

## 22 Earthworks

### 22.1 Purpose

The majority of earthworks are associated with subdivision and building development. The topography of the Queenstown Lakes District means that land modification through earthworks is typically associated with subdivision and development. Some modification of the natural landscape is inevitable in order to provide for development, including safe and stable building sites and access with a suitable gradient.

Earthworks can be significant and result in long term effects. Earthworks have the potential to alter landforms, landscapes, and natural features, and to have effects on heritage landscapes, to such an extent that the identity, amenity values and character of an area can be changed permanently.

During the construction phase earthworks can generate temporary effects, including visual effects, sediment run-off and erosion, dust, noise and vibration and traffic effects. On most sites these effects can be mitigated through putting in place appropriate environmental protection measures.

The District Plan seeks to encourage an integrated assessment of activities. In many instances the completed subdivision engineering works or building will remedy the effects of the earthworks.

The National Policy Statement for Freshwater Management (2014) sets out objectives and policies that direct local government to manage water in an integrated and sustainable way. This includes improved integrated management of fresh water and the use and development of land in whole catchments, including the interactions between fresh water, land and associated ecosystems.

The provisions of this section seek to be consistent with the Otago Regional Policy Statement and Regional Plans. Where the provisions refer

to aquifers, reference should be made to the Regional Plan : Water for Otago maps. Four main aquifers are noted - Hawea Basin, Wanaka Basin, Cardrona alluvial ribbon and Wakatipu Basin, and other lesser aquifers also need to be considered.

### 22.2 Objectives and Policies

#### Objective 1

**Enable earthworks that are part of subdivision, development, or access, provided that they are undertaken in a way that avoids, remedies or mitigates adverse effects on communities and the natural environment.**

#### *Policies:*

- 1.1 Promote earthworks designed to be sympathetic to natural topography where practicable, and that provide safe and stable building sites and access with suitable gradients.
- 1.2 Use environmental protection measures to avoid, remedy or mitigate adverse effects of earthworks.
- 1.3 Require remedial works and re-vegetation to be implemented in a timely manner.
- 1.4 Avoid, remedy or mitigate the long term adverse effects of unfinished projects.
- 1.5 Recognise that earthworks associated with infrastructure can positively contribute to the social and economic wellbeing and the health and safety of people and communities within the District.

## Objective 2

**Avoid, remedy or mitigate the adverse effects of earthworks on rural landscapes and visual amenity areas.**

### *Policies:*

- 2.1 Avoid, where practicable, or remedy or mitigate adverse effects of earthworks on Outstanding Natural Features and Outstanding Natural Landscapes.
- 2.2 Avoid, where practicable, or remedy or mitigate adverse visual effects of earthworks on visually prominent slopes, natural landforms and ridgelines.
- 2.3 Ensure cuts and batters are sympathetic to the line and form of the landscape.
- 2.4 Ensure remedial works and re-vegetation mitigation are effective, taking into account altitude and the alpine environment.

Note: The objectives and policies in Section 4.2 of the District Plan are also relevant to earthworks.

## Objective 3

**Ensure earthworks do not adversely affect the stability of land, adjoining sites or exacerbate flooding.**

### *Policies:*

- 3.1 Ensure earthworks, in particular, - cut, fill and retaining, - do not adversely affect the stability of adjoining sites.
- 3.2 Ensure earthworks do not cause or exacerbate flooding, and avoid, remedy or mitigate the adverse effects of de-watering.

- 3.3 Avoid the adverse effects of earthworks on steeply sloping sites, where land is prone to erosion or instability, where practicable. Where these effects cannot be avoided, to ensure techniques are adopted that remedy or mitigate the potential to decrease land stability.

## Objective 4

**Enable earthworks in the Rural General Zone, the Rural Visitor Zone and the Gibbston Character Zone that improve the efficiency, safety and economic viability of farming operations, and public recreation.**

### *Policies:*

- 4.1 Provide for earthworks associated with farming activities where they enhance the efficiency of operations, including the maintenance and improvement of track access and fencing.
- 4.2 Provide for earthworks to create fire breaks.
- 4.3 Provide for earthworks associated with remedial works necessitated by extreme weather events.
- 4.4 Provide for earthworks associated with public recreation, where practicable.

## Objective 5

**Enable the development and operation of ski-fields within Ski Area Sub-Zones.**

### *Policy:*

- 5.1 Provide for earthworks that enable the growth, development and consolidation of ski-fields

## Objective 6

**Maintain or improve water quality of rivers, lakes and aquifers.**

***Policies:***

- 6.1 Avoid the adverse effects of earthworks in close proximity to water bodies, where practicable. Where these cannot be avoided, ensure that sediment control techniques are put in place to avoid, remedy or mitigate sediment run-off.
- 6.2 Avoid earthworks adversely affecting water aquifers including the Hawea Basin, Wanaka Basin, Cardrona alluvial ribbon and Wakatipu Basin aquifers and other lesser aquifers.

## Objective 7

**Protect cultural heritage, including waahi tapu, waahi taonga, archaeological sites and Heritage Landscapes from the adverse effects of earthworks.**

***Policies:***

- 7.1 Ensure that iwi are consulted regarding earthworks that may affect sites of significance to Maori, including Statutory Acknowledgement Areas.
- 7.2 Consult with Heritage New Zealand where proposed earthworks may affect any archaeological sites.
- 7.3 Recognise and protect the values of Heritage Landscapes from the adverse effects of earthworks.
- 7.4 Protect heritage buildings and structures from potential undermining and vibration effects resulting from earthworks on the same site or from sites in close proximity.

## Objective 8

**Provide for cleanfill capacity on appropriate sites and promote diversion of cleanfill material from landfills.**

***Policies:***

- 8.1 Ensure materials for deposition at cleanfill facilities meet acceptance criteria.
- 8.2 Ensure that proposals for new cleanfill facilities consider the suitability of the site, in terms of accessibility, landscape, stability, visual amenity and options for long term use.
- 8.3 Avoid significant water bodies and their margins.
- 8.4 Avoid sites of cultural heritage and archaeological significance.
- 8.5 Ensure cleanfill facilities avoid or mitigate the adverse effects of dust, noise and traffic on neighbours and residential areas.
- 8.6 Ensure cleanfill sites are rehabilitated and remedial restoration works carried out in a timely manner.