

PROPOSED GORE DISTRICT PLAN SECTION 32 REPORT

EARTHWORKS



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List of Abbreviations

Resource Management Act 1991	RMA or 'the Act'
Gore District Council	GDC or 'the Council'
Operative District Plan	ODP
Proposed District Plan	PDP
National Planning Standards 2019	PS
Southland Regional Policy Statement 2017	RPS
National Policy Statements	NPS
National Policy Statement for Indigenous Biodiversity 2023	NPS-IB
National Policy Statement for Freshwater Management	NPS-FM
National Policy Statement for Electricity Transmission 2008	NPS-ET
National Environmental Standards	NES
National Environmental Standard for Electricity Transmission Activities 2009	NES-ETA
National Environmental Standard for Freshwater 2020	NES-FW
National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011	NES-CS
National Environmental Standards for Plantation Forestry 2017	NES-PF
National Environmental Standards for Telecommunications Facilities 2016	NES-TF
Crime Prevention Through Environmental Design	CPTED
Earthworks	EW

1. Executive Summary

Section 32 of the Act requires objectives in plan change proposals to be examined for their appropriateness in achieving the purpose of the Resource Management Act 1991 ('the Act' or 'the RMA'), and the policies and methods of those proposals to be examined for their costs, benefits, efficiency, effectiveness and risk in achieving the objectives. The analysis set out in this report is to fulfil the obligations of the Council under Section 32 of the Act.

This Section 32 evaluation report relates to the district wide earthworks chapter of the Proposed Gore District Plan. Earthworks considerations contained within this report excludes any earthworks taking place within identified historic heritage sites, significant natural areas and within outstanding natural features or landscapes. These are addressed and evaluated in separate section 32 reports for those topics. In addition, quarries are discussed in the section 32 report for the General Rural Zone.

The preferred option assessed within this Section 32 evaluation report addresses the identified resource management issues. This includes providing for earthworks activities while ensuring that potential adverse effects on amenity, cultural and ecological values or that exacerbating risks associated with natural hazards are avoided, remedied, or mitigated. The proposed approach recognises the need to establish an appropriate balance between enabling earthworks and managing adverse effects in rural and non-rural environments.

The key changes from the operative Gore District Plan (ODP) are:

- Objectives and policies that are outcome focused and directive of how, where and when earthworks are managed.
- Permitted activity rules that allow for a range of low-risk, temporary or small scale activities.
- Limitations on the location, volume, scale and nature of earthworks.
- Earthworks design standards in the district plan.
- More directive assessment criteria to provide guidance for decision making.

The proposed District Plan (PDP) Earthworks (District Wide) Chapter will assist the Council to fulfil its statutory functions and responsibilities as required by the Act through the following proposed objectives, policies and rules summarised below:

- A single objective that seeks to facilitate earthworks activities, but also recognises that these need to be undertaken in manner which limits the adverse effects on the surrounding environment.
- Policies that enable a range of low risk, small scale or temporary earthworks activities, rural production activities in the rural zone, for the transport networks, recreational tracks or network utilities or of bulk, scale and form appropriate to the zone. Allows for limited earthworks within the National Grid Yard and areas of potential inundation. Requires earthworks to be appropriately designed, located, and manages earthworks that are of a nature, or scale or in a location where there may be adverse effects to ensure environmental outcomes are achieved.
- Rules that permit earthworks and land disturbance, subject to scale and duration conditions and effects standards, for the construction of fences, test pits and boreholes for geotech investigations, installation of septic systems. Drain clearance, underground

storage tanks, service connections, farm waste disposal, silage pits, farm tracks, transport network, network utilities, general earthworks based on zone and volume, and with limitations in the national grid yard and areas of potential inundation.

- Standards that manage the adverse effects associated with steep land, unretained batters, maximum cut depth or fill height and in relation to boundaries, setback from rivers and streams, site reinstatement, control of dust, silt and sediment, and accidental discovery protocol.
- Definitions that reflect National Planning Standards (PS) and define key terms relating to the management of earthworks

2. Overview and Purpose

2.1 Introduction to the resource management issue(s)

The evaluation of the appropriateness of the Earthwork (District Wide) Chapter is based on the following key issues:

- Issue 1** Earthworks are a necessary part of land use, development and subdivision, but can have adverse effects on the surrounding environment.
- Issue 2** Unmanaged earthworks can adversely affect the life-supporting capacity of the natural environment, the health and safety of people, and the cultural well-being of communities, or have adverse effects on amenity values or the quality of the environment.

The background to these issues is discussed in more detail in Section 4.1 of this report.

2.2 Purpose of the report

The purpose of this report is to provide an evaluation of the proposed provisions in accordance with the requirements of Section 32 of the RMA 1991.

This report sets out the statutory and policy context for earthworks, the key resource management issues, specific consultation and approach to evaluation on this topic to decide on the proposed provisions. The report also includes a review of the existing plan provisions and an evaluation of alternative methods to achieve the purpose of the RMA in relation to the earthworks topic.

The report should be read in conjunction with the Section 32 Overview and Urban Form and Development report, and other Section 32 reports with particular relevance to the topic including Infrastructure, Subdivision, Noise and the Zone provisions.

An assessment of the scale and significance of the provisions will inform the level of detail included in this report.

3. Statutory and Policy Context

3.1 Resource Management Act

In carrying out a Section 32 analysis, an evaluation is required of how the proposal achieves the purpose and principles contained in Part 2 of the RMA.

Section 5 sets out the purpose of the RMA, which is to promote the sustainable management of natural and physical resources.

Sustainable management means *managing the use, development, and protection of natural and physical resources to enable people and communities to provide for their social, economic and cultural wellbeing and for their health and safety, while –*

- (a) *sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) *safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
- (c) *avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

In achieving this purpose, authorities also need to recognise and provide for the matters of national importance identified in Section 6, have particular regard to other matters referred to in Section 7 and take into account the principles of the Treaty of Waitangi referred to in Section 8.

Section 6

Section 6 of the RMA specifically requires that the Council recognise and provide for matters of national importance. Earthworks can have adverse effects on a range of values relating to matters of national importance. These values include the natural character of margins of rivers and public access to them, landscape values, ecosystems and indigenous biodiversity, natural hazards, Māori cultural values, and unknown archaeological sites. Where specifically relevant to matters of national importance earthworks are addressed by the Section 32 report for the topic.

Section 7

The Section 7 matters that are relevant to this topic are:

- (a) kaitiakitanga:
 - (aa) the ethic of stewardship:
- (b) the efficient use and development of natural and physical resources:
- (c) the maintenance and enhancement of amenity values:
- (f) maintenance and enhancement of the quality of the environment:
- (g) any finite characteristics of natural and physical resources:

The above matters are of relevance when providing for earthworks (being a natural and physical resource) to be undertaken whilst managing the effects on the quality of the environment and amenity values.

Section 8

Section 8 of the RMA requires the Council to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). Tangata whenua, through iwi authorities have been

consulted as part of the review process and the obligation to make informed decisions based on that consultation is noted.

Section 30 and 31

The Resource Management Act (RMA) sets out the functions of regional councils under Section 30, and the functions of territorial authorities in Section 31.

The Regional Council is responsible for controlling the use of land for soil conservation purposes, maintenance and enhancement of water quality and quantity, ecosystems and avoidance or mitigation of natural hazards. Regional council functions also include identifying and monitoring contaminated land, freshwater management and activities on the beds of waterbodies, and controlling discharges of contaminants.

Territorial authorities are responsible for the integrated management of the use, development, or protection of land, and controlling any actual or potential effects thereof. Earthworks is a necessary activity as part of land use and development, but one that can have adverse effects on the environment. Territorial authorities will therefore need to evaluate how these matters are to be appropriately managed.

Regional councils and territorial authorities are responsible for controlling different aspects of earthwork activities. Typically regional councils focus on the effects of earthworks on water quality and ecosystems, and territorial authorities tend to focus on land-use effects such as amenity.

Section 106

Section 106 of the RMA requires consideration of natural hazards and access when determining subdivision applications. Under Section 106 a Consent Authority may refuse consent, or may grant a consent subject to conditions, if it considers that there is a significant risk from natural hazards. Relevant natural hazards to the earthworks topic are land instability issues including landslip, subsidence and sedimentation, and the potential to exacerbate flooding or alter overland flow paths.

3.2 National Policy Statements

The Section 32 – Overview and Urban Form and Development Evaluation Report includes details and a brief assessment of all National Policy Statements (NPS).

The following NPS are relevant to earthworks:

- NPS for Electricity Transmission 2008 (NPS-ET)
- NPS for Freshwater Management 2020 (NPS-FM)
- NPS for Indigenous Biodiversity 2023 (NPS-IB)

The NPS ET provides a high-level framework that gives guidance across New Zealand for the management and future planning of the national grid. It acknowledges the national significance of the national grid and guides the management of the adverse effects of activities, such as earthworks, from third parties on the grid. This helps reduce constraints on the operation, maintenance, upgrading and development of the grid.

The implementation of the National Policy Statement for Freshwater Management 2020 (NPS FM) is primarily a regional council function, however territorial authorities must adopt an integrated approach to freshwater management in that the whole environment is connected. The fundamental concept of the NPS is 'Te Mana o te Wai' that refers to the importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. Every territorial authority must include objectives, policies, and methods in its district plan to promote positive effects, and avoid, remedy, or mitigate adverse effects (including cumulative effects), of urban development on the health and well-being of water bodies, freshwater ecosystems, and receiving environments.

The National Policy Statement for Indigenous Biodiversity seeks to maintain indigenous biodiversity across New Zealand to achieve no overall loss in indigenous biodiversity. The NPS-IB is largely given effect to through the biodiversity chapter, however land disturbance and earthworks are often associated with vegetation removal and restoration and is therefore of relevance.

3.3 National Environmental Standards

The Section 32 - Overview and Urban Form and Development Evaluation Report includes details and a brief assessment of all National Environmental Standards (NES).

The following NES are relevant to earthworks:

- NES for Electricity Transmission Activities 2009 (NES-ET)
- NES for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 (NESCS)
- NES for Telecommunication Facilities 2016 (NES-TF)
- NES for Plantation Forestry 2017 (NES-PF)
- NES for Freshwater 2020 (NES-FW)

The NESCS is directly relevant to the earthworks provisions of the PDP as it establishes a regulatory framework for the sampling of and disturbance (i.e., earthworks) of contaminated soils.

The NES-PF regulates plantation forestry activities. It covers 8 core plantation forestry activities, including earthworks, to be carried out as permitted activities, subject to conditions to manage potential effects on the environment. Where there is an earthworks non-compliance a regional council consent is required. However, relevant to the Gore District and the earthworks topic, a rule in a District Plan may be more stringent than the regulations if it gives effect to the NPS FM.

The NES-FW sets requirements for carrying out certain activities that pose risks to freshwater and freshwater ecosystems. Standards are designed to protect wetlands, streams from infilling, fish passage, manage feedlots and stockholding areas, winter grazing practices, restrict agricultural intensification, limit fertiliser discharges. The legislation and consenting under the NES-FW is managed by regional councils.

The NES-ET establishes a regulatory framework for earthworks activities associated with existing transmission lines, including providing for such earthworks as permitted activities, provided they do not breach regional rules. The NES-TF, while structured in a similar manner to the NES-ET, predominantly relates to matters beyond the scope of this topic in that it

predominantly relies on regional rules to control earthworks related matters. However, it is noted the NES-TF specifies that district plan natural hazard rules need not be taken into account when installing, removing or maintaining a telecommunication facility.

It is noted that the National Environmental Standards for Air Quality 2004 (amended 2011) does not address dust and therefore is not relevant to this topic.

3.4 National Planning Standards

The National Planning Standards (PS) 2019 requires a more bespoke approach to planning zones than the current GDP. This includes a clearer centre hierarchy, rural settlement zones, and a wider range of residential, industrial and rural zones. The PS also provides the structure and form for the Plan content along with definitions and mapping criteria.

The following aspects of the PS are relevant to Earthworks:

The unique identifier for Earthworks is EW

The PS District Plan Structure Standard requires that if relevant an Earthworks Chapter be included in Part 2 – District Wide Matters under General District Wide Matters

If provisions for managing earthworks are addressed, they must be located in the Earthworks chapter. This chapter may also include:

- a) provisions for quarries and gravel extraction where managed on a district-wide basis
- b) provisions for mining where they are managed on a district-wide basis.

The Earthworks chapter must include cross-references to any relevant earthworks provisions under the Energy, infrastructure, and transport heading.

The Earthworks chapter must include cross-references to any provisions for mining, quarries and or gravel extraction in a Special purpose zone or zone chapter or section

PS definitions include:

earthworks means the alteration or disturbance of land, including by moving, removing, placing, blading, cutting, contouring, filling or excavation of earth (or any matter constituting the land including soil, clay, sand and rock); but excludes gardening, cultivation, and disturbance of land for the installation of fence posts

cleanfill material means virgin excavated natural materials including clay, gravel, sand, soil and rock that are free of:

- (a) combustible, putrescible, degradable or leachable components;
- (b) hazardous substances and materials;
- (c) products and materials derived from hazardous waste treatment, stabilisation or disposal practices;
- (d) medical and veterinary wastes, asbestos, and radioactive substances;
- (e) contaminated soil and other contaminated materials; and
- (f) liquid wastes.

cleanfill area means an area used exclusively for the disposal of cleanfill material

dust means all non-combusted solid particulate matter that is suspended in the air, or has settled after being airborne. Dust may be derived from materials including rock, sand, cement, fertiliser, coal, soil, paint, animal products and wood.

land disturbance means the alteration or disturbance of land (or any matter constituting the land including soil, clay, sand and rock) that does not permanently alter the profile, contour or height of the land.

3.5 Regional Policy Statement

The Southland Regional Policy Statement 2017 (RPS) sets out the framework and priorities for resource management in the region. The RPS identifies the regionally significant issues around the management of the Region's natural and physical resources and sets out what needs to be achieved (objectives) and the way in which the objectives will be achieved (policies and methods). The PDP is required to give effect to the regional policy statement by section 75(3) of the RMA.

Relevant RPS provisions include:

Chapter 5: Rural Land/Soils sets out the sustainable management issues affecting the rural land and soil resource. The issues highlight that to achieve sustainable use of the rural land resource it is important to avoid soil erosion, sedimentation, landscape impacts, and loss of biodiversity during land development, which includes earthworks and vegetation clearance activities.

The RPS specifies that territorial authorities must establish and maintain provisions in District Plans to enable activities that sustainably use and develop the rural land resource while avoiding, remedying or mitigating adverse environmental effects, including effects from earthworks, soil and vegetation disturbance. Local authorities are also encouraged to develop good practice guidelines for rural activities to:

- (a) guide earthworks and land development practices to minimise the adverse effects of sediment discharges as a result of land or vegetation disturbance; and
- (b) prevent or minimise soil erosion or sedimentation.

Chapter 4: Water highlights the effects of sedimentation as an issue in relation to water quality. Land use and development can result in sedimentation and stormwater to local surface waterways affecting fisheries, ecosystems and natural character. Provisions in District Plan are required to manage the effects of subdivision, use and development on water quality.

Chapter 3: Tangata Whenua specifies a holistic approach to resource management, and that Ngāi Tahu cultural values and considerations are included throughout the RPS. For Ngāi Tahu as tangata whenua, the natural environment (including lands, coasts, water, air and biodiversity) and how they engage with it is a critical component of their identity as a people and in maintaining their culture. Territorial authorities must establish and maintain provisions in district plans that safeguard identified tangata whenua environmental and cultural values and resources from inappropriate subdivision, use or development. This includes recognising and providing for ancestral lands, wāhi tapu, wāhi taonga and recognised customary sites, activities and statutory acknowledgements

Earthworks are also mentioned in relation to:

- Transportation (TRAN.4 Policy explanation) in that earthworks relating to the transportation network can result in environmental effects.
- Natural Hazards (NH.7 Policy explanation) as earthworks across known stormwater and riverine flow paths are an activity of concern.

Summary

To give effect to the RPS the earthworks provisions in the PDP:

- Manage the effects from rural earthworks soil and vegetation disturbance.
- Manage the effects of subdivision, use and development on water quality.
- Safeguard identified tangata whenua environmental and cultural values from inappropriate subdivision, use or development.

The development of good practice guidelines for land development to prevent or minimise soil erosion or sedimentation is also encouraged.

3.6 Regional Plans

Environment Southland has prepared a number of regional plans, these include:

- Regional Air Plan 2016
- Effluent Land Application Plan 1998
- Regional Water Plan 2010

Environment Southland's proposed Southland Water and Land Plan was made partially operative following a council meeting in January 2021. The following provisions are particularly relevant to the earthworks topic:

Water quality issues highlights the effects of sediment on the health of waterbodies and the importance of maintaining good water quality in upstream rivers. Policies relating to water quality also reflect the importance of sediment control in water quality management and for farming activities, with reference to ANZECC sediment guidelines in Appendix C.

Rules relating to landfills include cleanfill sites with a limit of 500 cubic metres per year and a 50 metre setback to waterbodies applies. Matters of discretion for circumstances where contaminants may enter water include inundation of other properties, restriction or diversion of flood flows, erosion and sedimentation.

Other relevant rules relate to on-farm sediment traps in streams and rivers and weed and sediment removal for drainage maintenance.

Appendix C is a table extracted from the national guidelines for sediment quality by the Australia New Zealand Environment and Conservation Council (ANZECC). The table sets out maximum sediment contaminants levels after reasonable mixing.

Appendix N sets out the requirements for Farm Environmental Management Plan, good management practices as part of these plans include sediment reduction.

Appendix S sets out information to alert the public to their responsibilities regarding archaeological sites. This is relevant to Earthworks or other works that may disturb pre-1900 surface or subsurface archaeological sites or material.

3.7 Iwi Environmental Management Plan(s)

‘Te Tangi a Tauira – The Cry of the People’ the Ngāi Tahu Ki Murihiku Natural Resource and Environmental Management Plan identifies a broad range of relevant matters when considering where and how Gore grows and develops. The kaupapa of this Plan is Ki Uta Ki Tai – From the Mountains to the Sea. The kaupapa reflects the knowledge that resources are connected, from the mountains to the sea, and must be managed as such.

Earthworks (ground disturbance) is a component of a range of activities, including subdivision, building, drainage works, construction of farm tracks, tree removals, roadworks, and the laying of underground cables. Earthworks and other ground disturbance activities have the potential to unearth cultural materials or disturb urupā. Such activities also have potential to damage or destroy culturally important sites or places associated with mahinga kai resources or valued indigenous vegetation. Archaeological sites and sites of significance must be protected and impacts on cultural landscapes considered.

Relevant policies include:

- Accidental Discovery Protocol responsibilities and monitoring agreements with Ngāi Tahu ki Murihiku
- Any activity involving earthworks that has the potential to modify, damage or destroy a wāhi tapu or archaeological site will require one or more of the following, prior to seeking resource consent (at the cost of the applicant):
 - a. site visit;
 - b. archaeological assessment (walk over/test pitting), or a full archaeological description, by an archaeologist approved by Ngāi Tahu ki Murihiku;
 - c. cultural impact assessment;
 - d. cultural monitoring;
 - e. an authority from Historic Places Trust;
 - f. recommended consent notices/conditions.

In areas considered high risk, Ngāi Tahu ki Murihiku may require that a Rūnanga cultural monitor or archaeologist is present, at the cost of the applicant, to monitor all surface clearing or sub-surface excavation, and to record sites or information that may be revealed.

- Where practical, indigenous vegetation that is removed or damaged as a result of earthworks activity should be recovered and returned or replaced.
- Recommendations for the planting of indigenous species as an appropriate mitigation measure for any adverse impacts as a result of earthworks activities.
- Requirements that any earthworks or roadworks near rivers must have appropriate measures in place to avoid contaminants (including dust, sediment run-off from stockpiles or any hazardous substance) from entering waterways that may cause contamination, discolouration, or siltation in such waterways.

3.8 Other Legislation and Policy Documents

The following Acts and national guidance documents have relevance to the topic:

- Building Act 2004
- Heritage New Zealand Pouhere Taonga Act 2014
- Ministry for the Environment - Good Practice Guide for Assessing and Managing Dust 2016

Building Act 2004

The building consent process provides some ability to control earthworks, however this is limited to the effects of sediment as a nuisance to adjacent property or infrastructure and also to land stability issues. It is also important to note that certain activities are exempt from building consent requirements. Furthermore, building consent will only be required for structures over 1.5 metres high that support a surcharge or any additional load (for example a vehicle on a road). The Building Act is linked to regulation and control of buildings rather than to any wider environmental concerns. Therefore, it does not provide an effective means of controlling adverse environmental effects such as water quality, visual effects, traffic effects or noise effects.

Heritage New Zealand Pouhere Taonga Act 2014

The Heritage New Zealand Pouhere Taonga Act 2014 makes it unlawful for any person to modify or destroy, or cause to be modified or destroyed, the whole or any part of an archaeological site without the prior authority of Heritage New Zealand. Earthworks that affect an archaeological site may require an Archaeological Authority from Heritage New Zealand under the Act. This applies to known and previously unknown sites, accidental discovery protocols apply.

An archaeological site is defined in the Heritage New Zealand Pouhere Taonga Act 2014 as any place in New Zealand (including buildings, structures or shipwrecks) that was associated with pre-1900 human activity, where there is evidence relating to the history of New Zealand that can be investigated using archaeological methods.

Good Practice Guide for Assessing and Managing Dust (MfE 2016).

This document provides national guidance for assessing and managing dust discharges under the RMA. The management of air quality is the responsibility of regional councils. However, district councils are responsible for managing land uses which have the potential to discharge dust which may cause amenity effects, such as earthworks activities. The assessment and management guidance provided by this good practice guide are therefore relevant to the district wide earthworks topic.

3.9 Other Local Policies, Strategies, Guidelines and Plans

Subdivision and Land Development Bylaw 2019

The bylaw is based on NZS 4404:2010 incorporating local amendments.

Earthworks and geotechnical requirements are contained within Section 2 of the bylaw.

The bylaw specifies that it does not set the requirements for when an assessment of natural hazards and land stability is required under the RMA or Building Act, or the standards for assessing geotechnical risk.

The bylaw includes requirements for developments that involve an assessment of slope stability or a detailed evaluation of the suitability of natural ground for building or roading development, or for bulk earthworks. These requirements include geotechnical investigation, assessment, supervision and certification by a geo-professional.

The bylaw sets out:

- the design requirements, including the design factors, that must be included in the process,
- the matters to be considered in a preliminary site evaluation,
- matters of consideration for landform selection,
- stability criteria,
- consideration of special soil types,
- compaction standards for fill material,
- erosion, sediment, and dust control,
- seismic considerations,
- specific design for retaining walls, and
- when site specific design is required for cut and fill batters.

The bylaw only sets out specific requirements and standards in some instances, with other matters being considerations. Specific requirements include:

- Compaction standards for fill material - as set out in NZS 4431, or if not applicable as specified by the geo-professional.
- Erosion, sediment, and dust control
 - Dust control – watering during construction and permanent surfacing
 - Erosion control mechanisms – temporary drainage, stormwater management and treatment, compaction, resurfacing or soil stabilisation measures
 - Sediment management devices – surface grading, sediment traps and retention ponds, temporary barriers or silt fences, vegetated strips
- Retaining Walls - specific design is required
- Cut and fill batters - a site-specific design is required where cut or fill batters:
 - steeper than 2 horizontal to 1 vertical
 - Exceed 3m in height
 - constructed using moisture content susceptible soils

Design requirements include a minimum bench width 1.8m, stormwater management to prevent erosion, batter formation to allow for reinstatement/revegetation, and 600mm batter setback from kerb or footpath.

This bylaw is not directly referenced within the earthworks rules of the Operative Gore District Plan, although a policy for subdivision refer to it. The limited linkage between the bylaw and the district plan means that earthworks requirements their effects are not currently monitored or enforced under the RMA. It is proposed to include earthworks requirements in the PDP to improve these outcomes.

New Zealand Standards

NZS 4404:2010 'Land development and subdivision infrastructure' provides local authorities, developers, and their professional advisors with criteria for design and construction of land development and subdivision infrastructure. The Standard encourages sustainable

development and modern design. It is applicable to greenfield and infill development, as well as brownfield redevelopment projects.

NZS 4431 'Engineered fill construction for lightweight structures' provides the process for the geotechnical investigation, design, construction, quality assurance testing, and certification of engineered fill as foundation support for lightweight residential and commercial buildings and associated infrastructure. Evidence of adherence to this standard, alongside appropriate professional review and certification, can be used to demonstrate compliance with the relevant sections of the New Zealand Building Code for these projects.

3.10 Climate Change

The effects of climate change have been added to other matters decision makers should have particular regard to (RMAs7(i)).

In accordance with 2020 RMA amendments, by 2022 District Plans will not only need to have regard to the effects of climate change (adaptation) but also climate change mitigation and national adaptation and emission reduction plans prepared under the Climate Change Response act 2002. A compact urban form with most activities located around good transport connections and that takes account of the changing nature of natural hazards will help achieve these requirements. Further guidance will be provided in relation to Climate change as emission targets and RMA reform progresses.

The effects of climate change have been given regard to in respect of earthworks by consideration of earthworks in relation to land stability, the potential for earthworks to exacerbate flooding issues and requirements for sediment and erosion controls.

4. Resource Management Issue Analysis

4.1 Background

The resource management issues identified by this report which the earthworks chapter provisions address are:

- Issue 1 -** Earthworks are a necessary part of land use, development and subdivision but can have adverse effects on the surrounding environment.
- Issue 2 -** Unmanaged earthworks can adversely affect the life-supporting capacity of the natural environment, the health and safety of people, and the cultural well-being of communities, or have adverse effects on amenity values or the quality of the environment.

Earthworks and ground disturbance are undertaken for a broad range of activities and need to be provided for, from cultivating land, to preparing sites for construction of buildings, services and roads and maintenance. These activities can be relatively low risk (small scale and temporary activities), through to high risk (within sensitive locations and large scale land development).

Earthworks or ground disturbance undertaken and left in an incomplete state for an extended period of time, can give rise to adverse visual or landscape effects, traffic effects, generate dust, or, sediment or erosion, impact on river and stream values, or damage unknown archaeological sites. To manage these issues earthworks need to be provided for,

however rules and standards need to control the appropriate type of earthworks and the bulk, scale and location of earthworks so that the natural environment, health and safety of people and property are protected, and amenity values are maintained.

Depending on their location, scale and management earthworks can impact on natural environmental values such as water, soil and air or create a risk to people and property through exacerbating or creating new land instability or flooding effects. They can also impact mana whenua culturally important values, landscapes or sites, or if undertaken near rivers and stream, they can adversely affect their natural character water quality, aquatic ecosystems and freshwater values.

The subdivision and land development bylaw currently controls certain aspects of earthworks, it sets out the design standards and factors that must be considered in the process, however it does not manage all environmental effects and is not monitored or enforced through the RMA process.

To address the resource management issues the PDP earthworks provisions provide for earthworks while managing the effects on the environment, people and property, and include earthwork design requirements.

4.2 Operative Plan Approach

All ground disturbance and earthworks under the ODP are permitted, unless the duration of works exceeds 12 months. If the duration is longer than 12 months the activity is a Restricted Discretionary Activity. Exemptions for farming activities, farm quarries and building construction activities also apply.

The current approach to manage earthworks standards is through the Subdivision and Land Development Bylaw process, which sits outside the ODP. However, the ODP includes a policy for subdivisions to require land development to be undertaken in compliance with the bylaw, there is otherwise no rule reference to the bylaw in the District Plan, and therefore no resource management earthworks effects standards.

Additional earthworks restrictions apply within overlay areas, including:

- Outstanding natural features and landscapes - Hokonui Hills Significant Landscape
- Significant indigenous vegetation and significant habitats of indigenous fauna
- Margins of Rivers and streams – Maitakea river
- Maitakea River Floodway
- Mana Whenua – Archaeological Sites of Significance

4.3 Effectiveness of Operative Plan

Issue	Comment	Response
There is only one general earthworks rule in the plan, which has limited scope in that it only relates to timeframes.	There are a range of other land use and development earthworks activities that are likely to have effects.	Manage earthworks activities and their potential effects within the PDP.

There are no bulk, scale or effects standards for earthworks in the ODP.	The environmental effects of earthworks are not managed under the RMA	Include general and activity specific earthworks provisions and standards in the PDP
The plan is out of date	The plan has not given effect to higher order documents and is not consistent with current best practice	Give consideration of national and regional policy requirements in PDP provisions

The ODP is not considered effective as the environmental effects of earthworks are not appropriately managed under the RMA, including on the natural environment and in relation to other sites. The ODP is also out of date and has not given effect to national and regional policy direction and best practice and no longer reflects the needs and future direction of the Gore District.

4.4 Technical Reports and Research

No geotechnical reports have been prepared for the earthworks topic. However a general best practice review and analysis of comparable district Plan provisions has been undertaken. Furthermore, land stability is addressed to some extent in Council's subdivision and land development bylaw.

4.5 Analysis of Best Practice

A review of current practice in respect of this matter has been undertaken, together with a review of the following District Plans:

- Southland District - 2018
- Invercargill City Council - 2019
- Selwyn District – Proposed plan notified 2020
- New Plymouth District – Proposed plan notified 2022
- Timaru District – Proposed plan notified 2022

These plans were chosen either because they are within the Southland region, , or are the most up to date examples of approaches to earthworks management in districts with comparable characteristics and Engineering Standards to the Gore District. Although it should be noted that the Southland and Invercargill District Plans predate the PS.

Two tables are included at the end of this section that compare the permitted earthworks and mineral extraction activities in the different Plans.

Southland District

The plan considers energy and minerals within one chapter and earthworks and quarrying within the respective Zone chapters. The objectives that relate to mineral resources is to recognise the national and regional importance of the mineral resource, and that these are developed in a manner that avoids, remedies or mitigates the adverse effects on the environment.

The rural zone objectives do not specifically refer to earthworks but seek to protect productive land and maintain rural amenity and character values. Policies are to recognise the benefits of gravel extraction whilst managing adverse effects, and to avoid remedy or mitigate the effects of earthworks. The rules permit cleanfill, gravel and rock extraction that is used within the same property, prospecting for minerals and earthworks subject to volume, height and depth and setback conditions, and with limitations within the national grid yards.

The urban zone provisions include a policy to avoid remedy or mitigate the effects of earthworks. The rules allow for restricted earthworks within the national grid yard, but earthworks as a non-specified activity would otherwise be managed as a Discretionary Activity with applicable earthworks standards for volume, height and depth and setback

The industrial zone provisions have applicable earthworks standards for volume, height and depth and setback but have exceptions for road works within legal road, maintenance of a waterbody or stormwater control, and underground petroleum tanks.

Invercargill City

The plan considers earthworks together with soils and minerals, with the objectives that soils are managed sustainably, the adverse environmental effects are avoided, remedied or mitigated and on-site wastewater systems are appropriately located and managed.

Policies seek to promote sustainable soil management, identify and protect high value soils, manage mineral extraction activities, design requirements for on site-wastewater disposal systems, and control earthworks activities.

The rules make exceptions for a range of activities including those in accordance with the Bylaw 2016/1 Code of Practice for Land Development and Subdivision Infrastructure, and in specific locations such as Industrial, Smelter and Port Zones. Further exceptions apply for utilities, hardstanding surface formation, petroleum tanks, cultivation of land and building activities.

The rules allow for earthworks, subject to conditions, in association with utilities, general earthworks with volume restrictions reflecting the zone location, quarrying, farm landfills and dead holes, and within the national grid. Activities that do not comply with conditions have a Discretionary Status, except for landfills, mineral extraction and non-complying earthworks within the national grid which are Non-Complying Activities.

Specific rules also apply for areas subject to overlays such as ecosystems and indigenous biodiversity, contaminated land, heritage, utilities, natural features and landscapes and natural hazards.

Proposed Selwyn District Plan

The plan considers earthworks in its own chapter, with the objective that these are undertaken in a manner which limits adverse effects. Policies seek to enable small scale earthworks, while managing those that may have an adverse effect beyond the boundaries of the site, restrict earthworks on steeper slopes, manage erosion inundation or siltation and controls to manage environmental and amenity effects. Rules permit earthworks subject to a building consent, excavations for wells and bores, test pits and stockpiling and general earthworks subject to requirements for volume, slope, height and depth, reinstatement and

bunding. Earthworks in a Dairy Processing Zone are also allowed for subject to the height and depth and reinstatement requirements.

Mineral extraction activities are allowed for as a primary production activity within the General Rural Zone provisions and are provided for whilst managing their adverse effects, such as the amenity values of sensitive activities, and ensuring extraction sites are rehabilitated. Mineral prospecting is a permitted activity and mineral extraction above a specified volume are a restricted discretionary activity.

Proposed New Plymouth District Plan

The plan considers earthworks in its own chapter, with the objective to enable necessary earthworks provided that adverse environmental effects are avoided, remedied or mitigated. Policies seek to allow for earthworks associates with the existing and anticipated character of the receiving environment; manage those that could exacerbate natural hazards result in instability, have a visual impact or in specific sensitive locations; and controlling design, bulk and location standards. The rules allow for land disturbance for fences, poles, piles and service connections, and gardening and planting activities, and petroleum storage systems, and burials. The rules allow for earthworks for sport and recreation activities, conservation activities, the transport network, walking and cycling tracks, network utilities, building activities, silage pits and farm tracks and general earthworks subject to conditions and standards. Earthworks for an access or road to a future allotment is a Discretionary Activity.

Extractive industries are provided for in the Rural Production Zone provisions, with the objective to provide for a functional, production and extraction orientated working environment while ensuring adverse effects and reverse sensitivity effects are managed. The policies seek to manage activities potentially compatible with the zone character, and lists mining and quarrying as examples of these. Mining and quarrying are managed within the rule framework as Discretionary Activities, with an allowance for farm quarries.

Proposed Timaru District Plan

The plan considers earthworks in its own chapter, with the objective for earthworks to facilitate subdivision land use and development while ensuring adverse effect on the environment are avoided or mitigated. Policies recognise the benefits and necessity of earthworks, seek to manage the amenity effects, require adherence to accidental discovery protocol, protect regionally significant infrastructure, and manage land stability on steeper slopes and other sites. A range of earthworks exclusions apply to the rules, including planting, test pits, infrastructure, stormwater management, natural hazard mitigation work undertaken by district and regional councils, cemeteries, activities subject to a NES, and building consented activities. There is only one rule, which permits all earthworks subject to standards and adherence to accidental discovery protocol. The permitted standards include areas of disturbance for each zone, height and dept, setbacks, rehabilitation, and limitations within the national grid.

Mining and quarrying activities are allowed for within the General Rural Zone provisions, with policies and objectives seeking to only allow for these where it will have minimal effect on sensitive activities or environments. The rules permit small scale quarrying subject to requirements including setbacks and accidental discovery protocol being adhered to.

Earthwork Provisions Comparison Table

Permitted Earthworks						
	Volume/ Area	Height /depth	Setback	slope	Rehab	Status
Southland	Rural 1000 m ³ Cleanfill 500m ³	2m/5m	50m above ground/ 20m below ground Waterbody 20m	20° (farm track)		DIS
	Urban 200m ³	1m	Waterbody 20m	12°		DIS
	Industrial 1000m ³	1m	Waterbody 20m	12°		DIS
Invercargill	Rural 2000m ³ – or 50m ³ if high value soil					DIS
	Res and commercial 50m ³ per 1000m ²					
	Other 1000m ³					
Selwyn	Rural 250m ³ /ha	2m / or 0.5m within 1.5m boundary	0.5m height/depth within 1.5m boundary	1 in 4	12 months	RDIS
	Res 150m ³ /site					
	Commercial centres and Industrial 1000m ³ /site					
New Plymouth	Transport and utilities 500m ² area	1.5m / or 0.5m within the building setback for the zone	ADP and Sediment control	15°	6 months	RDIS
	Building activities 250m ² area					
	Res, lifestyle and commercial 250m ³					
	Rural and industrial 1000m ³					
Timaru	Rural No limit for rural production	1.5m /or 2.5m retained	0.5m height/depth within 1.5m boundary	1 in 4	12 months	RDIS

	2000m ² / site for other activities					
	Res 250m ² /site					
	Settlement, commercial and Industrial 2000m ²					

Summary and Conclusion

Exemption or allowances for certain earthwork activities are common in all the District Plans, these include for utilities, infrastructure and road work, rural production earthworks, gardening and planting, burials in cemeteries, petroleum tanks, test pits, wells and bores, service connections and building consented activities, and this approach is also adopted in the PDP.

Each plan, with the exception of Invercargill, include earthworks standards. All plans, however, have an earthworks area or volume limitation based on the zone. These are typically more generous in the rural environment (2000m³ – 1000m³), and more restrictive within the residential areas (250m³ to 150m³) where the sites are generally smaller, with industrial and commercial areas somewhere in between (around 1000m³). Most plans appear to have a volume per site, rather than based on the site area. Apart from area/volume, the standards relating to reinstatement, slope, and height fill/ cut depth in the more recent plans appear to remain consistent across all zones, they all also have a height/depth to boundary control. The activity status for a rule infringement is either Discretionary, or in the more recent plans Restricted Discretionary. The PDP includes earthworks effects standards consistent with the reviewed plans, and an allowance for general earthworks subject to volume limitations based on the zone environment.

The height or depth of fill or excavation typically ranges between 1m to 2m, with a reduced 0.5 m height/depth within the boundary setback. Other standards include a setback to waterbodies, accidental discovery protocol, and silt and sediment control. Site reinstatement or rehabilitation seems to typically be 6 or 12 months where stated. The PDP provisions adopt the earthworks restrictions from the bylaw, which are more generous than reviewed plans. However, to manage environmental and amenity effects limits the height depth in relation to boundary, setback to waterways, accidental discovery protocol and site reinstatement. Erosion and sedimentation control standards in the PDP are derived from the bylaw.

Most plans have a earthworks limitation based on the slope gradient, but the format in which it is expressed varies. The table below provides a conversion key for comparison of the slopes, with the lower degree being less steep. 15 degrees appear to be the steepest slope that is considered appropriate for earthworks to not impact land stability, and this is adopted in the PDP provisions. The only plan with an allowance for earthworks on a steeper slope is Southland, and it only applies for farm tracks.

Degree	Gradient (ratio)	Percent
12	1 in 4.7	21.3
14	1 in 4	25
15	1 in 3.7	26.8
20	1 in 2.7	36.4

Based on the analysis of above listed district plans, the mineral extraction rules are typically within the applicable Rural Zone chapter (refer to the table below) rather than the earthworks chapter. Most plans appear to have a permitted allowance for small scale quarries or farm quarries less than 1500m² to 2000m² in area, or prospecting. Setbacks to sensitive activities, boundaries or waterbodies also apply. The activity status for other mineral extraction is either Restricted Discretionary subject to standards, or fully Discretionary. The mineral extraction rules were within the Gore Draft District Plan earthworks chapter, however based on feedback and best practice review it was transferred to the General Rural Zone chapter. The allowance for farm quarries, consistent with the reviewed plans, was retained.

Permitted Mineral extraction				
	Volume/Area	Setbacks	Rehab	Status
Southland – Rural Zone	gravel and rock for on property use – less than 1500 m ³ /1500 m ³ to 5000m ³	Dwelling 100m/300m Waterbody 20m	12 months	DIS
	Prospecting 200m ³ /5ha pits 1000m ³ /5ha trench	Waterbody 20m	12 months	DIS
Invercargill	Quarrying			NC
Selwyn – General Rural Zone	RDIS above 1500m ²	Sensitive activity – 200m excavation – 500m blasting, 500m processing 500m res zone		DIS
New Plymouth – Rural Production Zone	Farm quarry less than 1500m ²			DIS
Timaru – General Rural Zone	Quarrying – 2000m ²	10 m boundary 50m rock art site 500m sensitive activity or zone		RDIS to expand existing quarry / DIS

4.6 Other Relevant Documents and feedback

Given the ODP has limited restrictions relating to earthworks there is also limited resource consent data or monitoring information.

Land and Water Aotearoa

Land and Water Aotearoa has summarised a range of water quality data relating to rivers in Gore over the last 10 years¹. The water quality measures include bacteria, nitrogen, ammonia and phosphorus and suspended fine sediment. It is primarily the sediment data that is of relevance to the earthworks topic. The data shows that both clarity and turbidity were intermediate or likely improving, with the exception of at Mimiha Stream tributary at Venlaw Forest where they are likely degrading.

5. Scale and Significance

5.1 Scale and Significance Evaluation

Section 32(1)(c) of the RMA requires that this report contain a level of detail that corresponds to the scale and significance of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the proposal.

	Assessment				
	Low	Low-Medium	Medium	Medium-High	High
Degree of change from the Operative Plan				x	
Scale of effects – geographically (local, district wide, regional, national).			x		
Effects on matters of national importance (s6 RMA)			x		
Scale of effects on people (how many will be affected – single landowners, multiple landowners, neighbourhoods, the public generally, future generations?).			x		
Scale of effects on those with specific interests, e.g., Tangata Whenua				x	
Degree of policy risk – does it involve effects that have been considered implicitly or explicitly by higher order documents? Does it involve effects addressed by other			x		

¹ [Land, Air, Water Aotearoa \(LAWA\) - River Quality](#)

	Assessment				
	Low	Low-Medium	Medium	Medium-High	High
standards/commonly accepted best practice?					
Likelihood of increased costs or restrictions on individuals, communities or businesses.			x		

5.2 Evaluation Summary

The degree of change from the ODP is medium to high as there are limited earthworks provisions within the district plan currently and the provisions apply to the whole district. The topic is not one of specific national importance in itself, but can have related effects on these matters. The scale of the effects of earthworks can vary from an amenity nuisance up to posing a risk to life or property. Potential adverse effects can also be short term, usually associated with the construction phase of undertaking the works, or have long-term permanent effect on landforms and sites.

Higher order documents require district plans to manage the effects of land use, development and subdivision of which earthworks are often a component. In particular there is national direction in relation to freshwater management, and electricity transmission infrastructure and regional direction in relation to manage the effects of rural earthworks, protecting water quality and tangata whenua cultural values. Some earthworks effects can be partially managed through other means, and this is the current approach. The current approach includes management of earthworks through the Council Subdivision and Land Development Bylaw process, Building Act or Heritage New Zealand Pouhere Taonga Act, however, these provisions do not manage land use and development, or all the environmental effects of earthworks.

6. Consultation

6.1 Overview

The Section 32 – Overview and Urban Form and Development Evaluation Report provides an overview of the consultation undertaken to date in respect of the PDP. The PDP has been prepared in partnership with Hokonui Rūnanga who have reviewed and provided feedback on the earthworks chapter to ensure consistency with the Mana Whenua Chapter and that cultural values are appropriately integrated throughout the proposed provisions.

Engagement with the community on the draft District Plan was undertaken 10th August 2022 to 30th September 2022. The feedback received and the response is summarised below, and in more detail in Appendix 1 .

Feedback summary

Feedback on the provisions was received from key stakeholders including government agencies such as the Department of Conservation, Waka Kothai and Heritage New Zealand. Industry interest groups such as Southland Federated Farmers, the Fuel companies and the

Aggregate and Quarry Association also provided feedback along with local industries such as Silver Fern Farms, Mataura Valley Milk and Alliance Group Limited.

Broad support was received for recognising the benefits and necessity of earthworks and for recognising the character of the zone or location and the type of acceptable earthworks within it, as well as for providing for general earthworks. However, the feedback also highlighted that the extractive industries such as quarrying and mining are primary production activities rather than earthworks, and that the same standards that apply to earthworks may not be applicable.

Feedback recommendations to make greater allowances included for:

- greater bulk, scale and location of earthworks within the Industrial and Rural Zones,
- recreational tracks,
- standards relating to land instability,
- temporary land disturbance,
- short term and construction effects,
- restoration of indigenous vegetation, and
- for network utilities and infrastructure such as the National Grid in all areas including those subject to overlays.

Feedback recommendations to increase restrictions related to:

- apply stream setbacks to wetlands,
- environmental protections from mining and fossil fuels industries,
- natural environment effects,
- historic heritage sites and developing an Accidental Discovery Protocol as an Appendix to the plan.

Response summary

Provision relating to extractive industries were moved from the earthworks chapter and included in the General Rural Zone in the PDP. This approach is consistent with that Mining and Quarrying are defined as Primary Production activities. Farm Quarries are included with extractive industries, but have specific allowances. A review of comparable district plans has shown that allowances for farm quarries under 1500m² are typical, and that a sensitive activity or zone boundary setback applies. The approach was adopted consistent with other rural industry in the GRUZ provisions.

More bespoke effects standards depending on the anticipated character and amenity of the location and the activity can be considered, and where it may be appropriate to make greater allowances for bulk scale and location of earthworks, such as Industrial Zones. However, the standards need to still ensure land instability does not become an issue or the undermining of buildings. The earthworks standards relating to slope and cut depth or fill height are either consistent with or more permissive than comparable plans. Technical expert advice would be needed to consider allowing for works on steeper slopes or greater cut depth or fill height, and this can be managed through a resource consent process under the PDP provisions.

Earthworks for network utilities in locations subject to overlays will be dealt with in the PDP under the Historic Heritage Chapter Ecosystem and Indigenous Biodiversity Chapter and the Landscape Chapter respectively.

Setbacks from wetlands are managed through the NES FM by regional councils, as it is already managed by separate legislation wetlands are not included with the stream and river setbacks in the PDP.

Accidental Discovery Protocol applies as an earthworks standard in the PDP, and in addition the Ngai Tahu ki Murihiku Accidental Discovery Protocol process is set out in the Mana Whenua chapter, which is also referenced in the earthworks chapter and standard. The Heritage New Zealand Pouhere Taonga Accidental Discovery Protocol applies separately to district plan requirements under the Heritage New Zealand Pouhere Taonga Act 2014, although follows a similar process. A reference to the HNZPT is already noted in the in the earthworks chapter and is included in the standard as well. However, to develop a separate Accidental Discovery Protocol as an appendix to the plan is considered unnecessary duplication.

Other minor administrative changes to improve alignment, consistency or clarity were also adopted.

7. Proposed Plan Provisions

7.1 Strategic Direction

The PDP includes a number of strategic objectives which have been tested in terms of s32(1)(a) in their relevant s32 reports. However, the other chapters of the plan should align with these strategic objectives to ensure vertical integration within the PDP.

The PDP does not contain any specific strategic objectives relevant to Earthworks, however, Objective UFD-O1 relates to ensuring the district develops in a way that provides for social and cultural vitality, and economic growth while minimising adverse impacts on natural values and that recognises the cultural and traditional relationship of Māori with waterbodies, sites and landscapes. UFD-10 relates to recognising and providing for rural production activities, which often involve ground disturbance, within the district.

UFD-O1 The district develops in a cohesive, compact and structured way that:

- 1. maintains a compact urban form;*
- 2. minimises adverse impacts on natural, historic heritage, and cultural values;*
- 3. recognises the relationship of Māori with their culture, traditions, lands, waterbodies, sites, areas and landscapes and other taonga of significance;*
- 4. provides for social and cultural vitality, productivity and economic growth*
- 5. takes into account the short, medium, and long term impacts of climate change and natural hazards, and the associated uncertainty*
- 6. Utilises existing infrastructure and/or can be efficiently serviced with new infrastructure*
- 7. Meets the community's short, medium and long-term housing, business and social infrastructure needs,*
- 8. Responds to the underlying relationships Ngāi Tahu hold with the natural environment, and*

9. *Manages adverse effects between incompatible activities and zones.*

UFD-10 Primary production and rural industry activities are able to operate efficiently and effectively and the contribution they make to economic and social wellbeing and the prosperity of the district is recognised.

There are no specific objectives in the Mana Whenua chapter, but the Sites and Areas of Significance to Maori chapter with its holistic approach to resource management consists of overarching objectives and policies. These direct the ways the Gore District Plan recognises and protects the historic and contemporary relationship of Māori with the natural environment, and places where cultural practices are undertaken within the Gore District. The strategic objectives with particular relevance to the earthworks topic are:

SASM-O1 All land, waterbodies, natural features, and marae within Gore District are recognised as sites and areas of cultural significance to mana whenua and/or tangata whenua, and are afforded appropriate considerations in relation to their management, development, and use.

SASM-O2 Traditional and contemporary mana whenua and tangata whenua relationships with land, waterbodies, natural features, and cultural structures are recognised, retained, and strengthened

7.2 Objectives and Policies

The objectives, policies, rules, standards and definitions have been drafted to address the resource management issues relating to earthworks as identified in section 2.1 of this report. The background assessment of other Council's Plans and the ODP along with the scale and significance of the issues and topic have also informed the PDP provisions.

The provisions do not apply to Historic Heritage sites, Significant Natural Areas, Outstanding Natural Landscapes or Features and Amenity Landscapes. For earthworks rules relating to these topics, refer to those chapters.

Objective

The objective addresses the identified issues in that it seeks to facilitate earthworks activities, but also recognises that these need to be undertaken in manner to limit the adverse effects on the surrounding environment. The objective reflects that all effects including short term amenity effects should be minimised, but that there are some effects that could be significant such as on the natural environment, Ngāi Tahu cultural values and the safety of people and property that need to be protected.

Policies

The policies address how earthworks should be facilitated and undertaken to minimise effects on the surrounding environment. They set out directions for what earthworks are considered appropriate and are enabled, or what earthworks may have adverse effects and need to be managed, or what earthworks may have significant adverse effects and should be avoided, and the environmental outcomes that need to be achieved.

Policies:

- Recognise the benefits and necessity of earthworks by enabling a range of small scale and temporary activities associated with subdivision and land development, transport network, network utility works and rural production activities. Earthworks that are of a bulk and scale consistent with the anticipated character and amenity of the zone are also enabled.
- Allow for limited earthworks within the National Grid Yard to ensure these do not compromise the operation or functioning of the National Grid.
- Allow for limited earthworks within areas of potential inundation to ensure these does not have flooding effects on other sites.
- Require earthworks to be appropriately designed, located and undertaken by controlling cut depth and fill height, unretained batters, earthworks near rivers and streams and on steeper slopes. Dust, sediment and erosion management, site reinstatement, and accidental discovery protocol are also required.
- Manage earthworks to ensure that they:
 - do not exacerbate or create a natural hazard;
 - stream values are maintained or enhanced;
 - Ngāi Tahu cultural values are recognised and protected;
 - visual and landscape effects are minimised;
 - amenity values maintained; and
 - do not impact on the safe and efficient functioning of the transport network or regionally significant infrastructure.

7.3 Rules

The rules:

- Exempt a range of earthworks and land disturbance activities including cultivation, planting, indigenous vegetation restoration, gardening, drilling bores, internments in burial grounds, filling associated with building foundation or retaining structures, and for small-scale cultural cooking methods. Earthworks undertaken in conformity with a relevant NES are also exempt.
- Permit subject to standards and conditions:
 - land disturbance for the construction of fences, restricted in length and area and subject to reinstatement works.
 - earthworks for test pits and boreholes, septic systems, drain clearance, underground storage tanks and service connections subject to reinstatement within 48 hours.
 - Earthworks for silage pits, farm tracks and for waste and offal pits within the rural zones
 - Earthworks associated with the transport network, recreational track and network utilities subject to re stabilisation.
 - Earthworks within national grid yard, but are restricted near support structures and not allowed within conductor clearance distances.
 - Earthworks within areas of inundation, where these are approved by a building consent, or restricted in height and area.

- General earthworks restricted in volume based on the zone, with a greater allowance for Rural, Industrial and Airport Zones

The standards control:

- Cut depth and fill height
- Unretained batters
- Setback from rivers and streams
- The existing slope angle of land
- Erosion, sediment and dust
- Site reinstatement
- Accidental Discovery protocol

7.4 Definitions

Key definitions which are particularly relevant to the earthworks topic include:

accidental discovery

means the discovery of previously unrecorded human remains/kōiwi, an archaeological site, a Māori cultural artefact/taonga tūturu, a protected New Zealand object as defined in the Protected Objects Act 1975 (including any fossil or sub-fossil).

Note: In the event of an accidental discovery the Accidental Discovery Protocol set out in EW-S7 should be followed as well as the procedures set out in MW-4.1 in the case of human remains/ kōiwi, taonga or Māori cultural artefact, and in-situ (natural state) pounamu/greenstone.

archaeological site

Has the same meaning as Heritage New Zealand Pouhere Taonga Act 2014 –

means, subject to section 42(3),—

(a) any place in New Zealand, including any building or structure (or part of a building or structure), that—

(i) was associated with human activity that occurred before 1900 or is the site of the wreck of any vessel where the wreck occurred before 1900; and

(ii) provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand; and

(b) includes a site for which a declaration is made under section 43(1)

dead holes

means an offal pit for on-farm disposal of dead stock

dust

Has the same meaning as per the National Planning Standards

means all non-combusted solid particulate matter that is suspended in the air, or has settled after being airborne. Dust may be derived from materials including rock, sand, cement, fertiliser, coal, soil, paint, animal products and wood.

earthworks

Has the same meaning as per the National Planning Standards

means the alteration or disturbance of land, including by moving, removing, placing, blading, cutting, contouring, filling or excavation of earth (or any matter constituting the land including soil, clay, sand and rock); but excludes gardening, cultivation, and disturbance of land for the installation of fence posts.

farm track

Means vehicle access tracks associated with agriculture, pastoral and horticultural activities

land disturbance

Has the same meaning as per the National Planning Standards –

means the alteration or disturbance of land (or any matter constituting the land including soil, clay, sand and rock) that does not permanently alter the profile, contour or height of the land.

sediment control measures

means structures or measures to slow or stop water with sediment in it, so that the sediment will drop out of suspension before the water from the site reaches a water body.

sensitive material

in relation to accidental discovery means human remains/ kōiwi, artefacts associated with an archaeological site, a Māori cultural artefact/taonga tūturu, in situ (natural state) pounamu/greenstone or a protected New Zealand object as defined in the Protected Objects Act 1975 (including any fossil or sub-fossil).

silage pit

means an area constructed and used for the purpose of fermentation and storage for animal feed

8. Evaluation of Objectives

This section of the report evaluates the proposed objectives as to whether they are the most appropriate to achieve the purpose of the Act.

Existing Objectives	Appropriateness to achieve the purpose of the Act
3.3(1) Maintain and enhance the amenity values of the various localities within the District whilst respecting the different values and characteristics that exist within each area. 3.3(2) Ensure that the effects of land use activities do not adversely affect the quality of the environment and are compatible with the characteristics and amenity values of each locality 3.3(7) Ensure that the effects of earthworks and other land disturbance are avoided, remedied or mitigated.	These objectives provide high level guidance to decision makers around the expectations for maintaining, enhancing and managing adverse effects on amenity values within the District and the effects of earthworks, in this respect they are broadly consistent with RMA Section 5(2)(c) However the objectives do not seek to provide for social, economic and cultural well-being, or protecting the life supporting capacity of the natural environment and are not considered to fully achieve the purpose of the Act due to the lack of specific clarity and direction. Relevance The 3.3(7) objective directly addresses earthworks as a resource management issue and is therefore relevant although the other objectives 3.3(1) and 3.3(2) are more general. The objectives have also not given effect to the RPS, which is more specific regarding the environmental outcomes that need to be achieved. Usefulness: The earthworks objective (3.3(7)) does not describe the outcomes and does not seek to provide for earthworks. Combined the objectives provide some guidance and direction but the broad terms are likely of limited usefulness to decision makers or applicants. Reasonableness: The objectives will not result in unjustifiably high costs on the community, although the lack of clarity and direction in the objectives may increase costs and uncertainty in a situation where there is dispute over the outcome of a non-compliance. Achievability: The provisions seek outcomes within the scope of Council's responsibilities and can be realistically achieved through regulations at a district level, however they may not be consistent with identified mana whenua values and community outcomes.

Proposed Objective	Appropriateness to achieve the purpose of the Act
EW-O1 Earthworks and land disturbance for subdivision, land use and development are facilitated and undertaken in a manner that minimises adverse effects on the surrounding environment and protects the natural environment, Ngāi Tahu cultural values, people and property.	The objective is considered the most appropriate way to achieve the Purpose of the Act (Section 5) because it promotes the sustainable management of natural and physical resources by: • seeking to facilitate earthworks for land use, and development to be undertaken to provide for the social and economic benefit; while ○ protecting the natural environment, including air, soil and water quality ○ protecting cultural well being and the health and safety of people and property ○ managing and minimising adverse effects on the surrounding environment Relevance The objective specifically addresses earthworks as a resource management issue. The objective also assists Council to undertake its functions under s31 to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district, and gives effect to higher order documents, including the RPS. Usefulness: The objective provides guidance and direction for decision making and meets best practice for objectives by providing clear direction on what the intended outcome is and describes the end state. The objective articulates that earthworks are facilitated while undertaken in a manner that minimises adverse effect and protects the natural environment, cultural values and people and property. Reasonableness: The objective is unlikely to result in an unjustifiable cost on the community as it provides for earthworks to be undertaken. Although there may be some cost associated with managing the effects of earthworks this is not considered unreasonable as it provides certainty for the community that environmental risks and hazards as a result of earthworks are dealt with appropriately. Achievability: The objective is consistent with identified mana whenua values and community outcomes and can realistically be achieved within the Council's powers, skills and resources. Earthworks are facilitated, however, when a higher degree of risk for potential adverse effects technical experts advice can be sought to manage those risks as appropriate.

9. Evaluation of Options to Achieve the Objectives

9.1 Evaluation

Section 32(1)(b) requires an evaluation of whether the provisions are the most appropriate way to achieve the objectives by identifying other reasonably practicable options, assessing the efficiency and effectiveness of the provisions in achieving the objectives, and summarising the reasons for deciding on the provisions.

The assessment must identify and assess the benefits and costs of environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions, including opportunities for economic growth and employment. The assessment must if practicable quantify the benefits and costs and assess the risk of acting or not acting if there is uncertain or insufficient information available about the subject matter.

For each potential approach an evaluation has been undertaken relating to the costs, benefits and the certainty and sufficiency of information (as informed by section 4 of this report) in order to determine the effectiveness and efficiency of the approach, and whether it is the most appropriate way to achieve the relevant objective(s). For the purpose of this evaluation, the Council has considered the following potential options:

- Option A - The proposed provisions
- Option B - The 'status quo' provisions.

Section 32(2)(b) requires that if practicable the benefits and costs of a proposal are quantified.

Based on the scale and significance of the proposed changes, specifically the degree of change from the ODP, level of policy risk and scale of effects, it is considered that quantifying costs and benefits is unnecessary. Therefore, exact quantification of the benefits and costs identified in this report was not considered necessary, beneficial or practicable. Rather, the table below generally identifies where there may be additional cost(s) and benefit(s).

Option A – Proposed Provisions
Policies, rules and standards which give effect to the objective: Policies: EW-P1 Recognises the benefits and necessity of earthworks for the subdivision, use and development of land and the provision of utilities, by enabling earthworks and land disturbance for a range of activities EW-P2 Limits the bulk and scale of earthworks within the National Grid Yard to ensure these will not compromise the National Grid. EW-P3 Limits the bulk and scale of earthworks within areas of potential inundation to manage flooding effects. EW-P4 Requires earthworks to be designed, located and undertaken in accordance with effects standards to manage amenity, land stability, stream and river values, air, soil and water quality, visual effects and accidental discovery of archaeological sites or finds. EW-P5 Manages earthworks that are of a nature, or scale or in a location where there may be adverse effects to ensure that environmental outcomes are met relating to natural hazards, rivers and streams, Ngāi Tahu cultural values, character and amenity of the zone and location, shorth term amenity effects and the transport network or regionally significant infrastructure. Rules permit earthworks and land disturbance subject to standards and conditions for: EW-R1 Construction of fences EW-R2 Test pits or boreholes for geotechnical assessment EW-R3 Installing septic systems EW-R4 Drain clearance work EW-R5 Underground storage tanks EW-R6 Service connections EW-R7 Digging of dead holes and farm rubbish pits in the General Rural Zone EW-R8 Silage pits in the General Rural Zone EW-R9 Farm tracks in the General Rural Zone EW-R10 The transport network and recreational tracks

EW-R11 Network utilities and associated access EW-R12 Within National Grid Yards subject to limitations EW-R13 Within areas subject to actual or potential inundation subject to limitations EW-R14 Earthworks and land disturbance not otherwise provided for subject to volume limitations Standards control: EW-S1 Cut depth and fill height EW-S2 Unretained batters EW-S3 Setbacks from rivers and streams EW-S4 Instability of Land EW-S5 Erosion, sediment, and dust control EW-S6 Site Reinstatement EW-S7 Accidental Discovery Protocol Earthworks that do not comply with conditions or standards are assessed as Restricted Discretionary Activities, apart from rural earthworks, earthworks within the national grid and non-adherence to accidental discover standards which are non-complying activities. Additional earthworks restrictions apply within overlay areas, such as Historic Heritage sites, Significant Natural Areas, and Outstanding Natural Landscapes or Features and are assessed under those topics		
Benefits		Costs
Environmental	The provisions accurately reflect the full range of potential adverse effects, and provides Council with greater control, proper assessment criteria and effective management of the adverse effects of earthworks.	Environmental costs are not anticipated
Economic	Resource consent applications are limited to those activities that may have an adverse effect. A range of low risk earthworks activities are exempted or enabled without the need for resource consent. Clear plan direction will decrease uncertainty and potentially consenting costs Cost associated with site or waterway remediation is avoided by appropriately managing effects.	There will likely be an increased cost related to obtaining resource consent, compliance and monitoring and reduced flexibility for developers, however this cost is not considered unreasonable.
Social	Health and safety of people and property is protected from the adverse effects of earthworks, and amenity values and the effects on surrounding sites are managed leading to improved outcomes for the community. Earthworks for activities with a public benefit, such as transport, network utilities and recreational tracks are enabled.	The community is unfamiliar with the new approach to managing earthworks.
Cultural	Consideration of mana whenua cultural values are woven through the provisions, and unknown archaeological sites or artefacts are protected.	Cultural costs are not anticipated
Efficiency		
The proposed provisions are considered to be the most efficient means of achieving the objective as together they will: - provide clear guidance and direction for applicants and decision makers towards the outcomes that are sought to be achieved and matters of assessment - facilitate a range of low risk earthworks activities subject to compliance with effects standards, but require management of activities not meeting certain limitations on the nature, scale or location of earthworks. - bring the effects standards into the district plan from the Land Development and Subdivision Bylaw earthworks design standards to improve monitoring and compliance. - be consistent with the National Planning Standards.		
Effectiveness		
The proposed provisions are considered to be the most effective means of achieving the objective as together they will:		

• give effect to higher order documents including National and Regional Policy Statements, address issues highlighted in the Iwi Management Plan and the relevant strategic objectives of the PDP. • the provisions enable the Council to fulfil its statutory obligations, including section 31 of the RMA and gives effect to the relevant Part 2 Matters, including: ○ recognising and providing for Section 6 matters such as the preservation of the natural character of rivers and their margins, the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga, and the management of significant risks from natural hazards. ○ have particular regard to Section 7 matters such as kaitiakitanga and the ethics of stewardship, the efficient use and development of natural and physical resources, the maintenance and enhancement of amenity values and of the quality of the environment and the effects of climate change. • facilitate earthworks that support the district's land use development activities while ensuring that that adverse effects are managed appropriately by requiring compliance with applicable standards and assessment of potential effects as part of resource consent process where the development standards are not met. • enable the Council to effectively administer its District Plan and to monitor the outcomes of the proposed provisions in a clear and consistent manner.		
Risk of acting or not acting		
The risk of adopting the provisions is considered low, and the approach is also broadly consistent with other third generation plans throughout New Zealand. Not acting on this approach may mean that the current implementation issues with the Operative Plan approach continue and incrementally result in loss of amenity values, adverse effects on instability and quality of the environment. Overall, it is considered that there is sufficient information to act, and that risks of not acting are outweighed by the benefits of acting.		
Overall Evaluation		
The proposed provisions are considered the preferred option as the environmental, economic, social and cultural benefits outweigh the cost, they are considered efficient and effective in achieving the objective and the risk of adopting them is low.		
Option B – Status Quo		
Policies, rules and standards which give effect to the objective: Policies: 3.4 (10) Recognise that earthworks and disturbance of the ground is a necessary part of undertaking many activities. 3.4 (11) Ensure that the effects of earthworks and other land disturbance are avoided, remedied or mitigated. Rules: 4.13.1 (1) Permits all earthworks or land disturbance activities with a duration of less than 12 months 4.13.1 (2) Exempts a range of farming activities, including farm quarries not visible to the public and building construction activities Earthworks activities that exceed 12 months are assessed as Restricted Discretionary Activities and assessments matters are the adverse effects of the earthworks or the disturbance of the ground. Additional earthworks restrictions also apply within some overlay areas, including Hokonui Hills Significant Landscape, the Matura River margin, the Waterfall Range indigenous forest, Pukerau Red Tussock reserve, the Maitara River Floodway, under heritage listed buildings and near Archaeological Sites of Significance to Maori. Some earthworks design requirements are managed outside the district plan through the Land Development and Subdivision Bylaw		
Benefits		Costs
Environmental	Some earthworks effects are managed, but only those where the duration is over 12 months, some additional protection is also afforded in specific overlay locations	There is no direction on the type of earthworks or the effects that should be avoided remedied or mitigated, and there is no direction for what is considered appropriate. The provisions do not sufficiently manage many potential environmental effects, such as air, soil or water quality, land stability or amenity values. The status quo therefore comes at an environmental cost.
Economic	The land development sector may have a short term economic benefit of a low regulatory environment, but the enabling provisions by themselves are unlikely to provide employment growth.	There may be a long term economic costs to a low regulatory framework, in that there could be an associated cost to remediate sites or waterways that could have been avoided by appropriately managing effects.

	There is also limited potential for duplication of other processes and limited cost to individuals associated with obtaining resource consent	
Social	Plan users and landowners are familiar with current provisions, resulting in reduced costs in understanding and complying with the earthworks sections of the plan.	The provisions do not protect the amenity of surrounding sites or the health and safety of people and property which has a cost to others in the community.
Cultural	There are not considered to be any cultural benefits	The provisions do not consider the effects on Ngai Tahu cultural values or protect unknown archaeological sites
Efficiency and Effectiveness		
The specific earthworks policies recognise the necessity of earthworks, however they repeat the objective to avoid remedy or mitigate effects rather than setting out how the objective is to be achieved which is not considered efficient. The provisions set out to avoid remedy or mitigate adverse effects, however this does not translate into the rule framework where most earthworks activities are permitted. The provisions also do not manage the effects of many earthworks activities, notwithstanding the nature, bulk or scale or location, apart from in specific locations subject to overlays, or refer to the earthworks standards of the subdivision and land development bylaw. The assessment criteria for activities is very broad and the provisions do not provide much guidance or direction for applicants. Furthermore, it appears that the reliance on the subdivision and land development bylaw has not been an entirely effective strategy as it is not clear who monitors and enforces it, and since there are few rules relating to earthworks little monitoring data exists. The current provisions have also not given effect to higher order documents and do not appropriately manage the potential environmental effects as required, and Council is therefore not fulfilling its statutory obligations under the RMA. The status quo is therefore not considered an efficient or effective way of managing earthworks.		
Overall Evaluation		
The status quo provisions are not considered to achieve the purpose of the Act. The provisions result in a potential long term environmental, cultural and social cost, and are not an efficient or effective way to manage earthworks. The existing provisions lack clarity and direction and do not clearly address the issues which have been identified, therefore maintaining the status quo is not an appropriate way to provide for or manage the effects of earthworks.		
Risk of acting or not acting		
The effects of earthworks activities are generally understood. There is also sufficient knowledge of earthworks activities undertaken within the district, and understanding of the effects of those activities to enable identification of the relevant resource management issues and the appropriate resource management responses to those issues. The effects of earthworks can be significant and wide ranging, the risk of not acting could mean a potential risks to the health and safety of people and property or degradation of water, soil and air quality. The quality of the surrounding environment and amenity values may also be impacted contrary to the stated objectives. The risk of not acting also includes that Council potentially not being able to carrying out its duty/requirements under the RMA.		

9.2 Summary of Preferred Options

Summary

The above table demonstrates that Option A Proposed Provisions are considered the most appropriate way to achieve that *earthworks and land disturbance for subdivision, land use and development are facilitated and undertaken in a manner that minimises adverse effects on the surrounding environment and protects the natural environment, Ngāi Tahu cultural values, people and property* and therefore is the preferred option. The preferred approach allows an effective and efficient management of the full range of environmental effects generated by earthworks and would require resource consent only for the earthworks that are of a size, scale, form or location that have potential for adverse environmental effects.

Appendix 1. Feedback Summary

Person / Organisation	Feedback summary	Response
Heritage New Zealand Pouhere Taonga	• Recommends HNZPT Accidental Discovery Protocol (or similar) is included as an Appendix to the plan. • The potential adverse effects from earthworks on heritage values should be recognised in the provisions	Earthworks relating to identified Historic Heritage sites are excluded from the earthworks provisions, and are dealt with in the HH chapter. The earthworks provisions however seek to protect unknown archaeological sites, and the accidental discover protocol applies to all activities through the EW-S7 standard. The wording of the protocol is not identical to the HNZ ADP, as it also applies in circumstances where HNZ would not be involved (such as finding of pounamu). To include the protocol as an appendix to the plan as well as the standards and in the mana whenua chapter is considered unnecessary duplication and it is intended to retain the standard. There is also a note in the chapter referring to the HNZPT.
Aggregate and Quarry Association	• Considers that quarrying activities are typically significantly different activities from general earthworks and should not covered under the earthworks provision. Highlights that quarrying is not included in the NPS definition. • If quarrying is covered by the provisions, it should be clearer which provisions apply to that activity • Supports the policy recognition of the benefits of extractive industries • Supports the Restricted Discretionary activity status and matters of discretion for quarrying	Quarrying and mineral extraction are distinctively different from other earthworks activities, and the recommendation to include them in the General Rural Zone provision instead is supported. The standards have been specified within the rule and are consistent with other rural industries and a definition of farm quarry has been included and is provided for.
Hamish Weir	• Recommends including provisions to provide for recreational tracks, subject to standard/conditions	Recreational tracks are arguably already covered by the transport network definition which cover “the movement of people... and includes... non-motorised modes of transport and pedestrians”, however for the avoidance of doubt it is supported to reference them in EW-R10.
BP Oil NZ Ltd, Mobil NZ Ltd & Z Energy Ltd	• Supports the exemption for activities specifically addressed under the NESCS, particularly the removal and replacement of fuel storage systems, but recommends amending the NES exemption wording to not only apply to permitted activities. • Supports the 3 metre maximum cut depth fill height standard, but recommends replacing the boundary control height/depth with a standard relating to protecting the stability of buildings on other sites. • Recommends including a standard to enable temporary land disturbance activities, for instance with sheet piling and geotechnical supervision. • Supports the general earthworks provisions	The recommended changes to the wording relating to NES are supported to avoid duplication of process. The standards as drafted are either consistent with other comparable plans or more permissive, and to be even more permissive would require further technical input. However, it is accepted that boundary controls for amenity reasons rather than stability may differ depending on the character of the zone.
Alliance Group Ltd	• Supports managing the effects of earthworks but recommend replacing the word 'avoid' as it is overly restrictive • Requests that the eastern boundary of the southern Alliance site that immediately abuts the Maitake River be exempt from the stream setback standard as there are no riparian values in this location	The objectives an polices have been reviewed in lieu of the feedback, and revised to be clearer about the outcomes sought to be achieved, however it is not supported to say “avoid, remedy or mitigate adverse effects” or “appropriately managed” as this does not provide sufficient direction or guides decision making. The alliance site adjoins the Maitake river, and the highly culturally significant Maitake Falls. Although the activities on the site are existing, it is not considered appropriate to exempt future earthworks as these could impact on stream values, including water quality, Ngāi Tahu cultural values and natural hazards.
Silver Fern Farms Ltd	• Supports managing the effects of earthworks but recommend replacing the word 'avoid' as it is overly restrictive	The objectives an polices have been reviewed in lieu of the feedback, and revised to be clearer about the outcomes sought to be achieved, however it is not supported to say “avoid, remedy or mitigate adverse effects” or “appropriately managed” as this does not provide sufficient direction or guides decision making.
Maitake Valley Milk	• Considers the general earthworks allowance too restrictive (General Rural and Industrial Zones) and suggest increasing allowance to 10 000m³ • Recommends reducing standard restrictions for: ○ cut/fill height in the General Industrial Zone, providing it complies with boundary controls ○ unretained batters, providing it complies with slope gradient and is in stable ground (undefined) ○ site reinstatement periods to be increased to 12 months	The general earthworks provisions already have a higher allowance for Industrial and General Rural Zones, this threshold is also consistent with other comparable plans. It is therefore not supported to increase the volume 10 fold as suggested as it is considered excessive. The standards as drafted are either consistent with other comparable plans or more permissive, and to be even more permissive would require further technical input. However, it is accepted that boundary controls for amenity reasons rather than stability may differ depending on the character of the zone.

Waka Kothai	• Supports the earthworks provisions, in particular policy that relates to recognising the benefits and necessity of earthworks to provide for the transport network and network utilities. • Supports consideration of traffic effects for general and rural earthworks as increased vehicle movement and the use of heavy vehicle and the tracking of soil on to the road can be a safety issue • Supports allowing for earthworks relating to the construction, upgrade or maintenance and repair of the transport network for highway maintenance. • Recommends to give further consideration of standards relating to cut depth and fill height as instability may be an issue without soil mapping and substrate information behind it • Supports consideration of functional need in relation to setbacks from rivers and streams, and the exclusion for regional earthworks.	Supported provision are retained. In relation to cut depth /fill height potentially causing land stability, the standards as drafted are derived from the existing subdivision and land development bylaw, and a building consent would also be required for retaining structures in some instances. In relation to unretained batters there is a reference to “not be constructed using moisture content susceptible soils” to prevent cracking, scarring and instability, although it is acknowledged that these soils are not mapped.
Clark Fortune McDonald & Associates	• Considers that the standard restriction of height to boundary for earthworks is unnecessary as this controlled by the batter slope standard • Recommends a reconsideration of the instability standard as the degree of slope of land is too low, and that it should be specified in a different format.	The unretained batter standards does provide a degree of height to boundary protection, however this would not apply to retained height/depth and a boundary control is therefore considered appropriate to retain. The land instability risk increases on steeper slopes. The standards as drafted are either consistent with other comparable plans or more permissive, and to be even more permissive would require further technical input. A note has been added that confirms what the slope angel is expressed in different formats (1:3.7 and 26.8 percent)
Southland Federated Farmers	• Recommends that farm quarries should not be considered together with commercial quarries as these are of a different scale and should be enabled while managing adverse effects. • Supports recognising the purpose and character of a zone and role/type of acceptable earthworks within it, consideration also needs to be given to functionality as visual effects must not take precedence. • Supports ensuring land can support a range of primary production activities, but considers requiring earthworks to be ‘appropriately located’ potentially problematic. • Considers that stream values that include public access may not be compatible with private property and to give consideration for short term effects that may provide for the longer-term environmental benefits. • Considers that some adverse amenity effects on surrounding sites must be anticipated within the rural environment.	Farm quarries are included within the mineral extraction and quarrying grouping, and these are now within the General Rural Chapter activity rules. However, a specific allowance applies to farm quarries depending on their scale, which also have their own definition. The matter of discretion that considers visual and landscape effects has been elaborated on to include a consideration of the functional need for the earthworks activity in their location. The objectives an polices have been reviewed in lieu of the feedback, and revised to be clearer about the outcomes sought to be achieved. It has been made clearer that the effects standard that sets the parameters for what is considered ‘appropriate’ in relation to location and amenity, and the management of effects differentiates between short term and ongoing effects, and takes the zone character in to consideration. Maintaining and enhancing public access to rivers is an RMA section 6 matter, and the provision is recommended to be retained, it may not be a relevant matter in all instances, but it should be considered.
Straterra	• Recommends to not include mining and quarrying within the Earthworks chapter, as they are distinctly different from other earthworks activities. Highlights that mining and quarrying are not specified in the NPS definition of earthworks. If they are retained in the chapter, it should be made clearer which provisions apply to mining. • Supports the policy that recognises the benefit and necessity of extractive activities. • Supports the Restricted Discretionary activity status and the matter of discretion for prospecting for and mining minerals.	Quarrying and mineral extraction are distinctively different from other earthworks activities, and the recommendation to include them in the General Rural Zone provision instead is supported. The standards have been specified within the rule and are consistent with other rural industries and a definition of farm quarry has been included and is provided for.
Department of Conservation	• Supports the overall approach to include additional rules and standards that apply to earthwork provisions in sensitive locations in the relevant chapters. • Supports the requirements for earthworks to be setback from streams and rivers, and recommends this should also apply to wetlands. • Suggests excluding earthworks associated with the restoration of indigenous vegetation from the earthwork provisions. • Recommends that the full zone names are referred to in the rules and standards.	The overall approach to manage earthworks in sensitive locations within the relevant chapter is retained, as is the setbacks to rivers and streams, however it is not recommended to include wetlands in the setback standards as this is managed by the NES FM. The exemption for restoration of indigenous vegetation is supported, the activity has long term environmental benefit and as such should be supported and is similar to planting of vegetation and crops and gardening that are also exempted.

Royal Forest and Bird Protection Society of New Zealand	• Recommends the objective is avoiding both immediate and ongoing adverse effects of earthworks on the surrounding and natural environment	The objectives and policies have been reviewed in lieu of the feedback, and revised to be clearer about the outcomes sought to be achieved. The reference in the objective to avoiding ongoing effects have been removed, but the policies differentiate between short term effects and ongoing effects.
Transpower Limited	• Supports the policy relating to earthworks within the national grid and confirms it is consistent with the NPS ET. • Opposes the list of exemptions to the rules as some of these could potentially compromise the National Grid and recommends relying on exemptions in the specific rules instead. • Supports the reference to exemptions for permitted earthworks undertaken under the National Environmental Standards, but notes that these should apply to all earthworks as the NES prevail over District Plans. • Supports a specific rule applying to land disturbance for the construction of fences, but recommends that these should align with NZECP34 within the national grid yard and apply in all areas including those subject to overlays • Supports a specific rule that relates to earthworks and land disturbance for network utilities, including access tracks and in particular the approach to having a maximum area open at any time. Recommends that this rule should apply in all areas of the District including those subject to overlays. • Supports the inclusion of specific rule for Earthworks within National Grid Yards, but recommends amendments to align with nationally consistent approach.	The policy relating to the National Grid has been retained, and the rule amended to reflect recommended changes and national approach. The recommended changes to the wording relating to NES are also supported to avoid duplication of process. However, it is not considered necessary to make specific references within rules to refer the national grid yard where there is a separate rule that applies.
Feedback Summary		
Feedback on the provisions was received from key stakeholders including government agencies such as the Department of Conservation, Waka Kothai and Heritage New Zealand, industry interest groups such as Southland Federated Farmers, the Fuel companies and the Aggregate and Quarry Association, local industries such as Silver Fern Farms, Maitua Valley Milk and Alliance Group Limited. Broad support was received for recognising the benefits and necessity of earthworks and for recognising the character of the zone or location and the type of acceptable earthworks within it, and for providing for general earthworks. However, it was also highlighted that the extractive industries such as quarrying and mining are primary production activities rather than earthworks, and that the same standards that apply to earthworks may not be applicable. Recommendations to make greater allowances included for greater bulk, scale and location of earthworks within the Industrial and Rural Zones, recreational tracks, standards relating to land instability, temporary land disturbance, short term and construction effects, restoration of indigenous vegetation, and for network utilities and infrastructure such as the National Grid in all areas including those subject to overlays. Recommendations to increase restrictions included to apply stream setbacks to wetlands, environmental protections from mining and fossil fuels industries, natural environment effects, historic heritage sites and developing an Accidental Discovery Protocol as an Appendix to the plan.		
Response summary		
To separate extractive industries out from the earthworks chapter, and include these provisions amended to align with the General Rural Zone instead. This approach is consistent with that Mining and Quarrying are defined as Primary Production activities. It is recommended to include Farm Quarries with extractive industries, but to make specific allowances for these. A review of comparable district plans has shown that allowances for farm quarries under 1500m² are typical, and that a sensitive activity or zone boundary setback applies. It is recommended to adopt the same approach consistent with other rural industry in the GRUZ provisions. To give further consideration to more bespoke effects standards depending on the anticipated character and amenity of the location and the activity, and where it may be appropriate to make greater allowances for bulk scale and location of earthworks, such as Industrial Zones but still ensure land instability does not become an issue or the undermining of buildings. It should be noted however that the standards as drafted relating to slope and cut depth or fill height are either consistent or more permissive than comparable plans, but looking at boundary setback for amenity protection may be appropriate. If the committee want to consider allowing for works on steeper slopes or greater cut depth or fill height it is recommended to seek expert advice and further technical work. To give further consideration to allowing for earthworks for network utilities in locations subject to overlays, however this will be dealt with under the Ecosystem and Indigenous Biodiversity Chapter and the Landscape Chapter respectively. However, allowing for additional earthworks relating to Historic Heritage sites is not considered appropriate. Setbacks from wetlands are managed through the NES FM by regional councils, and is therefore already managed Accidental Discovery Protocol applies as an earthworks standard in the draft plan, and in addition the Ngai Tahu ki Murihiku Accidental Discovery Protocol process is set out in the Mana Whenua chapter, which is also referenced in the earthworks chapter and standard. The Heritage New Zealand Pouhere Taonga Accidental Discovery Protocol applies separately to district plan requirements under the Heritage New Zealand Pouhere Taonga Act 2014, although follows a similar process. A reference to the HNZPT is already noted in the in the earthworks chapter and is recommended to be included in the standard as well. However, to develop a separate Accidental Discovery Protocol as an appendix to the plan is considered unnecessary duplication. To adopt other minor administrative changes to improve alignment, consistency or clarity.		