assessment consistent with AS/NZS ISO 31000:2009 Risk Management , and

As noted above, no field visits, localised bushfire hazard studies or 'fit for purpose' bushfire investigation exercise have been undertaken for the region. State-wide mapping is considered the most reliable data for identifying bushfire hazard areas and has been adopted accordingly. The mapping information identifying bushfire hazards areas is fully accessible and available to the public.

High risk bushfire hazard areas are identified on Overlay maps – 2.5.3 Bushfire hazard. Provisions only apply in locations deemed to be at a higher risk of bushfire hazard. Such provisions, identified as values and constraints, are included in the relevant zone codes.

In determining which zones are subject to a higher risk of bushfire hazard, Council undertook a region wide bushfire hazard risk evaluation that considered the following factors:

- existing and potential fuel source;
- availability to water for fire-fighting;
- availability to fire-fighting services;
- accessibility of emergency vehicles;
- evacuation ability (vehicle and people movement).

In summary, Council determined there was a clear distinction between urban areas and non-urban areas when considering bushfire hazard risk. Urban areas, having lesser natural fuel supply and greater availability to water for fire-fighting, have a lower risk to bushfire hazard. Therefore, bushfire hazard provisions have not been applied to urban areas (e.g General residential zone, Centres zone, Industry zone) while they have been applied to non-urban areas (eg Rural zone, Rural residential zone, Environmental management and conservation zone).

(3) including provisions that require development to:

(a) avoid natural hazard areas or mitigate the risks of the natural hazard to an acceptable or tolerable level, and

Locations that require planning scheme provisions to reduce the level of risk have been identified through the adoption of the Department of State Development, Infrastructure and Planning SPP Interactive Mapping System for bushfire hazard area.

Council has not adopted a bushfire overlay code. In terms of its overall planning approach and philosophy, Council decided, in the main, not to use overlay codes recognising that the use of overlay codes is not a mandatory requirement under Queensland Planning Provisions (QPP). It has, instead, sort to include specific zone provisions in the form of 'value and constraint' provisions. Council has done this to:

- achieve a 'one-stop' planning scheme where all provisions are located in one section;
- avoid an overlay changing levels of assessment; and
- provide flexibility and higher degree of accuracy in applying bushfire hazard provisions.

The Strategic Framework sets the strategic overview with regards to natural hazard. It is intended to guide the development of the Region towards addressing the presence of natural hazards and establishing the principle of only appropriate development occurring in natural hazard areas. In particular, the Strategic Framework seeks to direct growth away from higher risk areas. The following strategic outcomes are noted:

3.6.1 Strategic Outcome - Compact urban form within the urban footprint

1. A more efficient land use and development pattern will be achieved progressively over time by:
- d. directing growth away from areas of higher risk of natural hazards, given that urban land allocations outside these areas are sufficient to accommodate growth beyond the life of the planning scheme.

3.6.6 Strategic Outcome - Growth areas

New master planned walkable neighbourhoods, activity centres and enterprise and employment areas served by public transport have a role to play in helping to accommodate regional dwelling and employment targets, and require comprehensive planning to coordinate future development with infrastructure delivery.

7. Urban development avoids areas of higher natural hazard risk and otherwise ensures development subject to natural hazards is compatible with the risk presented to protect people, property and infrastructure.

3.7.2 Strategic Outcome - Maximise the opportunities for development of existing places of employment and business activity

Encourage increased levels of activity and greater intensity of activity within existing places of employment and business activity

11. Economic and employment growth avoids areas of higher natural hazard risk and otherwise uses adaptation measures that reduce the hazard risks and support additional economic development, without placing additional vulnerable land uses at risk.

3.7.3 Strategic Outcome - Location of new economic activities

Provide sufficient additional land for industry and related businesses to enable diversified, broad-based, future economic and employment growth across the Region.

13. Direct economic and employment growth in the region towards areas of least or no natural hazard risk.

3.14.6.3 Specific Outcomes - Strong communities

5. Essential community infrastructure and utilities function effectively during and immediately after a natural hazard event to ensure community safety and wellbeing.

The Strategic Framework (Section 3) recognises bushfire hazard as part of the MBRC Place Model approach. The Strategic Framework has sought to include bushfire hazard related outcomes around the themes of sustainability and resilience, integrated transport, and natural hazards and adaptation. The following Strategic Outcomes are noted:

3.3.3 Sustainability and Resilience Theme Strategic Outcome - Natural hazards and adaptation

The resilience of communities, development, essential infrastructure, natural environments and economic sectors to natural hazards including projected changes in weather is increased.

1. Respond to the risk from natural hazards, including projected changes in weather, by avoiding areas with high exposure and establishing adaptation strategies to minimise vulnerability to riverine flooding, storm tide, coastal erosion, bushfires and landslides;

3.13.6.1 Planning Areas Specific Outcomes - Sustainability and resilience

2. Significant areas within the district are exposed to bushfire hazard and the projected impacts of changes in weather due to their proximity to the mountain ranges and forests. The Mountain ranges, forests and waterways place type will need to be managed to mitigate the hazards posed to people and property.

3.14.2.1 Mountain Ranges, Forests and Waterway Place Type Specific Outcomes - Sustainability and resilience

1. The Mountain ranges, forests and waterways place type areas are managed to mitigate risks posed by bushfires and natural events to people, property and the natural environment;

3.14.2.7 Mountain Ranges, Forests and Waterway Place Type Specific Outcomes - Integrated transport

1. The desired standard of service for road access is maintained for local trips, for visitors to the area, to provide safe evacuation routes during bushfire events and safe access in areas susceptible to land slips;

3.14.3.1 Rural Place Type Specific Outcomes – Sustainability and resilience

1. Development is managed and located to mitigate adverse effects of flood, bushfire, and landslide

3.14.3.7 Rural Place Type Specific Outcomes - Integrated transport

1. An adequate level of service for road access is maintained for safe access, visual amenity, local trips, for visitors to the area and to provide safe evacuation routes during bushfire events;

3.14.4.1 Rural Townships Place Type Specific Outcomes - Sustainability and resilience

2. Development is designed to mitigate exposure to riverine flood events, landslide and bushfire.

3.14.6.1 Special Areas Place Type Specific Outcomes - Sustainability and resilience

5. Development is managed to mitigate adverse effects of bushfire, landslide and acid sulfate soils;

3.14.7.1 Rural Residential Place Type Specific Outcomes - Sustainability and resilience

3. Development is managed and located to mitigate adverse effects of flood, bushfire, and landslide.

3.14.13.1 Coastal Villages Place Type Specific Outcomes - Sustainability and resilience

7. Development is managed and located to mitigate adverse effects of bushfire and landslide;

A number of planning measures have been used to achieve acceptable and/ or tolerable levels of bushfire risk including: overall outcomes in zone purpose statement, self-assessable provisions, code assessable provisions, and a planning scheme policy. These are discussed in greater detail below.

The overall outcome for development located within a bushfire hazard area seeks to 'avoid' those areas that are subject to a constraint, limitation, or environmental values. It is only where development cannot avoid identified areas that it must respond appropriately.

[Example overall outcome, see Rural Zone, 6.2.10.2.3.s Purpose – Rural Zone].

Self-assessable constraint provisions requiring development to avoid, mitigate hazards risk include:

- Building and structure location controls;
- 20m separation from classified vegetation around buildings and structures or a distance requirement to achieve a bushfire attack level (BAL);
- Unimpeded access for emergency services;
- Access requirements;
- Water supply for fire- fighting; and
- No hazardous substances manufactured, stored on site.

[Example self-assessable provisions, see Rural Zone, SAO87 – SAO91]

In addition, associated Performance outcomes (PO's) relevant to bushfire consideration specifically identify that development ensures:

- Minimise number of buildings, people working and living on site;
- Building to be located and designed to increase chance of survival;
- Minimise fuel build up;
- Safe and effective access for emergency services and evacuation;
- Water supply for fire-fighting; and
- No risk from dangerous goods or combustible liquids.

[Example performance outcomes, see Rural Zone, PO102 – PO105].

Further support for mitigating risk is found in the Reconfiguring a lot provisions (Section 9) applying to bushfire hazard. Performance outcomes (PO's) relevant to bushfire consideration specifically identify that development ensures:

- Adequate water supply for fire-fighting;
- Safe emergency service access and avoiding entrapment; and
- Accessibility and manoeuvring for fire-fighting.

[Example, see Reconfiguring a lot-Rural Zone, PO14– PO17].

A bushfire hazard planning scheme policy (SC 6.4 Planning scheme policy – Bushfire hazard) has also been prepared. Its purpose is to provide guidance for the preparation of a bushfire hazard assessment and a bushfire management plan. It outlines the additional information requirements an applicant is required to provide to the assessment manager as part of a development application. It further notes that all reports, assessments and plans must be prepared by a suitably qualified and experienced person in conjunction with the local fire brigade, and if subject site adjoins land owner by a local, state or federal government, the relevant land manager.

It is noted that the draft bushfire hazard provisions have been prepared following a submission received from the Rural Fires Association Qld Inc, and discussions and meetings with DILGP Regional services and BCQ representatives.

(b) support, and not unduly burden, disaster management response or recovery capacity and capabilities, and

Self-assessable (SAO's) and Performance outcomes (PO's) relevant to this bushfire hazard consideration specifically identify that development ensures:

- Safe, effective access for emergency services;
- Adequate water supply for fire-fighting; and
- Does not present danger or difficulty to emergency services for emergency response or evacuation.

[Example, see Rural Zone, PO103 – PO105].

Further support for disaster management response/recovery is found in the Reconfiguring a lot provisions applying to bushfire hazard. Performance outcomes (PO's) relevant to this bushfire consideration specifically identify that development ensures:

- Adequate water supply for fire-fighting;
- Safe emergency service access and avoiding entrapment;
- Accessibility and manoeuvring for fire-fighting; and
- Maintain levels of functionality for emergency services during and after bushfire event.

[Example, see Reconfiguring a lot-Rural Zone, PO14 – PO17].

(c) directly, indirectly and cumulatively avoid an increase in the severity of the natural hazard and the potential for damage on the site or to other properties, and

Self-assessable provisions (SAO's) go to reducing the severity of bushfire risk and the potential for damage on the site by specifically providing:

- Limitation on the siting of building and structures;
- 20m separation from classified vegetation around buildings and structures or a distance requirement to achieve a bushfire attack level (BAL);
- Water supply for fire-fighting; and
- No hazardous substances manufactured, stored on site.

[Example self-assessable provisions, see Rural Zone, SAO87 – SAO91].

Performance outcomes (PO's) relevant to this bushfire consideration specifically identify that development ensures:

- Minimise number of buildings, people working and living on site;
- Building to be located and designed to increase chance of survival;
- Minimise fuel build up;
- Water supply for fire-fighting; and
- No risk from dangerous goods or combustible liquids.

[Example code assessable provisions, see Rural Zone, PO102 – PO105].

Further support for reducing severity and potential for damage on the site is found in the Reconfiguring a lot provisions applying to bushfire hazard. Performance outcomes (PO's) relevant to bushfire consideration specifically identify that development ensures:

- Lot design and location minimises bushfire risk;
- Lot design limit spread;
- Lot design achieve sufficient separation from bushfire hazard source to minimise risk;
- Safest possible siting of buildings;
- Water supply for fire-fighting; and
- Required level of functionality for emergency services during and after bushfire event.

[Example, see Reconfiguring a lot-Rural Zone, PO14 – PO17].

(d) maintain or enhance natural processes and the protective function of landforms and vegetation that can mitigate risks associated with the natural hazard, and

This is achieved to the extent development is controlled and the impacts managed by the draft planning scheme provisions located in zone codes and Reconfiguring a lot code as identified and described above.

4 Facilitating the location and design of community infrastructure to maintain the required level of functionality during and immediately after a natural hazard event.

The Strategic Framework recognises the importance of identifying, protecting and managing infrastructure sites. The following strategic outcome and specific outcome are noted:

3.11.4 Strategic Outcome - Protect infrastructure sites and corridors

Identify, protect and manage key infrastructure sites and corridors.

4. *Essential infrastructure is protected from the detrimental impacts of natural hazards;*

3.14.6.3 Specific Outcomes - Strong communities

5. *Essential community infrastructure and utilities function effectively during and immediately after a natural hazard event to ensure community safety and wellbeing.*

Self-assessable provisions (SAO's) and performance outcomes (PO's) go to maintaining the required level of functionality during and after a natural hazard event. Provisions go to controlling location and design of development, as well as controlling separation distances, access and fire-fighting ability as follows:

- Building and structure location controls;
- 20m separation from classified vegetation around buildings and structures or a distance requirement to achieve a bushfire attack level (BAL);
- Unimpeded access for emergency services;
- Access requirements;
- Water supply for fire-fighting; and
- No hazardous substances manufactured, stored on site.

[Example self-assessable provisions, see Rural Zone, SAO87 – SAO91, Example performance outcomes, see Rural Zone, PO102 – PO105].

A note is included in the heading to the Bushfire hazards area performance outcomes that draws attention to failure of community infrastructure. The notes states '*Unacceptable risk is defined as a situation where people or property are exposed to a predictable hazard event that may result in serious injury, loss of life, failure of community infrastructure, or property damage*' (emphasis added).

State interest – natural hazards, risk and resilience – Landslide hazard

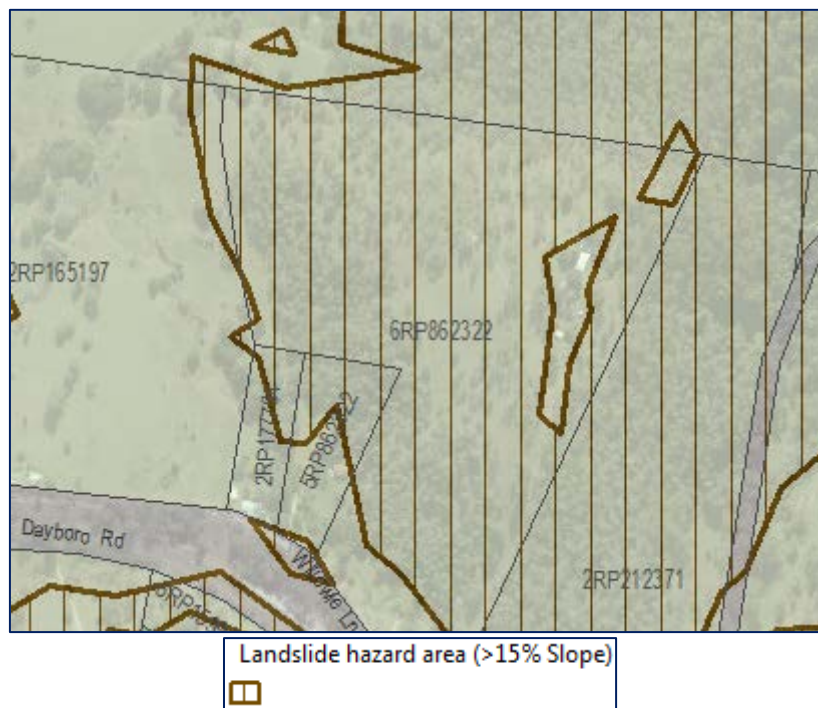
The SPP identifies the state interest as follows:

The risks associated with natural hazards are avoided or mitigated to protect people and property and enhance the community's resilience to natural hazards.

When making or amending a planning scheme, the Council is required to 'appropriately integrate' the state interest into the planning scheme. The SPP Technical Manual Evaluation report: Landslide hazards August 2014 provides guidance on how to appropriately integrate the state interest into the planning scheme. This section identifies how the Council has achieved this.

(1) identifying natural hazard areas for flood, bushfire, landslide and coastal hazards based on a fit for purpose natural hazard study, and

Land subject to landslide hazard is identified on the Overlay Map Landslide hazard located in Schedule 2 Mapping, 2.5 Overlay maps – 2.5.11 Landslide hazard. An example of the mapping is provided below:



This mapping adopts the 'basic approach' as recognised in the draft SPP Guideline – Guideline on flood, bushfire and landslide hazards, Dec 2013, being the use of 15% slope to trigger site based assessment.

The Council has not undertaken any investigations into landslide areas as it is satisfied the State-wide 15% slope mapping approach satisfactorily and appropriately manages the hazard risk for the region. This approach is consistent with the approach adopted in the Council's current planning schemes.

(2) including provisions that seek to achieve an acceptable or tolerable level of risk, based on a 'fit for purpose' natural hazards study and risk assessment consistent with AS/NZS ISO 31000:2009 Risk Management , and

Council has not undertaken a 'fit for purpose' landslide investigation for the region. Council has adopted the State-wide 15% slope mapping. Provisions apply in locations deemed to be at a higher landslide risk (i.e zone based triggered by mapping). They are identified as values and constraints and included, where relevant, in applicable zone codes.

(3) including provisions that require development to:

(a) avoid natural hazard areas or mitigate the risks of the natural hazard to an acceptable or tolerable level, and

Locations that require planning scheme provisions to reduce the level of risk have been identified through the adoption of the Department of State Development, Infrastructure and Planning State-wide 15% slope mapping.

Council has not adopted a landslide overlay code. In terms of its overall planning approach and philosophy, Council decided, in the main, not to use overlay codes recognising that the use of overlay codes is not a mandatory requirement under Queensland Planning Provisions (QPP). It has, instead, sort to include specific zone provisions in the form of 'value and constraint' provisions. Council has done this to:

- achieve a 'one-stop' planning scheme where all provisions are located in one section;
- avoid an overlay changing levels of assessment; and
- provide flexibility and higher degree of accuracy in applying bushfire hazard provisions.

The Strategic Framework sets the strategic overview with regards to natural hazard. It is intended to guide the development of the Region towards addressing the presence of natural hazards and establishing the principle of only appropriate development occurring in natural hazard areas. In particular, the Strategic Framework seeks to direct growth away from higher risk areas. The following strategic outcomes are noted:

3.6.1 Strategic Outcome - Compact urban form within the urban footprint

1. A more efficient land use and development pattern will be achieved progressively over time by:

- d. directing growth away from areas of higher risk of natural hazards, given that urban land allocations outside these areas are sufficient to accommodate growth beyond the life of the planning scheme.

3.6.6 Strategic Outcome - Growth areas

New master planned walkable neighbourhoods, activity centres and enterprise and employment areas served by public transport have a role to play in helping to accommodate regional dwelling and employment targets, and require comprehensive planning to coordinate future development with infrastructure delivery.

7. Urban development avoids areas of higher natural hazard risk and otherwise ensures development subject to natural hazards is compatible with the risk presented to protect people, property and infrastructure.

3.7.2 Strategic Outcome - Maximise the opportunities for development of existing places of employment and business activity

Encourage increased levels of activity and greater intensity of activity within existing places of employment and business activity

11. Economic and employment growth avoids areas of higher natural hazard risk and otherwise uses adaptation measures that reduce the hazard risks and support additional economic development, without placing additional vulnerable land uses at risk.

3.7.3 Strategic Outcome - Location of new economic activities

Provide sufficient additional land for industry and related businesses to enable diversified, broad-based, future economic and employment growth across the Region.

13. Direct economic and employment growth in the region towards areas of least or no natural hazard risk.

3.11.4 Strategic Outcome - Protect infrastructure sites and corridors

Identify, protect and manage key infrastructure sites and corridors.

4. Essential infrastructure is protected from the detrimental impacts of natural hazards;

3.14.6.3 Specific Outcomes - Strong communities

5. Essential community infrastructure and utilities function effectively during and immediately after a natural hazard event to ensure community safety and wellbeing.

The Strategic Framework (Section 3) specifically recognises landslide hazard as part of its MBRC Place Model approach. The Strategic Framework has sought to include landslide hazard related outcomes around the themes of sustainability and resilience, and natural hazards and adaptation. The following Strategic Outcomes are noted:

3.3.3 Sustainability and Resilience Theme, Strategic Outcome - Natural hazards and adaptation

The resilience of communities, development, essential infrastructure, natural environments and economic sectors to natural hazards including projected changes in weather is increased.

1. Respond to the risk from natural hazards, including projected changes in weather, by avoiding areas with high exposure and establishing adaptation strategies to minimise vulnerability to riverine flooding, storm tide, coastal erosion, bushfires and landslides;

3.14.3.1 Rural Place Type Specific Outcomes – Sustainability and resilience

1. Development is managed and located to mitigate adverse effects of flood, bushfire, and landslide

3.14.4.1 Rural Township Place Type Specific Outcomes - Sustainability and resilience

2. Development is designed to mitigate exposure to riverine flood events, landslide and bushfire.

3.14.6.1 Special Areas Place Type Specific Outcomes - Sustainability and resilience

5. Development is managed to mitigate adverse effects of bushfire, landslide and acid sulfate soils;

3.14.7.1 Rural Residential Place Type Specific Outcomes - Sustainability and resilience

3. Development is managed and located to mitigate adverse effects of flood, bushfire, and landslide.

3.14.13.1 Coastal Village Place Type Specific Outcomes - Sustainability and resilience

7. Development is managed and located to mitigate adverse effects of bushfire and landslide;

A number of planning measures have been used to achieve acceptable and/or tolerable levels of landslide risk including: overall outcomes in zone purpose statement, self-assessable provisions, code assessable provisions, and a planning scheme policy. These are discussed in greater detail below.

The overall outcome for development located within a landslide hazard area seeks to 'avoid' those areas that are subject to a constraint, limitation, or environmental values. It is only where development cannot avoid identified areas that it must respond appropriately.

[Example overall outcome, see Rural Zone, 6.2.10.2.3.s Purpose – Rural Zone].

Self-assessable constraint provisions requiring development to avoid, mitigate hazards risk by:

- Limiting the amount of earthworks, cut and fill,
- Limiting retaining wall height,
- Limitation on built form,
- No alteration of surface or groundwater flow,
- No hazardous substances manufactured, stored on site.

[Example self-assessable outcome provisions, see Rural Zone, SAO106 – SAO108]

In addition to the above constraint provision, general criteria zone provisions apply to sloping land (slope between 10% - 15%) requiring development to avoid, mitigate hazards risk by:

- Specifying building design,
- Limiting cut, fill, retaining.

[Example self-assessable outcome provisions, see Rural Zone, SAO3]

Performance outcomes (PO's) relevant to landslide consideration specifically identify that development:

- Minimises cut and fill and maintain site stability,
- Avoids single –plane slab,
- Avoids expanses of retaining walls,
- Avoids interference with natural drainage,
- Protects amenity.

[Example performance outcomes, see Rural Zone, PO129 – PO131].

Further support for mitigating risk is found in the Reconfiguring a lot provisions (Section 9) applying to landslide hazard. Performance outcomes (PO's) relevant to landslide consideration specifically identify that development ensures:

- Building is not located on land subject to landslide risk,
- Avoid excessive on-site works,
- Avoid changes to finished landform,
- Avoid excessive vegetation clearance,
- Minimal disturbance of natural drainage,
- Limited earthworks.

[Example, see Reconfiguring a lot-Rural Zone, PO34].

A landslide hazard planning scheme policy (SC 6.14 Planning scheme policy – Landslide hazard) has also been prepared. Its purpose is to provide detailed technical guidance for the preparation of a geotechnical report required to support a

development application in a landslide hazard area. It further identifies a site-specific geotechnical assessment must be prepared by a Registered Professional Engineer specialising in geotechnical engineering.

(b) support, and not unduly burden, disaster management response or recovery capacity and capabilities, and

Performance outcome relevant to this landslide hazard consideration specifically identifies that development ensure:

- safe emergency vehicles;
 - safe access for public;
- [Example, see Rural Zone, PO130].*

(c) directly, indirectly and cumulatively avoid an increase in the severity of the natural hazard and the potential for damage on the site or to other properties, and

Self-assessable constraint provisions go to reducing the severity of landslide risk and the potential for damage on the site by specifically providing::

- Limiting the amount of earthworks, cut and fill,
 - Limiting retaining wall height,
 - No alteration of surface or groundwater flow.
- [Example of self-assessable provisions, see Rural Zone, SAO106– SAO108]*

In addition to the above constraint provision, general zone provisions apply to sloping land requiring development to avoid, mitigate hazards risk by:

- Specifying building design,
 - Limiting cut, fill, retaining.
- [Example self-assessable provisions, see Rural Zone, SAO3]*

Performance outcomes (PO's) relevant to landslide consideration specifically identify that development ensures:

- Minimises cut and fill,
 - Avoid single –plane slab,
 - Avoid interference with natural drainage.
- [Example of code assessable provisions, see Rural Zone, PO4].*

Further support for mitigating risk is found in the reconfiguring a lot provisions applying to landslide hazard. Performance outcomes (PO's) relevant to landslide consideration specifically identify that development ensures:

- Building is not located on land subject to landslide risk,
 - Avoid excessive on-site works,
 - Avoid changes to finished landform,
 - Avoid excessive vegetation clearance,
 - Minimal disturbance of natural drainage,
 - Limited earthworks.
- [Example, see Reconfiguring a lot-Rural Zone, PO34].*

(d) maintain or enhance natural processes and the protective function of landforms and vegetation that can mitigate risks associated with the natural hazard, and

This is achieved to the extent development is controlled and the impacts managed by the planning scheme provisions located in zone codes and Reconfiguring a lot code as listed and described above.

Further support for maintaining native vegetation is found in clearing of native vegetation self-assessable provisions in all zones and in the Works Code (Section 9).

[Example, see Rural Zone, SAO 12 – SAO13; Works Code, PO79 – PO87].

4 Facilitating the location and design of community infrastructure to maintain the required level of functionality during and immediately after a natural hazard event.

The Strategic Framework recognises the importance of identifying, protecting and managing infrastructure sites. The following strategic outcome and specific outcome are noted:

3.11.4 Strategic Outcome - Protect infrastructure sites and corridors

Identify, protect and manage key infrastructure sites and corridors.

4. *Essential infrastructure is protected from the detrimental impacts of natural hazards;*

3.14.6.3 Specific Outcomes - Strong communities

5. *Essential community infrastructure and utilities function effectively during and immediately after a natural hazard event to ensure community safety and wellbeing.*

Performance outcomes (PO's) go to maintaining the required level of functionality during and after a natural hazard event. Provisions go to ensuring that emergency access and access from the site for the public and emergency vehicles is available.

[Example, see Rural zone, PO 131]

Conclusion

The SPP provides a comprehensive set of principles which underpin Queensland's planning system to guide local government and the state government in land use planning and development assessment. The SPP defines the state interest in land use planning and development. A State interest is required to be '*appropriately integrated*' into the draft planning scheme.

Following the initial draft scheme, the Council has reviewed the updated SPP requirements and mapping now available to Council. As part of this review where more up to date information exists that is consistent with Council's policy intent these provisions and mapping have been incorporated into the new draft planning scheme.

Council's approach to bushfire and landslide hazard is in accordance with the State Planning Policy. The new draft Moreton Bay Regional Council Planning Scheme:

1. Adopts an appropriate basis (State-wide mapping) for identifying natural hazard area;
2. Includes provisions that achieve an acceptable or tolerable level of risk;
3. Includes provisions that require development that require development to:
 - a. Avoid natural hazard areas or mitigate risks;
 - b. Support disaster management response or recovery capacity;
 - c. Avoid increase in severity of natural hazard; and
 - d. Maintains natural processes and protective function of landforms and vegetation.
4. Maintains functionality of community infrastructure during and after a natural hazard event.

The evaluation undertaken confirms that the State interest with regard to bushfire hazard and landslide hazard has been properly and appropriately integrated into the new draft planning scheme.