

Fact Sheet:

Landslip Hazards in the Tasmanian Planning Scheme and Building Act 2016

Purpose

The purpose of this fact sheet is to outline the planning and building controls for landslip in the Tasmanian Planning Scheme and Building Act 2016.

Introduction

Landslip is a process with the potential to significantly harm people, properties, communities, industries, infrastructure and the environment.

Climate change may increase the chances of landslips occurring through:

- changing rainfall patterns
- increased wave actions on the coast
- increased development pressure on higher and steeper ground due to rising sea levels, or
- increased flooding along rivers and streams.

Land use planning and building regulations work to reduce risk in areas exposed to landslips, and secure a safe and sustainable working, living, and recreational environment in Tasmania.

How are landslips managed in Tasmania?

Landslide risk in Tasmania is primarily managed privately, with the issue only becoming a public concern when the landslide poses a risk to life, housing, or infrastructure. Government supports the management of landslide and activities involve:

- Data collection on when and where they happen
- Producing maps based on the data
- Developing planning rules for where use and development can safely occur
- Building and plumbing regulations for increasing safety.

Mapping shows the location of landslip hazards. These are grouped into hazard

Definitions

Landslip: The movement of a mass of rock, earth (soil), or debris (mix of rock, soil, and other material) down a slope. A landslip is also known as landslide.

Hazard: source of potential harm.

Risk: the chance of the hazard causing harm

Hazard Event: the occurrence (realisation) of a hazard, the effects of which change demographic, economic and/or environmental conditions.

Critical, hazardous or vulnerable uses: Activities that may be significantly impacted by hazard events or may cause significant issues for a community or the environment impacted by a landslip. Examples include hospitals, emergency services (critical uses), fuel or chemical storage (hazardous uses), schools, and residential care facilities (vulnerable uses).

Tolerable risk: the lowest level of accepted risk from a hazard:

- for use or development in the hazard area to be of benefit; and which can be managed through routine regulatory measures or specific hazard management measures. The characteristics of this are contained within the provisions.
- At the site-specific level the AGS 2007(c) risk assessment process considers the tolerable risk to life, after treatment to be:
 - Existing slope/ existing development 10-4/ annum (equivalent to a likelihood of death of 1 in 1,000 years)
 - New constructed slope/ new development/ existing landslide 10-5/ annum (equivalent to a likelihood of death of 1 in 10,000 years)

bands to show the types of management strategy that can be used. For each hazard band, the Landslip Hazard Code controls what type of uses and development are permitted.

The Landslip Hazard Code and map control the use, development and work within each hazard band.

There are five hazard bands:

- Acceptable
- Low
- Medium
- Medium-active
- High

The low and medium hazard bands mean that land may be affected by future landslips. The medium active and high hazard bands indicate that a landslip has occurred in the last ~200 years, and will require detailed consideration for any new use, development or works.

The landslip hazard code operates alongside:

- The Building Act 2016
- Building Regulations 2016; and
- Determinations issued by the Director of Building Control

How were the landslip hazard areas mapped?

The landslip hazard areas were mapped as part of the Mitigating Natural Hazards through Land Use Planning Project undertaken by Resilience and Recovery Tasmania in the Department of Premier and Cabinet, with Mineral Resources Tasmania, local government and state agencies.

The maps identify the areas in the Tasmanian landscape that are either:

- potentially susceptible to landslip
- is a known landslip or
- believed to have been active in the last ~200 years.

The mapping classifies the land into one of five hazard bands. These form the basis of the overlays used to apply the Landslip Hazard Code.

Where and how does the Landslip Hazard Code apply?

The table below describes the landslip hazard planning bands in the Landslip Hazard Code.

The code applies to land within all the bands except Acceptable. It includes standards for certain types of use and development depending on their location, that should be addressed in a planning application. A suitably qualified person must prepare a landslip hazard report to include with any planning or building application.

Can the landslip hazard area overlays be modified?

The overlay for the code reflects the statewide landslip hazard area mapping produced by Mineral Resources Tasmania. Modifications to the landslip hazard area overlay may be made in accordance with a report prepared by a suitably qualified person, which justifies the change and is adopted by the council.

A council may also apply the landslip hazard code on any area of land where it reasonably believes a landslip has occurred that has not been mapped. This includes the MRT landslide inventory of active landslides, which can be considered "Medium-active".

What types of use and development do the landslip hazard codes regulate?

The landslip hazard code mainly applies to:

- critical use, hazardous use, or vulnerable uses
- use or development in the Medium- Active or High hazard band
- significant works located in the low, medium, medium -active or high hazard bands, and
- subdivision in the medium, medium- active, or high hazard bands.

In general, the landslide hazard code acknowledges that strategic planning decisions have already been made to provide for urban development in these areas.

Appendix 1 provides more information about the relevant land use planning requirements, including the types of use and development that are exempt.

Hazard band	Description
High	The site is within a proclaimed Landslip A area. Land is subject to legislated controls for all use and development.
Medium active	The area has known recent or active landslips. Controls are necessary for all use and development.
Medium	The area has mapped landslip features, or is within a landslip susceptibility zone, or has legislated controls (declared Landslip B area) to limit disturbance to adjacent unstable areas. Controls are necessary for all use and development.
Low	There are no mapped landslips in this area, but it may be susceptible. Most use and development does not require special consideration but some specific controls are necessary.
Acceptable	A landslip is a rare event in this area based on current understanding of the hazard, but it may occur in some exceptional conditions. Development and use are not subject to specific landslip controls.

What types of use and development does the Building Act regulate?

Most development that requires any form of building authorisation under the Building Act 2016 is not regulated in the code. This means any Low risk, Notifiable or Permit building work described in the act. Such development is instead regulated through the Directors Determination Landslip Hazard, which provides

standards for building work and associated work within the relevant landslip hazard area.

How does the landslip hazard code affect use and development?

The code requires that any use or development must demonstrate that a tolerable level of risk can be achieved and maintained in the future.

A suitably qualified person must prepare a landslip hazard report for any proposed use or development. The report should demonstrate that they will not cause or contribute to a landslip occurring. It must also show that:

- the land is not destabilised,
- the water table is not increased,
- engineered works meets the standards set out in Practice Note Guidelines for Landslide Risk Management, *Journal and News of the Australian Geomechanics Society*, Volume 42, No 1, March 2007, p63-114.

The particular recommendations from the AGS practice note are:

For an existing development on an existing slope, the tolerable risk is equivalent to a likelihood of death of 1 in 1,000 years (10^{-4} per annum).

For a new development on a newly constructed slope, the tolerable risk is equivalent to a likelihood of death of 1 in 10,000 years (10^{-5} per annum).

Appendix 1 provides more information about the relevant requirements.

Where can I find more information?

Enquiries about the Tasmanian Planning Scheme should be directed to:

State Planning Office
Department of State Growth

GPO Box 536
Hobart TAS 7001
Phone: 1300 703 977
Email: spo@stateplanning.tas.gov.au

Enquiries about building and plumbing should be directed to:

Consumer Building and Occupational Services
Department of Justice PO Box 56
Rosny Park TAS 7018
Telephone: 1300 654 499
Email: CBOS.info@justice.tas.gov.au

Other sources of information about landslip are listed below.

Determinations issued by the Director of Building Control are available on the Department of Justice's Consumer, Building and Occupation Services website.

Landslip hazard areas mapping can be viewed on the Tasmanian Government's **Risk Ready** website for property based searches (<http://alert.tas.gov.au/RiskReady/SitePages/Home.aspx>) or the LISTmap website.

The Department of Premier and Cabinet's Office of Security and Emergency Management website can provide more information on emergency management in Tasmania.

Mineral Resources Tasmania website can provide detailed information on landslips in Tasmania. https://www.mrt.tas.gov.au/geoscience/engineering_geology/geological_hazards_in_tasmania/landslides

Detailed information on the application of State Planning Provisions zones and codes is available in Guideline No. 1 – Local Provisions Schedules (LPS): zone and code application.

Australian Geomechanics Society (including good hillside design and construction practices): <http://australiangeomechanics.org/public-resources/downloads/>

Appendix 1: Technical definitions

Term	Definition
“As2870 Site Classification”	Means a report prepared for a residential dwelling by Site Classifier after their investigation of a site using the methodology of the Australian Standards AS2870 “Residential slabs and footings” as amended from time to time, and may include certification provided under s.266 of the Building Act 2006.
Geotechnical Practitioner	Means a person who may prepare a Landslip Hazard Report: 1. an Engineer-Civil accredited under the accreditation scheme; or 2. a Geo-technical Engineer; or 3. an Engineering Geologist, and who have the qualifications and expertise specified by the Director of Building Control.
“Site Classifier”	Means a person who may prepare an AS 2870 Site Classification 1. Soil Scientist; or 2. Engineer – Civil accredited under the accreditation Scheme; or 3. Geo-technical Engineer; or an 4. Engineering Geologist And who have qualifications and expertise specified by the Director of Building Controls;
Landslip Design Guide	Includes the following publications: 1. “Good Hillside Construction Practice”, Australian Geoguide LR8 (Construction Practice), published by the Australian Geomechanics Society; or 2. “Landslide Hazards Handbook”, published by the Australian Building Codes Board;
Landslip Hazard Report (planning and building)	Means a report prepared by a “Geotechnical practitioner” in a format specified by the Director for a building application, using the methodology outlined in the <i>Building for Landslide: Guidance for Geotechnical reporting in Tasmania (MRT 2016)</i> , which applies the AGS 2007 Guidelines (as amended from time to time) published by the Australian Geomechanics Society to the Tasmanian context and may include certification provided under s.266 of the Act. The planning and building regulations ask that the report demonstrates that the use, development, or work: 1) Is not likely to cause or contribute to the occurrence of a Landslip event on the site or on adjacent land; and 2) Can achieve and maintain a tolerable level of risk, while considering: a) the nature, intensity and duration of the use; b) the type, form and duration of any development; c) the likely change in the risk across the intended life of the use or development; d) the ability to adapt to a change in the level of risk; e) the ability to maintain access to utilities and services; f) the need for specific landslip hazard reduction or protection measures on the site; g) the need for landslip hazard reduction or protection measures beyond the boundary of the site; h) any landslip hazard management plan in place for the site and/or adjacent land; and i) any advice relating to the ongoing management of the use.

Significant works	Means any of the following: a) excavation equal to or greater than 1m on depth, including temporary excavations for the installation or maintenance or services or pipes; b) excavation or depositing of material of greater than 100m³ whether or not material is sourced on the site or imported; c) felling or removal of vegetation over a contiguous area greater than 1,000m²; d) the collection, pooling or storage of water in a dam, pond, tank or swimming pool with a volume of more than 45,000 litres; e) removal, redirection, or introduction of drainage for surface or groundwater; and f) discharge of stormwater, sewage, water storage overflow or other wastewater.
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Appendix 2: Planning controls

Landslip Hazard Code			
Exempt Use or Development	Use Standards	Subdivision	Development and work standards
The following use or development is exempt from the requirements of the landslip hazard code: The following use or development is exempt from this code: - A change in use of land within a low or medium landslip hazard band, unless for critical use, hazardous use or vulnerable use; - use or development of land for Extractive Industry where a mining lease under the Mineral Resources and Development Act 1995 is in force, unless it includes hazardous use; - A change in use within all hazard bands if for: (i) Natural and Cultural Values Management; (ii) Passive Recreation; (iii) Resource Development; or (iv) Utilities; - development, including subdivision and work in the low hazard band unless it involves significant works. - Development including work in the medium hazard band unless: - it is a subdivision - it involves significant work - Subdivision for boundary adjustment	Uses in the medium-active and high landslip planning hazard bands - Landslip hazard report required to demonstrate that a tolerable risk can: - be achieved and maintained for the life of the use. - does not require specific hazard reduction activities or protection measures.	Acceptable solution for each lot, or a lot proposed in a plan of subdivision, within a landslip hazard area, must: - be able to contain a building area, vehicle access, and services, that are wholly located outside a landslip hazard area; - be required for public use by the Crown, a council or a State authority; or (d) be required for the provision of Utilities	Low and Medium landslip hazard bands - Work, as defined in the planning scheme, is exempt in the low and medium hazard bands if it is not significant work. - Landslip hazard report required to demonstrate that a tolerable risk can: - be achieved and maintained for the life of the use. - does not require specific hazard reduction activities or protection measures.
	Critical use in all landslip hazard bands - Landslip hazard report required to demonstrate that a tolerable risk can: - be achieved and maintained for the life of the use. - does not require specific hazard reduction activities or protection measures. - Critical uses demonstrate that they can maintain their service at a design level if a landslip occurs.		Medium -Active and High planning hazard bands - All development is required to complete a Landslip hazard report required to demonstrate that a tolerable risk can: - be achieved and maintained for the life of the use. - does not require specific hazard reduction activities or protection measures.
	Hazardous use in all landslip hazard bands - Landslip hazard report required to demonstrate that a tolerable risk can: - be achieved and maintained for the life of the use. - does not require specific hazard reduction activities or protection measures. - Hazardous uses demonstrate how the release of hazardous substances will not unreasonably impact on the health and safety of people and the environment. Vulnerable use in all landslip hazard bands - Landslip hazard report required to demonstrate that a tolerable risk can: - be achieved and maintained for the life of the use. - does not require specific hazard reduction activities or protection measures - Vulnerable uses demonstrate how the occupants or emergency service personnel can be protected,	Performance Solution : Each lot, or a lot proposed in a plan of subdivision, within a landslip hazard area must not create an opportunity for use or development that cannot achieve a tolerable risk from landslip, having regard to: (a) any increase in risk from a landslip for adjacent land; (b) the level of risk to use or development arising from an increased reliance on public infrastructure; (c) the need to minimise future remediation works; (d) any loss or substantial compromise, by a landslip, of access to the lot on or off site; (e) the need to locate building areas outside the landslip	

	evacuated, and be informed of what to do	hazard area; • (f) any advice from a State authority, regulated entity or a council; and • (g) the advice contained in a landslip hazard report.	
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Appendix 3 - Building Controls

Building Act 2016 and Building Regulation 2016

Landslip A and B areas declared under the Mineral Resource Development Act 1995 have specific controls under the Building Act 2016 applies specific controls to Landslip A and B areas. These controls apply in addition to the controls imposed through the land use planning system. There are restrictions about what types of building work or other activities may be carried out in landslip A and B areas: • In a landslip A (high) and B area, a permit authority or general manager must provide written approval prior to work commencing that takes into account any landslip hazard report and any relevant landslip management plan, • A person in landslip A or B area must not fell or remove	In a low hazard band • Specified work and significant work to become notifiable work unless already permit work. • A soil scientist can undertake a AS2870 site classification, • A landslip hazard report may be required by the site classifier, engineer-civil, building surveyor, • Footing system must be designed by an engineer – civil unless AS2870 report considers site to not be a P site for landslip • The building design (including footings and significant works) must demonstrate that they have applied the AS2870 report, landslip hazard plan, and landslip design guidelines • The building surveyor,	In a medium hazard band • Specified work and significant work to become notifiable work unless already permit work. • AS2870 site classification must be undertaken by geotechnical practitioner, • A landslip hazard report may be required by the AS2870 report, engineer- civil, building surveyor, • Footing system must be designed by an engineer – civil unless AS2870 report considers site to not be a P site for landslip • The building design (including footings and significant works) must demonstrate that they have applied the AS2870 report, landslip hazard plan, and landslip design	In a medium-active hazard band • Specified work and significant work to become notifiable work unless already permit work. • AS2870 site classification must be undertaken by geotechnical practitioner, • A landslip hazard report must be prepared, • Footing system must be designed by an engineer – civil • The building design (including footings and significant works) must demonstrate that they have applied landslip hazard plan, and landslip design guide • The building surveyor, prior to issuing the CLC, must be satisfied that the design of the works demonstrates compliance with the recommendations of	In a high hazard band (Landslip A areas) • See section on landslip A and: • Work may not be performed if it involves the erection, re-erection, construction, alternation or addition to premise. • The permit authority cannot authorise a person to : ○ Erect an insubstantial building ○ Carry out work other than erections; or ○ Erect a building within the boundaries of a wharf • A landslip hazard report must be prepared, • Footing system (when permitted) must be designed by an engineer – civil
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vegetation, or use earthmoving or vibration compaction equipment in either, A person in a landslip B area must not store more than 10, 000 L of water or a dangerous substance. The requirements for the high hazard band apply to work in a landslip A area.	prior to issuing the CLC, must be satisfied that the design of the works demonstrates compliance with the recommendations of reports concerning landslip. • The permit authority must consider the AS2870 report, geotechnical investigations and relevant management plan when a permit is to be issued.	guidelines. • The building surveyor, prior to issuing the CLC, must be satisfied that the design of the works demonstrates compliance with the recommendations of reports concerning landslip. • The permit authority must consider the AS2870 report, geotechnical investigations and relevant management plan when a permit is to be issued.	reports concerning landslip. • The permit authority must consider the AS2870 report, geotechnical investigations and relevant management plan when a permit is to be issued.	• The building design (including footings and significant works) must demonstrate that they have applied landslip hazard plan, and landslip design guide. The building surveyor, prior to issuing the CLC, must be satisfied that the design of the works demonstrates compliance with the recommendations of reports concerning landslip. The permit authority must consider the AS2870 report, geotechnical investigations and relevant management plan when a permit is to be issued.
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