

## LAND MANAGEMENT

### **SUSTAINABLE LAND**

#### **Farm Tracks for Pumice Terrace Lands**

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##### **Main Points**

- high intensity rain will seriously erode pumice tracks
- tracks needs to be designed to withstand high intensity rain
- all the water will run off compacted pumice and anything loose will be floated off
- Major gullying can occur.

**IN PUMICE COUNTRY A MILLIGRAM  
OF PREVENTION IS WORTH A  
TONNE OF CURE,**

##### **Regional Council Requirements**

At present the Regional Council does not require resource consents for tracks. But if the road or track needs to have a crossing over a stream or waterway with a catchment of more than 50ha, a resource consent may be required. Contact the consents staff at the Regional Council to discuss planning well before any construction starts.

##### **Grade**

Erosion is a significant problem on slopes of more than two degrees.

The crown of the track should be shaped to shed water sideways and tracks should be higher than surrounding ground otherwise

they turn into a watercourse during storms. Use soakage pits to take runoff.

##### **Width**

A minimum track width should be three metres plus extra needed for water tables.

##### **Watertables**

Where the track is above ground level on flat land, water tables should not be needed. However, block or dispersal points should be made every 60 metres to take the runoff away from the edges of the track. Water tables should be grassed.

##### **Culverts and soakpits**

Where the track is above ground level on flat land, culverts should not be needed. If water needs to be disposed of on the opposite side of the track, a culvert of at least 200mm diam. should be used every 60m.

It is essential that enough culverts, soakpits and cutouts are made to remove runoff safely when the track is formed. On pumice, the steeper the grade the more are needed. On a 1:20 slope (3 degrees) culverts and soakpits should be no more than 60m apart.

Culverts should discharge onto ridges or undisturbed ground and the outlets should be protected with fluming to prevent erosion.

Culverts should be large enough to cope with high levels of water during storms. A five year rainfall event can give 2.41tr a second of runoff, which is 85001tr an hour through culverts spaced every 60m. A 200mm diam culvert will carry this flow.

### ***Terraces***

A water table for a track going from one terrace to another is the same as a water-course, so it is important to have the track as short as possible. Intercept and safely dispose of all watertable runoff before the slope changes fully protect the water table surface with half-pipes, stepped structures or other permanent protection dispose of accumulated water safely at the bottom of the slope

### ***Revegetation***

Disturbed areas should be oversown and topdressed immediately. Pelleted and inoculated seed should be used if possible.

### **A suitable mix could be:**

Lotus Maku	30%
Annual ryegrass (eg Moata)	20%
Yorkshire fog (eg Massey Baysn)	20%
Cocksfoot	10%
White clover	10%
Subterranean clover	5%
Browntop	5%

A fertiliser application may also be needed, such as sulphate of ammonia, two applications at 125kg/ha; or superphosphate at 450kg/ha; or NPK 12. 10.1 Oat 500kg/ha. Where there is little or no topsoil, double or even triple these rates.

### ***Maintenance***

The track will need regular checks and maintenance, especially after storms.

### ***For further information***

For further information on erosion control, ask for the other titles in this series or contact Hawke's Bay Regional Council Land Management staff for advice.

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