

**PERISHER BLUE SKI RESORT  
AUTOMATION OF LOWER ROLLER COASTER RUN  
SNOWMAKING SYSTEM**

**DEVELOPMENT APPLICATION  
No. DA 036-08-2011  
SUPPLEMENTARY REPORT**

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Prepared on behalf of  
Perisher Blue Pty Ltd  
for the  
Department of Planning

February 2012

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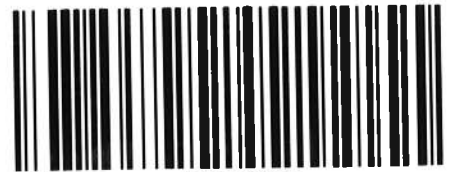
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## 1. INTRODUCTION

Perisher Blue Pty Limited has previously proposed to upgrade the snowmaking system on Lower Roller Coaster Run at Blue Cow by replacing thirteen existing snow making hydrants with automatically controlled snow guns and associated service lines. In addition, data and communications cabling would be extended to service an existing fan gun located towards the lower end of the run (Ref. 1).

The installation of the upgraded system was planned to take place in summer 2011-12. Development approval has been obtained for the proposal (DA 036-08-2011) and works have commenced. The main trenching works and the laying of services have been completed.

Planning for the proposed works as outlined in the statement of environmental effects (SEE, Ref. 1) was undertaken during the 2010-11 summer season. During a winter inspection in 2011 of Lower Roller Coaster Run, it was determined that a minor alteration to the location of one of the proposed snowmaking guns and the removal of a small clump of snow gums would further improve the efficiency of snow making operations in the local area, as well as improve the safety for skiers and snowboarders using Lower Roller Coaster Run. These actions constitute a minor variation to the project as described in the previous SEE (Ref. 1).

The purpose of this supplementary report is to describe the changes to the project as now proposed and to identify any differences in the environmental evaluation as previously documented. This supplementary report should be read in conjunction with the previous SEE (Ref. 1).

## **2. VARIATIONS TO THE PROPOSED WORKS**

### **2.1 General**

The previous SEE (Ref. 1) indicates that the snowmaking pit, P13, was proposed to replace an existing hydrant and to be located slightly down slope from the current position of the hydrant (see Figure 2.1a). The slightly altered location was to allow the replacement lance gun to operate without interference from a nearby snow gum and overhanging branches.

Services to P13 were to be supplied from two directions as follows:

- current supply of air and water services to the existing hydrant from a lateral line located to the south would be sufficient to service the replacement lance gun; and
- electricity and data/ communications services would be supplied via a lateral line from services located in a lateral trench constructed between P12 and P13, to the north-west of the existing hydrant.

The lateral trench from P12 to P13 was approved (DA 036-08-2011) to continue to an existing fan gun located further down slope and to the east, to enable the completion of a data circuit.

The variations to the proposed works, shown in Figure 2.1b, are:

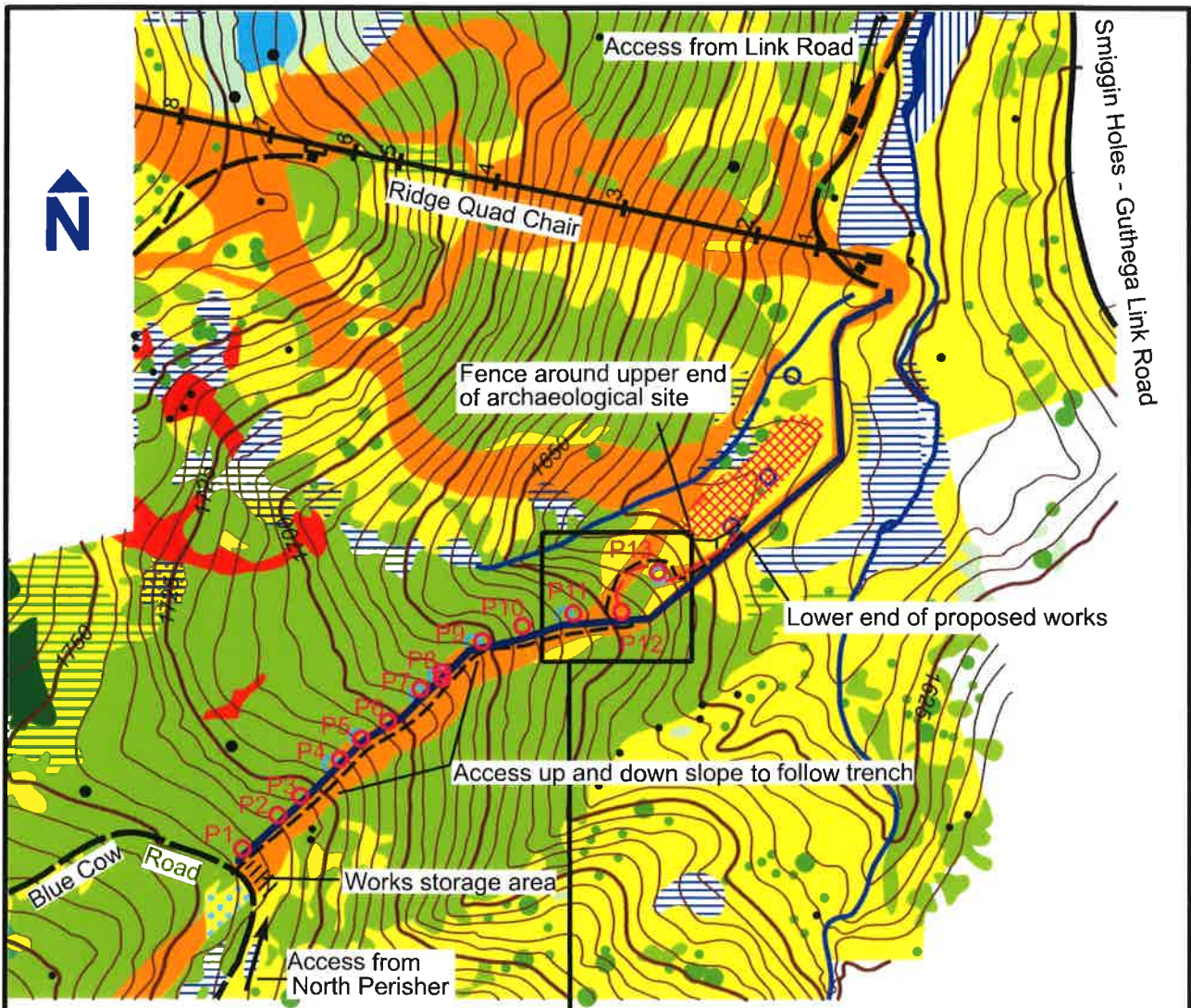
- an alteration of the proposed location of P13; and
- the removal of a small clump of mostly regenerating snow gums.

### **2.2 Proposed Variation to Location of P13**

The proposed variation to the approved development application (DA 036-08-2011) would locate P13 approximately 18 metres to the south-west and upslope from the existing hydrant. Snowmaking from a more elevated position would increase the time taken for the made snow to fall to the ground, thereby providing more time for the snow to freeze and dry out. The result is an increase in snow cover and a drier product, which provides a better surface for skiing and snowboarders. Overall, the increase in elevation would improve the efficiency of snowmaking operations in the localised area.

The new proposed position for the snowmaking gun would result in secondary changes to the project in the following ways:

- The removal of additional woodland understorey/ dry heath vegetation to allow for the installation of the pit (P13). While there is some regenerating heath in the approved location of P13, the new footprint will require the removal of vegetation within a less disturbed area. The new location would require the excavation of a 2 metre square hole and the consequential removal of all vegetation in that area.



- Existing snowmaking line
- Existing hydrant to be replaced
- Approved location for snow gun pit
- Approved lateral trench
- Access route on ski slope



SCALE 1:5000

Figure 2.1a Approved works

See Figure 3.1 in Ref. 1 for legend details

All lines are indicative only

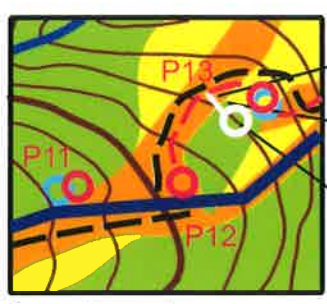


Figure 2.1b Proposed variation

- A new lateral trench to provide services to P13 from the approved lateral line. The new trench would be about 14.5 metres in length and would require the removal of additional woodland understorey/ dry heath vegetation.

The disturbance corridor resulting from the construction of the proposed new lateral trench would be the same as that described in Section 4.2.4 of the SEE (Ref. 1), i.e. restricted to a maximum of 3.5 metres in width. The trench would be excavated to a depth of about 600 mm and a width of 350 mm, and would be about 14.5 metres in length.

The proposed new locations for P13 and the lateral trench are shown in Plate 1 and Plate 2, and are indicated in Figure 2.1b. The location of the proposed trench is indicated with a dashed black line in Plate 1, while the centre of the proposed pit is marked by the post visible in both photographs.



*Plate 1.* Looking along the lateral trench route from P13.



Plate 2. The proposed site of P13.

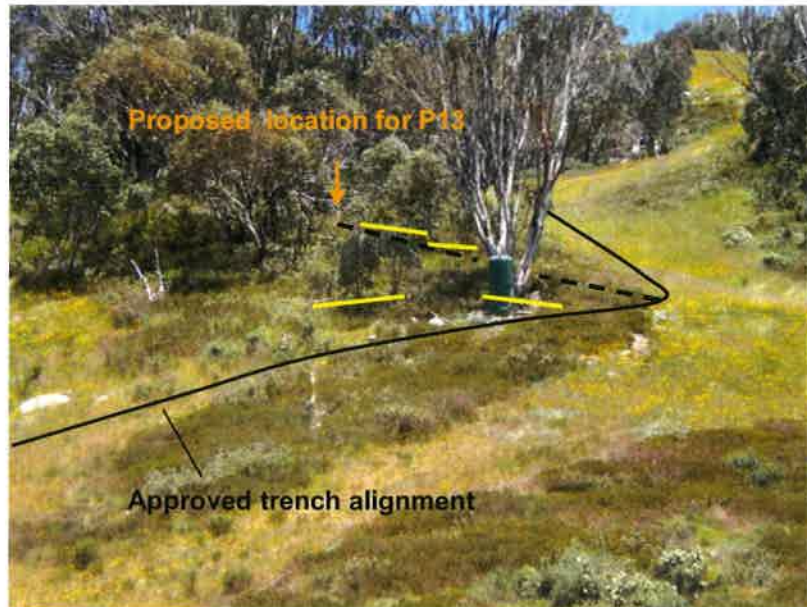
The vegetation along the proposed new trench alignment comprises woodland understorey containing *Poa* sp., *Helichrysum scorpioides*, *Hovea montana*, *Ozothamnus secundiflorus*, *Olearia phlogopappa* var. *flavescens* and *Senecio gunnii*, although about one to two metres of the end of the proposed lateral trench alignment located closest to the ski run contains disturbed vegetation (Chewings fescue). Similar woodland understorey vegetation is located at the proposed site for P13.

### 2.3 Proposed Removal of Trees

The repositioning of the P13 would require the removal of a small clump of snow gums in order for the snow gun to operate efficiently. This clump consists of:

- one mature snow gum;
- approximately eight regenerating/ juvenile snow gums;
- one dead snow gum trunk without hollows; and
- a small number of overhanging branches.

The trees and branches to be removed are shown in Plates 1 and 3, and are indicated with a yellow line. The shrubs and understorey grasses and forbs, other than that proposed for removal to construct the proposed lateral trench and pit, and that approved for removal in DA 036-08-2011, would be retained.



*Plate 3.* A view of the area of the proposed works, taken from below the site. The proposed trench route is indicated by a dashed black line. The approved trench has been constructed.

## 2.4 Other Changes

The construction program is now amended so that the works would be undertaken during the late summer – to early autumn 2012. The construction program is likely to extend over 3 days, depending on weather conditions.

There would be no other changes to the proposed works or the SEMP as outlined in the SEE (Ref. 1) and approved in the development application (DA 036-08-2011).





### 3. ENVIRONMENTAL EVALUATION

#### 3.1 Overview

The environmental scoping assessment presented in Chapter 5 of the SEE is not altered by the variation to the proposal. These variations would not significantly alter the evaluations in Chapter 6 of the SEE with respect to:

- Impact on threatened species and ecological communities (Section 6.2).
- Archaeological sensitivity (Section 6.3).
- Implications of increased snow deposition (Section 6.5).
- Potential visual impacts of the new snow guns compared with the existing hydrants and covers (Section 6.6).
- Potential noise impacts compared with existing snow guns (Section 6.8).
- Enhanced recreational uses for visitors to the resort (Section 6.10).
- Construction impacts (Section 6.11, Section 4.5)

Although not significant, the impacts of the proposed variation to DA 036-08-2011 would result in minor changes to the evaluations in Chapter 6 of the SEE with respect to:

- General physical and ecological impacts (Section 6.1).
- Geotechnical considerations (Section 6.4).
- Safety considerations (Section 6.7).
- Operational benefits for the resort (Chapter 2, Section 6.9).

#### 3.2 General Physical and Ecological Impacts

The proposed variations would result in the removal of an additional approximately 4 m<sup>2</sup> of woodland understorey vegetation for the construction of the proposed lateral trench and about 2 m<sup>2</sup> for the excavation of the pit. One snow gum, a dead tree trunk, a small number of regenerating snow gums and branches would also be removed. The total amount of additional vegetation affected by the variation is not significant when considered in the context of the surrounding vegetation, which would remain undisturbed by the proposed works.

Any soil excavated from the proposed trenching would be backfilled, with the topsoil replaced in the upper layer. The native seed bank in the topsoil would promote native regeneration. A mixture of *Poa* and Chewings fescue seed would be used in the short-term rehabilitation process in the areas where there has been less previous disturbance and the understorey vegetation is more intact.

Overall, the additional general physical and ecological impacts resulting from the proposed variation would be minor.

### **3.3 Geotechnical Considerations**

A geotechnical assessment of the alignment for the new trench has been undertaken and is provided in Appendix 1. The results of that assessment indicate that the proposed trenching works would constitute minimal or no geotechnical impact on the site, provided the recommendations as provided in the report are followed.

### **3.4 Safety Considerations**

Lower Roller Coaster Run is categorised as a blue run, suitable for intermediate to advanced skiers and snowboarders. The run is popular and, because of the steepness of the slope, is often taken at relatively high speeds.

The original hydrant is located next to a snow gum growing at the edge of a remnant woodland patch that extends into the cleared run (see Plate 3). The tree is surrounded by small regenerating saplings with an understorey of dry heath vegetation. The proposed relocation of the snow gun further into the woodland remnant would remove the existing hydrant as a potential obstacle and allow for the removal of the snow gum and associated vegetation as described above. This would widen the space available to skiers and snowboarders in the immediate vicinity and improve the overall safety of skiers and snowboarders using the area by removing potential obstacles and reducing the risk of collisions.

The removal of potential obstacles would reduce risks to Perisher staff and snowgrooming equipment when snowgrooming is undertaken on the nearby slope. Overall, the proposed variations would result in positive safety outcomes within the immediate area.

### **3.5 Operational Benefits for the Resort**

The widened ski slope area would also improve snow groomer access to the made snow and improve the capacity of snow groomers to distribute the snow in the local area. This would be an operational benefit, albeit to a minor extent.

#### 4. CONCLUSIONS

The variations to the proposed works, which include a change in the location of P13 and the removal of a small number of snow gums, would not significantly change the environmental impacts of the proposal. The main effects would be of a relatively minor and localised benefit and include:

- improved safety outcomes to visitors using the steep slopes on Lower Roller Coaster Run; and
- an improvement in the efficiency of snow making operations.

#### REFERENCES

1. Nash, K. and Hogg, D. McC. *Perisher Ski Resort automation of Lower Roller Coaster Run snowmaking system. Statement of Environmental Effects.* Prepared by David Hogg Pty Ltd on behalf of Perisher Blue Pty Limited for Department of Planning, July, 2011.

## APPENDIX A. GEOTECHNICAL ADVICE

**From:** Adrian Hulskamp [<mailto:ahulskamp@jkgroup.net.au>]

**Sent:** Tuesday, 24 January 2012 1:12 PM

**To:** Fearnside, Michael

**Subject:** 25463WH3 - The Relocation of Site 13 on Lower Rollecoaster Ski Run, Perisher Ski Resort, NSW

### **Jeffery and Katauskas Pty Ltd**

CONSULTING GEOTECHNICAL AND ENVIRONMENTAL ENGINEERS  
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Hello Michael,

#### **INTRODUCTION**

This email reports the results of a limited scope geotechnical assessment for the proposed 'Relocation of Site 13 on Lower Rollecoaster Ski Run' located at Perisher Blue Ski Resort, NSW. We understand from discussions on site with Mr Michael Fearnside of Perisher Blue Pty Ltd on 10 January 2012, that the proposed relocation of Site 13 will involve excavation of an approximate 15m long trench along an alternative alignment to the one which has been approved. For the purpose of this email report, we assume that the base of the trench will be no deeper than 1m and will have a maximum width of 0.5m.

We confirm that the undersigned inspected the site on 10 January 2012 to assess the topographic, surface drainage and geological conditions and its immediate environs. No subsurface investigations were carried out.

#### **RESULTS OF THE ASSESSMENT**

##### **Site Observations**

The site is located partway down a north-west facing hillside that slopes at about 15 degrees. Along the trench alignment the ground surface was covered with grass and alpine vegetation. Medium sized trees were located further upslope. A couple of granite boulders were visible at ground surface level about 5m to 10m on either side of the proposed trench alignment. There were no existing structures at or in the immediate vicinity of the site. The drainage conditions at the site were good and we did not observe any signs of potential slope instability.

#### **COMMENTS AND RECOMMENDATIONS**

Based on the assumed depth and width of the proposed trench, as noted above, and the proposed trench alignment, as shown to us on site by Mr Michael Fearnside, we consider that the proposed trench will constitute minimal or no geotechnical impact on the site, provided the recommendations below are followed.

- All excavation and construction work should be carried out during 'dry' weather and preferably well after a period of prolonged 'wet' weather. This will help to reduce the likelihood of the excavation sides collapsing as a result of the soils being softened.
- Due to the shallow depth of the proposed trench, the trench sides can be cut vertically, however, some instability to the sides may occur. We expect such potential instability would be acceptable, otherwise an allowance should be made to flatten the sides of the trench or for temporary formwork to support the cut sides. All workers

must stand well clear of the crest of the trench whilst open. All excavated spoil must be stockpiled well away from the trench, prior to backfilling.

- We assume that the specification and instructions for backfilling the trench excavation will be carried out by others. For stability, we assume the trench will be properly backfilled with compaction of the fill. Any subsequent backfill settlement should be 'topped up' to avoid ponding of surface water. At least the upper 0.3m of backfill should comprise clayey soil to reduce surface water infiltration into the trench.

Should you require further information, please do not hesitate to contact me.

Regards,  
For and on behalf of  
JEFFERY & KATAUSKAS PTY LTD

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Associate

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