

Earthworks (EARTH)

Issues

The Earthworks Chapter manages [earthworks associated with subdivision](#) to ensure that sites are suitable for development, and that instability hazards and adverse [effects](#) on heritage values and New Zealand kauri trees are managed.

Whangārei District has varied geology, soil type and ground [water](#) levels. This combined with variable climatic conditions creates a risk of [land](#) instability hazards. Generally, where there are steep slopes, little vegetation and high rainfall, [land](#) is likely to be subject to erosion and movement. Some [land](#) formations, including caves and sinkholes, are inherently unstable and constitute a major hazard.

[Land](#) instability issues can be created or exacerbated by inappropriate [earthworks](#). [Earthworks](#) are a necessary part of [subdivision](#) but need to be managed to ensure that the risk of [land](#) instability is avoided, remedied or mitigated and that adverse [effects](#) on heritage values and New Zealand kauri trees are managed.

The objectives, policies and rules set out below apply to [earthworks](#) undertaken in anticipation of, or as part of, a [subdivision](#) and apply in addition to the provisions for the underlying zone and any relevant District Wide and Resource Area provisions. In addition to the District Plan, [earthworks](#) are also regulated under the Regional Plan.

Objectives

EARTH-O1 – Land Instability	Minimise the risk of land instability when undertaking earthworks associated with subdivision .
EARTH-O2 –Kauri Dieback Disease	Avoid the spread of plant pathogens including <i>Phytophthora Agathidicida</i> (Kauri Dieback Disease).

Policies

EARTH-P1 – Adverse Effects	To avoid where practicable, or otherwise remedy or mitigate, adverse effects associated with land instability by managing earthworks associated with subdivision .
EARTH-P2 – Risk	To design and undertake earthworks associated with subdivision to minimise potential risks to people, property and the environment from land instability.
EARTH-P3 – Kauri Dieback Disease	To discourage earthworks within the vicinity of New Zealand Kauri tree (<i>Agathis Australis</i>) and to ensure that earthworks are designed so as to avoid the spread of plant pathogens including <i>Phytophthora Agathidicida</i> (Kauri Dieback Disease).

Rules

EARTH-R1	Earthworks Associated with Subdivision	
All Zones	Activity Status: Controlled Where: 1. The earthworks associated with subdivision do not occur within: a. A Site of Significance to Māori.	Activity Status when compliance not achieved: Restricted Discretionary Matters of discretion: 1. The matters of control listed in EARTH-R1. 2. Effects on heritage values.

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- b. 10m of any [archaeological site](#).
 - c. Three times the maximum radius of the canopy dripline of a New Zealand Kauri tree (*Agathis Australis*).
2. A site suitability report prepared by a suitably qualified and experienced professional (e.g. Chartered Professional Engineer) is provided which certifies that:
 - a. A 100m² [building](#) area within each [allotment](#) is suitable to construct a [building](#) either:
 - i. In accordance with NZS 3604/2011; or
 - ii. With specific engineering design of foundations.
 - b. [Access](#) to the certified [building](#) area within each [allotment](#) is suitable to construct.

Matters of control:

1. [Effects](#) on the stability and safety of surrounding [land](#), [buildings](#) and [structures](#), including [infrastructure](#).
 2. Protocol for accidental discovery of kōiwi, archaeology and artefacts of Māori origin.
 3. Appropriate methods to avoid, or where avoidance is not possible, contain or control the spread of plant pathogens.
 4. [Building](#) and [access](#) location, scale and design.
 5. The adequacy of the site suitability report and any further information provided through the consent process and any conditions, recommendations and development restrictions.
3. The potential increased risk of instability based on the location, layout and design of the [subdivision](#).
 4. The likelihood of a hazard arising from an unstable [land](#) event and the likely extent of any damage.
 5. Any exacerbation of an existing [land](#) instability hazard or creation of a new [land](#) instability hazard and possible [effects](#) on public health and safety and other property.
 6. The proposed use of, necessity for and design of hard engineering solutions for [land](#) instability hazards.
 7. The ability to design, construct and maintain future [buildings](#), [structures](#) and [access](#) so that they are resilient to [land](#) instability hazards.
 8. The need for a site suitability report or geotechnical assessment.
 9. The potential [effects](#) on sources of [drinking water](#) for human consumption.
 10. The extent to which appropriate methods are used to prevent the spread of plant pathogens or unwanted organisms (as listed under the Biosecurity Act 1993), including but not limited to Kauri Dieback Disease.

Note:

1. *Acceptable means of compliance for the site suitability report are contained within the Whangārei District Council Environmental Engineering Standards.*