



# Little Blue Lake Risk Management Plan

<b>Assessment Number</b>	A1474
<b>Valuation Number</b>	7303636008
<b>Title Reference/s</b>	CR 5661/104
<b>Location</b>	338 Mount Salt Road
<b>Suburb</b>	Mount Schank
<b>Common Name</b>	Little Blue Lake
<b>Owner</b>	The Crown
<b>Status</b>	CL084 Community Land
<b>File</b>	18.75.1/2

## 1. Land

The Little Blue Lake is a natural sink hole located 20 kilometres south of Mount Gambier on Mount Salt Road in the District Council of Grant. The reserve is under the ownership of the Crown and was declared and dedicated for the purposes of a Public Pleasure Resort and placed under the Care, Control and Management of the District Council of Grant in 1986.

The objectives for the management of the land are to provide a public recreation facility for the community, a tourism attraction and to provide a safe environment for the community and visitors to the area.



## 2. Land Uses

The Little Blue Lake is a popular swimming spot for local residents and visitors, is a tourism attraction, and is popular with visiting divers.

### 1. **Swimming**

On warm days the lake is a very popular place for swimming, particularly with young people.

Unfortunately, the practice of jumping or diving into the water from the edge of the steep cliffs has been a popular past time over the known lifetime of the lake. This is a dangerous practice with the usual risks of deep water, high diving, as well as the risk of slips, hitting rocks on the edges of lake and in the water, risk of fall onto pontoon, and a risk to persons swimming. Signs prohibiting this practice are in place. The signage is monitored by Council Officers.

A stepped walkway has been constructed down the slope to the water's edge to assist swimmers to the lake, and the floating pontoon enables safer entry and egress to the water.

A carpark has been constructed on the same side of the road as the Little Blue Lake, and 'No Standing' signs placed on the roadside.

Signage has been erected to provide advice to swimmers of the prohibition of diving / jumping from cliffs and that blue/green algae may be present. Signage advising of deep water will be installed.

## **2. Tourism**

The Little Blue Lake is a popular tourist destination and is an example of a geological cenote (water filled sinkhole). It is approximately 45 metres deep.

A stepped walkway has been constructed down the side of the cliff to the water's edge and to a floating pontoon in the lake to enable tourist to view the lake safely. The cliff edge of the lake has been fenced.

A carpark has been constructed on the same side of the road as the Little Blue Lake, and 'No Standing' signs placed on the roadside.

## **3. Diving**

The Little Blue Lake is a popular location for diving by Cave Divers. The provision of steps enable the divers to carry their equipment to the edge of the lake with greater ease and the pontoon enables safer entry and egress.

Following a series of diving fatalities in water filled caves and sinkholes in the Mount Gambier region between 1969 and 1973, a Coronial Enquiry made a number of recommendations to improve the safety of the cave diving sport. As a result of that inquest, the Cave Diving Association of Australia (CDAA) was formed. The CDAA devised a rating system that divided these sites into three levels of difficulty. Over the subsequent years, the CDAA continued to refine its management, re-classifying all dive sites based on the cave profile and diver risk levels, and introduced a formal training and qualification system based on the new site categories. Today, the CDAA continues to develop its training and qualifications, ensuring currency to new equipment, techniques, medical knowledge and the legal environment.

The Little Blue Lake is classified as a Sinkhole, and the CDAA Regulations require a diver to hold a classification level of Deep Cavern for diving the Little Blue Lake. Little Blue Lake consists of both overhead and non-overhead environments, with significant suspended matter in the water, limiting visibility to divers. This visibility can be reduced to near zero, depending on the depth, algae growth levels and silt suspension.

In order to manage the cave diving activities on this site, the District Council of Grant requires divers to obtain a Diving Permit. This permit is available through the Cave Diving Association of Australia (CDAA) website and requires divers to be members of the CDAA and to be qualified as Deep Cavern Divers.

A carpark has been constructed on the same side of the road as the Little Blue Lake, and 'No Standing' signs placed on the roadside.

### 3. Monitoring

1. Signage in place is to be inspected each week for the summer period 1st December to 30th April or as seasonal conditions require, and once per fortnight for the winter period 1st May to 30th November.
2. Inspection of signage is to be documented (and registered) by Rangers on *Form GI014* 'Little Blue Lake Inspection'. Other Correspondent shall be Risk Manager/Officer.
3. Where there is damage or loss of sign/s the Ranger to place order for repair/replacement of sign/s. Ranger to record the damage and rectification on the *Form GI014* and registered.
4. In the event that any persons are seen to be disregarding the signage at the time of the inspection, the authorised officer is to approach such person/s and inform the person/s of the site restrictions. Penalties may apply. Details to be documented on *Form GI014* and registered.
5. The levels of blue/green algae in the lake are monitored regularly by Council Officers. Inspections for algal blooms are made monthly from November through till March/or as seasonal conditions require and testing is done if algal blooms are found to be present. Throughout the rest of the year tests are not generally required due to weather conditions. Inspections shall be recorded on *Form GI014* and registered.

<b>Action</b>	<b>Date</b>	<b>Minute Reference</b>
<i>Reviewed</i>	<i>19<sup>th</sup> March 2013</i>	<i>N/A</i>
<i>Adopted by Management team</i>	<i>28<sup>th</sup> September 2015</i>	<i>N/A</i>



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Last Updated:	12 December 2013
Form Ownership:	Manager Organisational Development
Relevant Policy/Act:	Hazard Management Policy

In accordance the Work Health and Safety Regulations 2012, a Person conducting a business or undertaking (PCBU) must:

1. Identify Hazards
2. Manage the risks to health and safety
  - a. Eliminate risks to health and safety so far as is reasonably practicable; and
  - b. If it is not reasonably practicable to eliminate risks to health and safety – minimise those risks so far as is reasonable practicable
3. Apply the Hierarchy of control measures, if it is not reasonably practicable to eliminate the risks to health and safety.
4. Maintain the control measures
5. Review the control measures

## Specific Legislation Requirements

In addition to general hazard management principles of Identify, Assess, Control and Review there are **specific legislative** requirements outlined in the WHS Regulations for the following:

Hazardous Manual Tasks	Please complete Hazardous Manual Task Worksheet FORM WHS042 and attach to the Task Risk Assessment.
Confined Spaces	WHSPR7.1 Confined Spaces Management Procedure, Confined Space Risk Assessment must be undertaken prior to entry and in conjunction with Entry Permits.
Remote and Isolated Works	Is there an effective Communication Strategy in place? Are there specific emergency processes in place?
Noise	THIS SECTION IS UNDER CONSTRUCTION Please see WHS Coordinator for further information
Risk of Fall	
Hazardous Work	

A Task Risk Assessment form should be completed in consultation with the worker (s) or others who will undertake the work. All those involved in the work should be advised of any requirements which are identified during the analysis.

Any controls requiring action will be placed on Council's Corrective and Preventative Actions Register (CAPA) and allocated to the identified Responsible Officer.

## Instructions for Use

- Step 1** Complete the **Assessment Summary**
- Step 2** Check for **specific Legislation Requirements in relation to the activity**
- Step 2** Break down the work to be done into steps, and then enter the steps into the column.
- Step 3** List all **potential hazards** associated with each step, this is the most important part, as an overlooked hazard may be the one which results in an accident or injury.
- Step 4** Assess the Hazard to determine the **Risk Level** without any controls in place using the **Risk Assessment Matrix**.  
  
Consequence x Likelihood = Risk Rating  
  
Moderate (3) x Unlikely (d) = **M (D3)**
- Step 5** Using the **Hierarchy of Controls** – identify “**existing controls**” and any “**additional controls**” required to effectively manage the hazard. If the hazard is insignificant identify it and state, “no control measure needed.”
- Step 6** **Re-assess the Hazard** to determine the Risk Level with the controls in place using the **Risk Assessment Matrix**.
- Step 7** Indicate who is responsible for actioning additional controls and the timeframe for action.
- Step 8** Include a **date** for the **verification of control measures**. Verification will assist in identifying that no further hazards have been introduced.

The Verification of Control measures will be undertaken by the Department Manager in consultation with employees undertaking the task.

**The completed Risk Assessment must be forwarded to WHS Coordinator.**



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## Step 1- Assessment Summary

<b>Job Title:</b>	Little Blue Lake	<b>Date:</b>	16 <sup>th</sup> September 2015
<b>Responsible Department:</b>		<b>Responsible Manager:</b>	
<b>Description of Activity:</b>	Scuba diving in Little Blue Lake, swimming and tourism		
<b>Site Location</b>	The Little Blue Lake is a natural sink hole located 20 kilometres south of Mount Gambier on Mount Salt Road, in the District Council of Grant.		
<b>Background</b>	<p>Following a series of diving fatalities in water filled caves and sinkholes in the Mount Gambier region between 1969 and 1973, a Coronial Enquiry made a number of recommendations to improve the safety of the cave diving sport. As a result of that inquest, the <b>Cave Diving Association of Australia (CDAA)</b> was formed. The CDAA devised a rating system that divided these sites into three levels of difficulty. Over subsequent years, the CDAA continued to refine its management, re-classifying all dive sites based on the cave profile and diver risk levels, and introduced a formal training and qualification system based on the new site categories.</p> <p>The Little Blue Lake is classified as a Sinkhole, and the CDAA Regulations require a classification level of Deep Cavern for diving the Little Blue Lake.</p>		
<b>References:</b>	Risk Management Plan, Little Blue Lake CDAA Regulations CDAA Constitution		

Name	Position
Marianne Tucker	Manager Organisational Development ( <i>Risk and Human Resources</i> )
Nicole Dodds	Environmental Health Manager
Adrian Schutz	Works Manager
Dale Miller	Community Ranger



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## TOOLS

### Risk Assessment Matrix

Likelihood			Consequence		
Level	Descriptor	Description	Level	Descriptor	Description
A	Almost Certain	Is expected to occur in most circumstances	1	Insignificant	No injuries, low financial loss
B	Likely	Will probably occur in most circumstances	2	Minor	First aid treatment, on-site release immediately contained, medium financial loss
C	Possible	Might occur at some time	3	Moderate	Medical treatment required, on site release contained with outside assistance, high financial loss
D	Unlikely	Could occur at some time	4	Major	Extensive injuries, loss of production capability, off site release with no detrimental effects, major financial loss
E	Rare	May occur only in exceptional circumstance	5	Catastrophic	Death, toxic release off-site with detrimental effect, huge financial loss

### Hierarchy of Controls

- |                          |   |
|--------------------------|---|
| <b>1. Eliminate</b>      | Remove the hazard                           |
| <b>2. Substitute</b>     | Substitute the hazard                       |
| <b>3. Isolate</b>        | Use guards or barriers                      |
| <b>4. Engineer</b>       | Redesign                                    |
| <b>5. Administrative</b> | Training, information, Safe Work Procedures |
| <b>6. PPE</b>            | Gloves, Goggles, etc                        |

### Risk Assessment

Likelihood	Consequence				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (possible)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

**ALARP:** As Low as Reasonably Practicable

**E: Extreme risk:** Operation of item or activity should not be allowed to continue until the risk level has been reduced. Will commonly be an unacceptable level of risk. May include both short term and long term control measures.

**H: High risk:** Reduce the risk rating ALARP (if possible). Should only be an acceptable level of risk for "Major: or Catastrophic" consequences.

**M: Moderate risk:** Reduce the risk rating ALARP (if possible). May be an acceptable level of risk.

**L: Low risk:** Reduce the risk rating ALARP (if possible). Commonly is an acceptable level of Risk.



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Step 2		Step 3	Step 4	Step 5			Step 6	Step 7		Step 8
Basic Job Steps		Potential Hazards	Risk Level	Recommended Control <i>What could be done to eliminate or minimise the hazards?</i>			New risk level	Responsible		Verify
<i>Break the job down into Major Task steps.</i>		<i>Identify any hazards associated with each step.</i>	<i>Initial</i>	<i>Hierarchy of Controls</i>	<i>Existing Control</i>	<i>Additional Controls</i>	<i>With controls in place</i>	<i>Who is responsible to action this control?</i>	<i>By when</i>	<i>Date for Verification</i>
Cave Diving by Members of Public		Loss of life through drowning	E(B5)	Eliminate Substitute Isolate Engineer <b>Administration</b> PPE	CDAA rating is Sinkhole: Training Certification Level required is <b>Deep Cavern</b> .  <b>Refer CDAA Regulations Manual for controls.</b>	Erect sign at Little Blue advising divers of CDAA rating and requirements to obtain a permit to dive.	E(C5)	MOD	15/10/15	
					Permit system	Replace existing hard copy permit system with permit system through the CDAA website.	E(C5)	MOD/CDAA	15/10/15	
					CDAA Website	Place reference to requirements for diving Little Blue Lake on Council website with link to CDAA site.	E(C5)	MOD	15/10/15	



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				Little Blue Lake Management Plan	Review Plan and submit to Management Team for approval		MOD	30/11/15	
	Pedestrian collision with vehicle	<b>E(C4)</b>	Eliminate Substitute Isolate <b>Engineer</b> Administration PPE	Carpark constructed to provide parking on same side of road as the Little Blue.	Nil	<b>H(E4)</b>			
Swimming by Members of the Public	Being jumped on from persons jumping from cliffs	<b>E(A3)</b>	Eliminate Substitute Isolate Engineer <b>Administration</b> PPE	Signage advising that jumping/diving from cliffs is prohibited.	Nil	<b>H(C3)</b>			
	Slips, trips and falls	<b>H(C3)</b>	Eliminate Substitute Isolate <b>Engineer</b> Administration PPE	Aluminium steps and platform in place.	Nil	<b>M(D3)</b>			
	Signage being removed	<b>E(A3)</b>	Eliminate Substitute Isolate Engineer <b>Administration</b> PPE	Signage monitored by Council Rangers.	Nil	<b>H(C3)</b>	MOD	15/10/15	



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	Fatality by drowning	<b>H(D4)</b>	Eliminate Substitute Isolate Engineer <b>Administration</b> PPE	May arise due to unknown factors.	Signage to advise deep water.	<b>H(D4)</b>	MOD		
	Health – blue/green algae	<b>H(C3)</b>	Eliminate Substitute Isolate Engineer <b>Administration</b> PPE	Monitoring of water for algal blooms  Signs erected if blooms occur	Nil	<b>M(D3)</b>			
Jumping from cliffs into water	Slips, trips and falls	<b>E(B4)</b>	Eliminate Substitute Isolate Engineer <b>Administration</b> PPE	This practice is prohibited.  Erect signage.  Monitor signage.	Nil	<b>E(C4)</b>			
	Spinal injury, drowning	<b>E(C4)</b>	Eliminate Substitute Isolate Engineer <b>Administration</b> PPE	This practice is prohibited.  Erect signage.  Monitor signage.		<b>E(C4)</b>			
Viewing of site by tourists from cliff edge and road.	Trips, slips and falls	<b>H(C3)</b>	Eliminate Substitute Isolate <b>Engineer</b> Administration PPE	Aluminium steps and platform in place.  Cliffs fenced.	Nil	<b>M(D3)</b>			



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		Pedestrian collision with vehicle	<b>E(C4)</b>	Eliminate Substitute Isolate <b>Engineer</b> Administration PPE	Carpark constructed to provide parking on same side of road as the Lake.	Nil	<b>H(E4)</b>				
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