

North West (Loddon Mallee) Region Emergency Response Plan



Landslide Sub Plan

Published by Victoria State Emergency Service

Melbourne, June 2019

This publication is intended to be consistent with the State Emergency Response Plan (SERP), published by Emergency Management Victoria (EMV) in 2016.

Authorised by the Victoria State Emergency Service
168 Sturt Street,
Southbank VIC 3006

An electronic version of the plan can be obtained at: <https://www.ses.vic.gov.au/em-sector/vicses-emergency-plans>.


Version Control

North West (Loddon Mallee) Region
Emergency Response Plan
– Landslide Sub-plan
Version 1.0 June 2019

North West (Loddon Mallee) Region Emergency Response Plan – Landslide Sub-plan Certification

The North West (Loddon Mallee) Region Emergency Response Plan – Landslide Sub-plan deals with response to Landslide incidents within the North West (Loddon Mallee) area of responsibility.

The following plan is intended to provide the framework for North West (Loddon Mallee) Region to effectively and efficiently respond to future emergencies caused by Landslide, and will remain current until rescinded by authority of the Victoria State Emergency Service Chief Officer Operations.

 Date: 10 October 2019

Tim Wiebusch
Chief Officer Operations

This plan is produced by VICSES and has been adapted from the State Emergency Response Plan – Landslide Sub-plan. All information contained in this plan was current at time of publication.

VICSES would like to acknowledge the significant contribution of key stakeholders to ensure the content contained within this plan is of a high quality to support response activities.

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State Emergency Management Priorities

The State Emergency Management Priorities are:

- Protection and preservation of life is paramount. This includes:
 - Safety of emergency response personnel.
 - Safety of community members including vulnerable community members and visitors/tourists.
- Issuing of community information and community warnings detailing incident information that is timely, relevant and tailored to assist community members make informed decisions about their safety
- Protection of critical infrastructure and community assets that support community resilience
- Protection of residential property as a place of primary residence
- Protection of assets supporting individual livelihoods and economic production that supports individual and community financial sustainability
- Protection of environmental and conservation assets that considers the cultural, biodiversity, and social values of the environment.

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1. Introduction

1.1. Purpose

The purpose of this plan is to provide strategic guidance for the effective emergency management of a landslide in the North West (Loddon Mallee) Region.

1.2. Objective

The objective of the North West (Loddon Mallee) Region Emergency Response Plan – Landslide Sub-plan is to outline the arrangements for ensuring an integrated and coordinated approach to the management of landslide events in the North West (Loddon Mallee) Region, in order to reduce the impact and consequences of these events on the community, infrastructure and services.

1.3. Scope

This North West (Loddon Mallee) Region Emergency Response Plan – Landslide Sub-Plan includes:

- Description of potential risks and consequences of earthquakes to the social, built, economic and natural environments.
- Region-specific emergency management arrangements for the management of landslides. Links to sources of information where the reader can obtain further detail.

1.4. Authorising Environment

The *Emergency Management Act* (1986 and 2013) is the empowering legislation for the management of emergencies in Victoria.

The Emergency Management Manual Victoria (EMMV) contains policy and planning documents for emergency management in Victoria, and provides details about the roles different organisations play in these emergency management arrangements.

The State Emergency Response Plan (Part 3, EMMV) identifies Victoria's organisational arrangements for managing the response to emergencies.

Part 7 of the EMMV outlines the VICSES as the Control Agency for landslide emergencies. In this role, VICSES is responsible for providing protection of life, property and the environment.

The State Landslide Hazard Plan outlines overarching arrangements for the management of landslide emergencies, but does not replace arrangements in the State Emergency Response Plan.

This plan has been approved by the Victoria State Emergency Service (VICSES) Chief Officer of Operations.

Other relevant legislation includes:

- *Victoria State Emergency Service Act 2005*
 - Section 5(a) and (b) of the VICSES Act 2005 details VICSES' role in landslide planning and response.
- *Essential Services Act 1958*
- *Planning and Environment Act 1989*
- *Local Government Act 1989*
- *Water Act 1989*

- *Catchment and Land Protection Act 1994*
- *Meteorological Act 1955 (Commonwealth)*
- *Roads Management Act 2004.*

1.5. Activation of the Plan

The arrangements in this plan apply on a continuing basis and do not require activation.

1.6. Audience

The audience for this plan comprises the Victorian government, local government and agencies within the emergency management sector in the (North West) Loddon Mallee Region, including business and community groups with a significant role in the management of the emergency.

Although the wider community is not the primary audience, community members may find the contents of this plan informative.

1.7. Linkages

This plan reflects current legislation, the arrangements in the State Emergency Response Plan (SERP), the State Landslide Hazard Plan, the State Emergency Relief and Recovery Plan, the strategic direction for emergency management in Victoria and the accepted State practice for managing emergencies.

The arrangements in the SERP and State Emergency Relief and Recovery Plan have not been repeated unless necessary to ensure context and readability. Both plans can be accessed at www.emv.vic.gov.au/policies/emmv.

Arrangements for the management of secondary consequences related to landslide are contained in the following:

- Flooding – State Emergency Response Plan - Flood Sub Plan
- Rescue response – Victorian Urban Search and Rescue Response Arrangements
- Health response – State Health Emergency Response Plan.

1.8. Exercising and Evaluation

This plan will be exercised within one year from the date of approval and once every three years thereafter as part of a phased cycle. The exercise will be evaluated and, where improvements to the emergency management arrangements in this plan are required, the plan will be amended and a revised version issued. Exercises will be conducted in accordance with the AIDR Managing Exercises Handbook, available here: www.knowledge.aidr.org.au/resources/handbook-3-managing-exercises.

1.9. Review

This plan was current at the time of publication and remains in effect until modified, superseded or withdrawn.

This plan will be reviewed and updated every three years. Consideration will be given to an earlier review if the plan has been applied in a major emergency or exercise, or following a substantial change to the relevant legislation or arrangements.

2. Landslide risk within the North West (Loddon Mallee) Region

2.1. Regional Description

The North West (Loddon Mallee) Region of Victoria covers 59,000 square kilometres, occupying more than one quarter of the area of Victoria. The region borders the states of South Australia and New South Wales.

The regions 10 municipalities include Macedon ranges, Mount Alexander, Central Goldfields, Greater Bendigo, Campaspe, Loddon, Gannawarra, Buloke, Swan Hill and Mildura. Municipal boundaries are accessible via the Emergency Management – Common Operating Picture (EM-COP) for registered users at <https://cop.em.vic.gov.au>

Geographically this is a diverse region, including numerous towns and cities of varying sizes. The largest centres in the region are Bendigo with a population of 110,000, and Mildura with a population of 54,000. The region has a population of around 332,000, 4.5% of which originate from non-English speaking countries.

North West (Loddon Mallee) Region encompasses a number of culturally sensitive sites, particularly along the Murray River, and a significant number of National and State parks. A number of major rivers, highways, roads and rail systems also run throughout the region. An increasing number of people in the south of the region work in the capital of Victoria, Melbourne, and commute daily via road and rail systems.

The northern part of the region encompasses significant areas of horticulture, viticulture, agriculture, dry land farming, mining infrastructure, wine and table grape production and stone fruit production. This area is also included as part of the Murray Darling Basin Authority.

2.2. The landslide hazard

Landslides within North West (Loddon Mallee) Region have the potential for localised impacts, affecting the economic, business continuity and possible future development opportunities for the regions communities.

As indicated in Figure 1 below, the landslide risk within the North West (Loddon Mallee) Region is identified as being low to very low. Although the overall ratings are low, this does not mean that there is no risk. There are a number of locations within the region that are potentially at a greater risk than indicated.

Locations affected include the City of Greater Bendigo (key risk area for sinkholes), the banks of any of the major watercourses including the Loddon, Campaspe, Avoca and Murray Rivers, cuttings located on road and rail systems, and the mountainous area around the Macedon Ranges.

According to the Geoscience Australia website, there have only been 4 occurrences of landslides in the North West (Loddon Mallee) Region, although it is unknown over what period of time. These incidents occurred at Mount Williams (near Lancefield), east of Murrayville, and two instances at Mount Cameron (near Newstead). Further information can be found on the Geoscience Australia website at: <https://ecat.ga.gov.au/geonetwork/srv/eng/catalog.search#/metadata/74273>.

These higher risk areas generally fall under two of the following categories:

- **Human mechanisms:** locations that have in some way been disturbed by road cuttings, mines, earth works, etc.
- **Natural:** locations that have been formed naturally over time by nature, for example river embankments, mountainous terrain etc.

There is a low risk of landslides occurring in the Loddon Mallee region, and there are no specific locations within the region that are identified as having a higher risk potential.

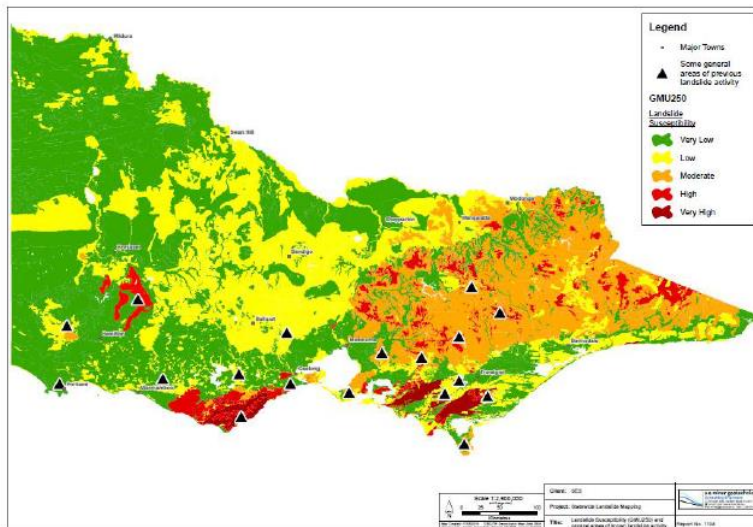


Figure 1 – Developed by A.S. Miner Geotechnical (2018) utilising a modified version of the Geomorphology of Victoria 1:250,000 (GMU250) spatial dataset (Department of Economic Development, Jobs, Transport and Resources (DEDJTR)).

3. Landslide

3.1. Definition

A landslide is “the movement of mass rock, earth or debris down a slope” (AIDR Manual 24 on ‘Reducing the Community Impact of Landslides’). Landslides may result from a failure of the materials which make up the hill slope and are driven by the force of gravity.

There are a large number of road and rail cuttings across the North West (Loddon Mallee) Region, as well as river banks. These may present a higher risk potential for landslides, mainly during or after heavy rainfall and/or significant flooding events.

4. Sinkholes

4.1. Definition

A sinkhole is a cavity in the ground, especially in a limestone formation. This is caused by water erosion, which provides a route for surface water to disappear underground. The sinkhole term is also commonly used within the community to reference when surface areas collapse and create deep subsurface holes. This can also occur from erosion, such as underground water pipes or the collapse of unknown mines.

City of Greater Bendigo was constructed on top of an old gold mining network. Some of these mines have been identified, but there are an unknown number which could lead to the development of sinkholes. This was an issue during the construction of the new Bendigo Police station, whereby the installation of foundations lead to the uncovering of an old mine tunnel which had not previously been identified.

There have been numerous occurrences of sinkholes in the Bendigo area.



Figure 2 – Long Gully sinkhole 07/12/2017 (source: Bendigo Advertiser).

5. Landslide Consequence Overview

Scenario 1 – Sinkhole (mine shaft opening) within the City of Greater Bendigo.

Category:	S4
Location:	Greater City of Bendigo area.
Triggers:	<ul style="list-style-type: none"> ■ Heavy rainfall ■ Rising water table ■ Leaking or damaged water and storm water pipes ■ Earth movement ■ Aging supports in old mines ■ Old mineshaft plugs ■ Excessive moisture retention
Description of potential physical impacts:	<ul style="list-style-type: none"> ■ Land movement. ■ Subsidence. ■ Damage to road network (local). ■ Damage to property/buildings. ■ Loss of services.
Consequences:	<p>Wellbeing</p> <ul style="list-style-type: none"> ■ Locally displaced community. ■ Potential impacts to community safety. ■ Some minor mental health issues may occur in the long term. <p>Liveability</p> <ul style="list-style-type: none"> ■ Potential to have an impact on the local community due to loss of services including power, gas, communications, water and sewerage. ■ Relocations may be required. ■ Transport routes and roads may be closed for some time. Alternate routes available. <p>Sustainability</p> <ul style="list-style-type: none"> ■ This may have a significant cultural impact if the event occurs under or near a heritage building. <p>Viability</p> <ul style="list-style-type: none"> ■ Very limited impact as the event would be localised. <p>Community</p> <ul style="list-style-type: none"> ■ Very limited impact as the event would be localised.
Transfer of control:	<p>Normally this level of incident would remain under local control.</p> <p>There are circumstances where an incident should be managed by an Incident Controller based in an Incident Control Centre (ICC), and supported by an Incident Management Team (IMT) with specialist skills and equipment, rather than by a field-based Incident Controller.</p> <p>Refer to Joint SOP J03.15 for full details</p>

Scenario 2 - Landslide of road cutting on the Calder Freeway

Category:	S3
Location:	Calder Freeway, around the Gisborne/Kyneton area.
Triggers:	Prolonged heavy rainfall or an earthquake.
Description of potential physical impacts:	<ul style="list-style-type: none"> ■ Potential land movement. ■ Subsidence. ■ Damage to road network (major highway). ■ Possible infrastructure damage (power/gas/telecommunication).
Consequences:	<p>Wellbeing:</p> <ul style="list-style-type: none"> ■ Possible damage to vehicles and/or injury. ■ Restricted access to major centres due to highway damage. ■ Increased level of community anxiety due to possible highway restrictions and possible disruption to services. ■ Possible delays transporting health related patients via road. <p>Liveability:</p> <ul style="list-style-type: none"> ■ Potential to have an impact on the local community due to loss of services including power, gas, communications, water and sewerage. ■ Transport routes and roads may be closed for some time. Alternate routes would be available, although at a reduced speed affecting transport of goods from Melbourne to North Victoria. ■ Public transport delays. <p>Sustainability:</p> <ul style="list-style-type: none"> ■ Economic impacts due to transportation disruption. ■ Some minor tourism impacts due to restrictions on road and public transport. Localised business and social impacts caused by disruption to services. <p>Viability:</p> <ul style="list-style-type: none"> ■ Minor disruption to freighting of goods, due to delays with the major highway, linking Melbourne to North West Victoria. <p>Community Connectedness:</p> <ul style="list-style-type: none"> ■ Some restricted and/or altered access to communities due to disruption of road.
Transfer of control:	<p>Normally this level of incident would remain under local control.</p> <p>There are circumstances where an incident should be managed by an Incident Controller based in an ICC and supported by an IMT with specialist skills and equipment, rather than by a field-based Incident Controller.</p> <p>Refer to Joint SOP J03.15 for full details.</p>

Scenario 3 – Landslide

Category:	S3
Location:	Mount Macedon

Triggers:	Bushfire (reduced vegetation), followed by a heavy rainfall with excessive run off.
Description of potential physical impacts:	<ul style="list-style-type: none"> ■ Potential land movement. ■ Subsidence. ■ Damage to road network (local). ■ Damage to property/buildings. ■ Loss of services. ■ Restricted access/egress. ■ Pollution to water supplies. ■ Significant recovery/clean up/rehabilitation.
Consequences:	<p>Wellbeing:</p> <ul style="list-style-type: none"> ■ Locally displaced community. ■ May be impacts to community safety. ■ Some mental health issues in the long term. ■ Potential for displacement and isolation. ■ Pollution of waterways and dams due to contaminated run off. <p>Liveability:</p> <ul style="list-style-type: none"> ■ Potential to have an impact on the local community due to loss of services including power, gas, communications, water and sewerage. ■ Relocations may be required. ■ Transport routes and roads may be closed for some time. ■ Damage to service infrastructure (water pumps, transformers, sewerage pumps). <p>Sustainability:</p> <ul style="list-style-type: none"> ■ Potential to affect local tourist industry. ■ Rehabilitation and stabilisation of natural environment. <p>Viability:</p> <ul style="list-style-type: none"> ■ Very limited impact as event would be localised. <p>Community Connectedness:</p> <ul style="list-style-type: none"> ■ Very limited impact as event would be localised.
Transfer of control:	<p>Normally this level of incident would remain under local control.</p> <p>There are circumstances where an incident should be managed by an Incident Controller based in an ICC and supported by an IMT with specialist skills and equipment, rather than by a field-based Incident Controller.</p> <p>Refer to Joint SOP J03.15 for full details</p>

6. Regional Landslide Arrangements

This section of the plan outlines the specific arrangements for managing landslide emergencies in the North West (Loddon Mallee) Region. Arrangements differ depending on the scale of the landslide emergency. This section of the plan relates to landslides deemed to be an emergency, which are generally S1 – S4 landslides, as outlined in the State Landslide Hazard Plan.

6.1. Arrangements for S1 – S4 Landslide Emergencies

This section describes the arrangements for managing large to very large landslide emergencies, with the following attributes:

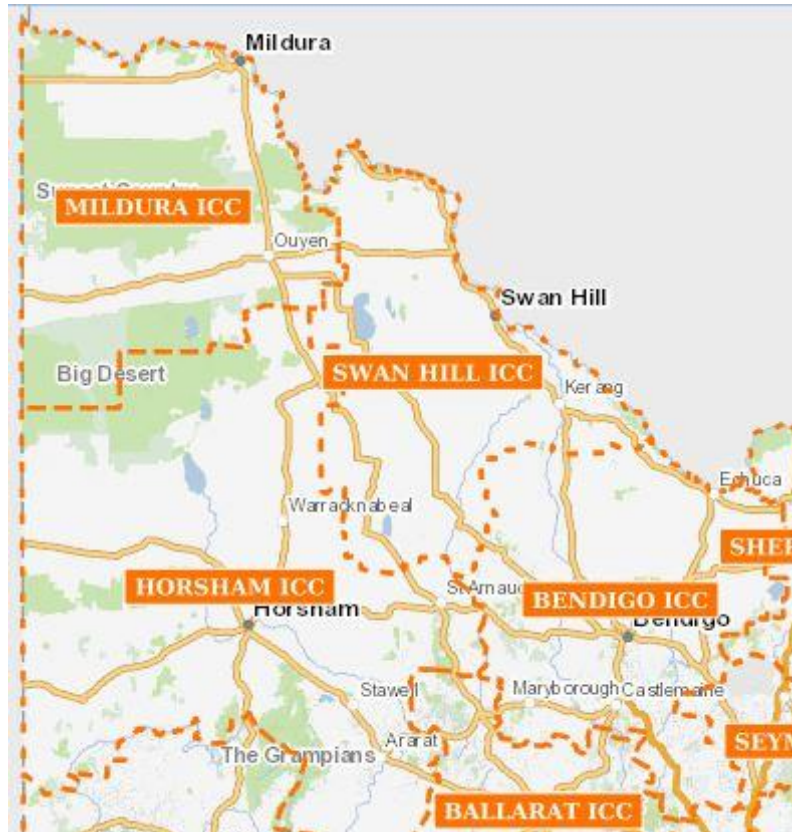
Category	Relative Size	Volume of Failure (m3)	Typical Dimension (LxWxD) metres	Individual block size	Overall debris scale
S1	Very Large	>20,000	50 x 100 x 10	Individual block size >1.0m	Around the size of the MCG stadium or greater
S2	Large	2,000 to 20,000	25 x 60 x 7	0.5m-1.0m minimum dimension	Around the size of a local football oval
S3	Medium	200 to 2000	10 x 25 x 4	0.2 to 0.5m minimum dimension	Around the size of a house
S4	Small	20 to 200	5 x 10 x 2	0.2m minimum dimension	Around the size of a semi-trailer truck

Note: Events of these magnitudes are considered highly unlikely to occur within the North West (Loddon Mallee) Region.

6.2. IMT Footprints, Structures and Resourcing

Pre-determined ICCs and DCPs

A map of ICC footprints can be viewed in EM-Cop here: [Situation/Tab/Data/Boundaries/Emergency Services/ICC Footprints](#) – or JSOP - J02.03



ICC Location	Local Government Areas
Department of Environment, Land, Water and Planning (DELWP) offices, level 3 7 Taylor Street, Epsom Phone: 03 5430 4600	Campaspe Shire Swan Hill Rural City Council Mildura Rural City Council
Department of Environment, Land, Water and Planning (DELWP) offices, level 3 Eleventh Street, Irymple. Phone: 03 5051 4336	Buloke Shire Macedon Ranges Shire Council Greater City of Bendigo Mt Alexander Shire Council Central Goldfields Loddon Shire Gannawarra Shire

6.3. Divisional Command Points

Identified SES endorsed Divisional Command Locations within the North West (Loddon Mallee) Region are contained in SES SOP 070 this can be found at: www.ses.vic.gov.au.

Note: Other suitable facilities may be utilised at the discretion of the Incident Controller.

The table below provides details of current predetermined Divisional Command locations:

DCP Location	VICSES Units Within Footprint	Local Government Areas
Bendigo (SES)	Bendigo/ Marong/ Wedderburn	Bendigo
Swan Hill (SES)	Swan Hill/ Robinvale.	Swan Hill
Wycheproof (SES/CFA)	Wycheproof/ Birchip/ Woomelang (St Arnaud Mid West Region)	Buloke
Mildura (SES)	Mildura/ Ouyen/ Murrayville	Mildura
Castlemaine (CFA)	Castlemaine	Castlemaine
Maryborough (DELWP/CFA)	Maryborough/ Dunolly	Central Goldfields
Kyneton (CFA)	Woodend	Macedon Ranges
Kerang (CFA)	Kerang	Gannawarra
Echuca (CFA)	Echuca/ Rochester/ Kyabram/ Rushworth/ Echuca/Moama SRS	Campaspe
Gisborne CFA	Gisborne	Macedon Ranges
Pyramid Hill CFA		Loddon

Divisional Command Location footprint maps can be located at www.hub.ses.vic.gov.au under My State > Operations > Command and Control facilities.

Pre-determined Control Structures

Control structures for landslide emergencies are determined according to the Landslide Readiness and Activation Trigger Considerations (Attachment 1).

Local Intelligence Sources

Intelligence Type and Description	Location
VicRoads Traffic Camera Dashboard Provides live intelligence (video) about impacts to traffic on major arterials/freeways.	EM-COP > Desktop > Information Displays > Traffic Melbourne
Geoscience Australia	www.ga.gov.au

Regional Resources

Resource Type	Description	Host Agency / Location
Variable messaging boards	2x 2 metre electronic messaging boards often deployed roadside to communicate information on road closures.	VicRoads Bendigo
Variable messaging boards	4x2 metre electronic messaging boards often deployed roadside to communicate information on road closures.	Road Safe Central Murray, Looked after by Swan Hill and Gannawarra councils
Field Operations Vehicle, Mercedes Sprinter.	Communication and Command vehicle.	VICSES, located at Marong VICSES Unit
IAC/EMLO IT Kits	Communication and Command items.	VICSES. Each of the following locations have been allocated one kit: <ul style="list-style-type: none">■ Bendigo Regional Office.■ Swan Hill Regional Office.■ Mildura Unit.■ Gisborne Unit
13 x Lighting Towers	Lighting towers also able to supply power if required.	VICSES, various locations.
Sandbag filling trailer	Able to fill large quantity of sandbags.	VICSES, located at Echuca Unit.

6.4. Pre-determined Control Structures

Control structures for landslide emergencies are determined according to the Landslide Readiness and Activation Trigger Considerations (Attachment 1).

6.5. Inter-agency Agreements

Currently there are no inter-agency agreements.

6.6. Local Intelligence Sources

Intelligence Type and Description	Location
VicRoads Traffic Camera Dashboard Provides live intelligence (video) about impacts to traffic on major arterials/freeways.	EM-COP > Desktop > Information Displays > Traffic Melbourne

6.7. Regional Resources

Councils in North West (Loddon Mallee) Region are signatories to the Municipal Association of Victoria (MAV) resource sharing protocol.

Resources are available through existing Regional and Municipal Emergency Management Plans.

6.8. Traffic Management Arrangements

Due to the low risk identified across the North West (Loddon Mallee) Region, no specific traffic management plans have been developed at this time. If TMPs are required for an event, these will be arranged by the Incident Controller in consultation with the Emergency Management Team (EMT) at the time.

6.9. Public Information and Warnings Roles and Responsibilities

Business as Usual

This refers to the responsibility for delivery and coordination of public information and warnings during business as usual operations, or when an ICC has not yet been established remains with the Regional Duty Officer (RDO) and Regional Agency Commander (RAC).

Line of Control

This refers to the responsibility for delivery and coordination of public information and warnings when formal Line of Control is active or when an ICC is activated. This rests with the Public Information Section of the relevant ICC with authorisation through the Incident Controller.

Public Information and Warnings Triggers

VICSES will only issue community notifications if a landslide is determined to be an emergency and VICSES takes active control of the incident, as explained in Section 2.6 of the State Landslide Hazard Plan.

VICSES will consider issuing a community notification based on scale, category and actual or potential community consequences. Further guidance is available in the VICSES Landslide EM-COP Public Publishing Business Rules, available in the IMT Toolbox (Public Information) via EM-COP.

When issuing landslide community notifications, personnel should contact the VicRoads emergency services priority phone line on 1300 107 778 to ensure the incident is listed on VicTraffic website.

Glossary

CFA	Country Fire Authority
DCP	Divisional Command Points
DELWP	Department of Environment, Land, Water and Planning
DHHS	Department of Health and Human Services
DJPR	Department of Jobs, Precincts and Regions
EMLO	Emergency Management Liaison Officer
EMMV	Emergency Management Manual Victoria
EMV	Emergency Management Victoria
EMT	Emergency Management Team
ICC	Incident Control Centre
IMT	Incident Management Team
JSOP	Joint Standard Operating Procedure
LGA	Local Government Authority
RAC	Regional Agency Commander
RC	Regional Controller
RCC	Regional Control Centre
RDO	Regional Duty Officer
REMT	Regional Emergency Management Team
SAC	State Agency Commander
SCC	State Control Centre
SDO	State Duty Officer
SERP	State Emergency Response Plan
SOP	Standard Operating Procedure
VICSES	Victoria State Emergency Service
VICPOL	Victoria Police

Attachments

Attachment 1 – VICSES Landslide Readiness and Activation Trigger Considerations

*** This is currently in draft, awaiting finalised copy from EMP ***

LANDSLIDE READINESS AND ACTIVATION TRIGGER CONSIDERATIONS - V3.3 - March 2018

Readiness Level	RL 1- LOW TO MODERATE	RL 2 - HIGH	RL 3 - Very High (A)	RL 3 - VERY HIGH (B)	RL 4 - SEVERE	RL 5 - EXTREME
Category/Scale	S6	S5	S4	S3	S2	S1
FDI	0 - 11	12 - 24	25 - 34*	35 - 49*	50 - 74	75 - 99
	THUNDERSTORM FORECAST CHART [TFC] issued daily			SEVERE WEATHER INTELLIGENCE BRIEFING [SWIB] issued TUE & FRI		
Landscape Observation	<p>Trees leaning on an angle</p> <p>Hand size rocks falling on road, small cracks in roadways</p> <p>Less than 1m wide sinkhole</p> <p>Sinkhole data is lost in here</p> <p><i>S6 may have little or no impacts on the community and not require specific warnings to be provided except through relevant agency channels (e.g. VicRoads)</i></p>			<p>Potential or observed land movement that will impact community</p> <p>Isolated or impact to dwellings Is this correct wording</p> <p>Rock and/or debris on road closing the road for up to 6 hours, cracks in roadways that require traffic management</p> <p>Sink hole that is over 3m wide and increasing, debris flow in creeks</p>	<p>Potential or observed land movement with direct community impact including people trapped</p> <p>Significant rock and/or debris on road closing the road for greater than 24 hours, road damage that requires road closure</p> <p>Sink hole that is over 7m wide and increasing, multiple debris flows impacting community</p>	<p>Potential or observed land movement with direct community impact in multiple locations and possible multiple trapped people</p> <p>Rock and/or debris on road closing the road for greater than 72 hours, road damage that requires road rebuilding</p> <p>Sink hole that is consuming infrastructure</p>

					ties	and increasing, multiple debris flows impacting communities
Approximate Size And/Or	Wheelbarrow < 2 Tonnes 1m (L) x 3m (W) x 0.3m (L)	Small Car 2 to 20 Tonnes 2m (L) x 4m (W) x 1.2m (L)	Semi Trailer Truck 20 to 200 Tonnes 5m (L) x 10m (W) x 2m (D)	House 200 to 2000 Tonnes 10m (L) x 25m (W) x 4m (D)	Country Football Oval 2,000 to 20,000 Tonnes 25m (L) x 60m (W) x 7m (D)	Large Stadium (eg. MCG) >20,000 tonnes 50m (L) x 100m (W) x 10m (D)
Susceptibility with Weather Areas identified as known risks are: Grampians Halls Gap Otway National Park Great Ocean Road Wye River Great Alpine Road Great Alpine National Park Snowy River National Park Dandenong Ranges, Frankston			SWW - Heavy Rainfall leading to flash and/or riverine flooding across Districts considered 'Likely'. Significant chance of Thunderstorms and hail likely. Chance of flash flooding likely. Predicted rainfall over 50mm of rain in an hour. Catchment areas identified saturated, with little initial losses.	SWW - Heavy Rainfall leading to flash and/or riverine flooding across Districts considered 'Very Likely' Significant chance of Thunderstorms and hail likely. Chance of Flash flooding likely. Predicted rainfall of up to 80mm of rain in an hour. Catchment areas already identified as	SWW - Heavy Rainfall leading to flash and/or riverine flooding across Districts considered 'Very Likely' Significant chance of Thunderstorms and hail likely. Predicted rainfall of up to 150mm of rain in 6 hours. Catchment areas already identified at capacity, unable to retain further	SWW - Heavy Rainfall leading to flash and/or riverine flooding across Districts considered 'Very Likely' Potential Dangerous thunderstorm warnings issued. Thunderstorms and hail certain. Predicted rainfall above 200mm of rain in 6 hours. Catchment areas already identified at capacity,

				<p>saturate d with little initial losses.</p> <p>Particula r interest should be taken in recent fire damaged areas.</p>	<p>moisture .</p> <p>Particula r interest should be taken in recent fire damaged and known mapped landslide risk areas.</p>	<p>unable to retain further moisture .</p> <p>Particula r interest should be taken in recent fire damaged and known mapped landslide risk areas.</p>
	VICSES - Business As Usual Operations			JSOP 2.03 LINE OF CONTROL		
Readiness (State)	SCC Level White	SCC Level White	SCC Level White/Blue	SCC Level BLUE or When ICC activated	SCC Level ORANGE Multiple ICCs activated or multi region	SCC Level RED Multiple ICCs activated or multi region
	SAC and SDO (monitor)	SAC and SDO (monitor)	SAC and SDO (actively monitoring)	SDO and SAC In Place	SDO and SAC In Place Consider Day/Night	SDO and SAC In Place Day and Night
Readiness & Activation (Regional)	RDO (monitor)	RAC (monitor)	Regional Command IN PLACE	RCC OPEN: with BASE RCT in place	RCC OPEN: RCT in place, some agencies available on immediate recall	RCC OPEN: Full RCT/ most REMT In Place
	RAC (aware)	RAC (aware)	RAC/RDO attends Regional Office	RC, RAC, RDO at RCC	RC, RAC and RDO In Place at RCC	RCT, RAC and RDO In Place at RCC
Readiness and Activation (Incident)	RDO (monitor)	RDO (monitor)	RDO - RAC IN PLACE Resource Officer (Stby) Management Support (Stby)	BASE IMT (In Place)	CORE IMT (In Place)	FULL IMT (In Place)

Impact	Potential Consequences		
People	Some minor inconvenience around local roads.	Increased number of roads being impacted, traffic management plan likely to be in place. May require formal landslide warnings to be issued. Potential individual properties relocation and evacuations. Inconvenience to normal transport routes, delays on road network could be expected, school bus routes may require change. Local Regional / State and National Parks may be closed for short periods.	Significant number of roads impacted traffic management plan is required, some major roads closed for extended periods. Formal landslide warnings issued, evacuations likely to be undertaken, potential prolonged relocations. Local, Regional / State and National Parks closed for a number of days. Disruption to communities daily routines, increased traffic, schools closed, community requiring support to remain functioning. Injuries and potential for deaths due to landslides.
Remote communities	May have minor local inconvenience only	Some isolation and loss of utilities of individual properties or remote communities are likely. May require additional support to maintain community routine, including consideration for groceries, medication etc.	Community isolation and loss of food/ medical supplies potential with resupply requirements dependant on time of power or access outages. Ongoing requirement to assist isolated communities for extended periods, may require additional support services to be deployed to areas.
Health	Little impact expected some local issues might be encountered but managed locally within own facility Plan	Consideration for review and familiarisation with facility Plan - VICPOL and DHHS to review Vulnerable persons list, potential to engage community networks to ensure additional vulnerable people support.	Likely vulnerable people impacted require relocation. Communities without utilities for days needing support. Hospitals and nursing homes may require additional management for increased patient care.
Power	Possible power disruptions	Likely short term power disruptions	Power disruptions almost guaranteed likely with potential long term outages in affected areas. Will require management for short term solutions.
Water utilities	Little impact expected some local issues might be encountered but managed locally.	Increased potential for infrastructure damage and disruption but still managed locally. Sewerage and potable water may be affected. May take days to restore connections. Silt and drinking water quality concerns.	Likely that some infrastructure will be impacted, water authorities should develop or initiate their plans to address issues. Significant potential for pollutants including sewerage in water and loss of power will exasperate the impacts.
Telecommunications	Unlikely to impact network but may have some local damage	Potential impact for communities, isolation from communications networks. May take days to restore connections.	Significant impact with loss of landlines and mobile towers which will affect people's capacity to receive warnings and information. Commercial/Business impacts with loss of phone services. NBN impacts with loss of power and data. Potential for infrastructure

			damage for cable/ fibre.
Gas	Little impact expected some local issues might be encountered but managed locally.	Increased potential for infrastructure damage and disruption but still managed locally. Sewerage and potable water may be affected. May take days to restore supplies	Likely that some infrastructure will be impacted, supply authorities should develop or initiate their plans to address issues. Significant potential longer term supply restrictions.
Road Network	Unlikely to impact network but may have some local road damage/ impacts	Some minor roads may be impacted with possible disruption to critical needs supplies such as milk and transport routes. Roads could be closed up to 2 hours with mitigation works required.	Likely for roads to be cut and egress and access impacted. Major roads potentially cut in some locations traffic diversions in place for extended periods. Infrastructure such as bridges destroyed. Potential rescue of trapped persons in vehicles highly likely. Expected impact on rail routes. Economic impact likely with loss of power and utilities supply for lengthy period.
Public Transport	Limited impact on public transport routes	Impact to public transport routes may occur with diversions possible and some delays experienced	Public transport impacts will occur with roads and rail lines cut and no alternative route available - significant disruption to people movement likely in affected areas.
Critical infrastructure	Nil impact	Requires preparatory work and discussion with owner of infrastructure, potential for damage to infrastructure	Significant work likely to be required to protect critical infrastructure - Contingency plans put in place if loss of the infrastructure occurs.
Public Infrastructure /Essential Community Infrastructure	limited impact	Some disruption to community areas and infrastructure - Potential damage of essential community infrastructure	Significant damage to community infrastructure and community facilities. Long term closure of essential community facilities likely.
Education	Unlikely impact	Some impact expected traffic management plan for school buses should be considered.	Some school and preschools may be impacted by utilities loss and damage to infrastructure and school bus routes closed for period of time in affected areas.
Public Events	Unlikely to impact	Some public events may need to be cancelled or rescheduled due to safety of patrons either whilst at event or travelling to or from.	Public events impacted likely cancellation of major events due to damage and risk, and potential direct impact on venue or ability to attend or leave event.
Tourism	Unlikely that event will be impacted but consideration must be given to any event occurring to ensure it is safe to continue.	Potential impact on tourist locations if area not safe to visit or isolated due to road closures and landslide impact areas. Economic impacts due to isolated areas from road closures/ transport etc.	May impact on high value tourist locations and facilities with long term impacts in the social and economic environment of communities.

Agriculture/Animal welfare	No impact likely with landowners managing any localised issues.	Potential impact with losses to live stock, fencing and crops including high intensive farming of produce and tree farms	Substantial impact to crops, including high intensive produce farming (vegetables and fruit) and tree farms with short and long term impacts due to loss of crops. Economic impact to area. Social impact to area.
Environmental	Minimal impact	Stream erosion and loss of vegetation around watercourses potential. Minor tree damage, vegetation displacement and local parks infrastructure damage, silt and water quality concerns. Potential for new river or creek flow paths to develop - change in flood risk.	Stream erosion and loss of vegetation around watercourses expected. Tree damage, vegetation displacement and local parks infrastructure damage, silt and water quality concerns. Potential for new river or creek flow paths to develop - change in flood risk.
Cultural Heritage	Minimal impact likely	Some disturbance or damage along watercourses and sacred areas may occur. Potential for destruction of cultural heritage sites.	Potential for impact on historical structures and features. Damage along watercourses and sacred areas may occur. Likely destruction of cultural heritage sites.
Relief and Recovery	Relief and recovery activity unlikely may be some local issues.	Increased potential for relief and recovery activity but likely to be managed locally by LGA with support of DHHS	Formal arrangements put in place for relief and recovery activity Regional Recovery Commander appointed. Health Commander in place and demands on relief and recovery to be substantial and potentially long term. Requirement for transition to recovery to be implemented.

VICSES Regional Agency Commander advises the Regional Controller to vary the actual number, distribution and level of IMT required.