Regional Soil Plan for the Wellington Region

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Resource Management Act 1991

Approval of the Regional Soil Plan

The Wellington Regional Council hereby certifies that it has approved the Regional Soil Plan for the Wellington Region by resolution on 19 September 2000.

The Regional Soil Plan will become operative on the

9th day of October 2000.

The common seal of the)
Wellington Regional Council)
was affixed in the presence of)
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Margaret Shields)
Acting Chairperson)
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Howard Stone)
General Manager)

Chairperson's Foreword

I am very pleased to present the **Regional Soil Plan**. This is one of a series of regional plans for the Wellington Region, prepared by our Council under the Resource Management Act 1991, to help promote the sustainable management of the natural and physical resources of the Wellington Region.

Land users in the Region carry out a variety of activities that can affect soil health and the susceptibility of their land to erosion. This can result in loss of productive soils, adverse effects on water quality and aquatic habitats, and can create hazards to human life and property. This Plan acknowledges that land users have the prime responsibility for managing land sustainably, and that voluntary action by land users is the preferred approach to achieving sustainable land management.

The Plan allows most soil and vegetation disturbance activities to be carried out without a resource consent. Only large scale soil and vegetation disturbance activities on steep, erosion prone land are controlled. The Council will promote sustainable land management largely through non-regulatory methods like providing information, education, and advocacy about appropriate land use practices.

I would like to thank all those individuals and groups who contributed to the preparation of this Plan. We value your input. The public process used for developing regional plans has helped shape this document so that it reflects community expectations to use natural and physical resources while avoiding, remedying, or mitigating any adverse effects on the environment.

MARGARET SHIELDS
Acting Chairperson

Table of Contents

1. Introduction

1.1 Title

This Plan shall be known as the Regional Soil Plan for the Wellington Region.

1.2 Area Covered by the Plan

The Regional Soil Plan (the Plan) applies throughout the Wellington Region, on the landward side of the boundary of the coastal marine area. This Plan covers that land outside the beds of rivers and lakes. Activities in the beds of rivers and lakes are controlled in the Regional Freshwater Plan.

The Wellington Region (the Region) is the area administered by the Wellington Regional Council (the Council), and is shown on map SO 35951 (available at the Council). Figure 1 (page 2) shows an indicative map of the Region.

1.3 Scope of the Plan

In accordance with section 30(1)(c) of the Resource Management Act 1991 (the Act), the statutory responsibilities of the Council include the control of the use of land for the purpose of soil conservation, the avoidance or mitigation of natural hazards (which include erosion, land-slips, subsidence, and sedimentation), and the maintenance and enhancement of the quality of water in water bodies and coastal waters.

This Plan addresses the sustainable management of soil, vegetation disturbance activities, soil disturbance activities, and how any potential adverse effect may be avoided, remedied or mitigated. The Plan recognises that, for the use of land outside the beds of rivers or lakes, the presumption of the Act is that a resource consent is not required unless the land use contravenes a rule in a regional or district plan.

1.4 Structure of the Plan

The Plan is divided into nine sections. Section 1 is the Introduction. Section 2 identifies and describes the soil resources of the Region and the resource management issues associated with the use of those resources. Section 3 contains the Interpretation, and is printed on sand coloured paper for easy reference. This section gives the Plan's interpretation of technical words, Maori words, and words specifically defined for the purpose of applying rules in the Plan.

Figure 1: The Wellington Region (copy from Freshwater Plan)

Section 4 contains objectives and policies for promoting sustainable land management in the Region. These are grouped broadly into "general", "management", "tangata whenua", "vegetation cover", and "soil disturbance". This section is printed on sand coloured paper for easy reference.

Section 5 is printed on tinsel coloured paper. It contains a Guide to the rules in the Plan, and the regional rules for soil and vegetation disturbance activities.

Methods of policy implementation (other than rules) are in section 6. The principal reasons for adopting the objectives, policies, rules and other methods are in section 7. Section 8 contains the environmental results anticipated by implementing the Plan, and the procedures for implementing and reviewing the Plan are given in section 9.

1.5 The Regional Plan and Council's Annual Plan

Under the Local Government Act 1974, all local authorities must prepare an Annual Plan. The Annual Plan must outline the nature and scope of activities to be undertaken by the organisation over the financial year, along with the funds required to undertake those activities.

The Regional Soil Plan will influence the content of the Council's Annual Plan and budget. Some non-regulatory methods in the Regional Soil Plan will require the Council to undertake programmes of work. All work programmes proposed by the Council in this Plan will be subject to scrutiny through the Council's Annual Plan and budgetary process. It is this process which will determine the priorities and time frames, as well as the affordability, of the non-regulatory methods. These decisions will be made within a framework of economic reality.

The Council cannot do everything at once; many of the methods will need to be implemented progressively.

1.6 Supporting Documents

Two documents were released with the Proposed Plan in April, 1997. These were the *Background Report* and the *User Guide.* The *Background Report* set out the reasons why the Council adopted the approaches in the Proposed Plan in preference to alternative approaches. The *User Guide* was prepared to help people using the Proposed Plan. The *User Guide* is now out of date because the Plan has been changed substantially through the submission and appeal process.

The Council has six operative regional plans, including the Transitional Regional Plan. To help people find their way around the rules in all these plans, the Council has prepared a single User Guide. This is "Regional Plans: a user guide to the rules of the Wellington Region" published in October 2000.

2. Resource Description and Issues

2.1 The Wellington Region Soil Resource

The Wellington Region can be divided into three areas: the coastal lands and terrace soils north of Paekakariki; the rugged axis (incorporating the Tararua, Rimutaka and Orongorongo ranges, and the remnant peneplain found from Belmont to Makara and further around the South Coast); and Wairarapa.

Coastal and Terrace Soils North of Paekakariki

The coastal lands north of Paekakariki are largely sand dunes and related soils. Within this area, four phases of dunes and related soils have been identified:

- the Foxton phase (formed 2000-3000 years ago);
- the Motuiti phase (formed 500 years ago);
- the Waiterere phase (formed 100 years ago); and
- the Foredunes (presently forming).

The soils associated with these four phases show advancing development with increased age. For example, the Waiterere soils show very little modification of the sand, except for darkening of the top few centimetres with organic matter. However, the Foxton soil has developed a deep, dark topsoil and a coloured B horizon in the 2000-3000 years since the sand parent material was stabilised. The Foxton soil also has a higher clay content and greater ability to hold plant nutrients.

The potential uses of coastal sand dune soils are limited by a number of factors, particularly summer drought and wind erosion. Nevertheless, land use is quite varied, with the traditional pastoral use being replaced with exotic forestry on some of the erosion prone soils, and market gardening and horticulture on the better organic soils of the sand plains.

The stony terrace soils found on the Hautere Plain are similar to other stony terrace soils common in alluvial landscapes throughout New Zealand. Most of these soils are associated with the stony gravels laid down as fluvioglacial outwash surfaces, or cold climate floodplains during cold stages of the late Quaternary Period ice ages. These soils are moderately leached and well drained, with very dark greyish brown A horizons, and dark yellowish brown to light olive brown B horizons.

Stony terrace soils tend to dry out in summer, increasing the potential for wind erosion. With the use of irrigation systems, these soils become very suitable for intensive sheep and dairy farming. In addition, there is some berry fruit and market gardening.

Rugged Axis Soils

The "rugged axis", incorporating the Tararua, Rimutaka, and Orongorongo ranges, effectively divides the Region down the middle and separates the western sand country from the Wairarapa country. The soils that are common through this central divide are generally dominated by slope and climate. On gentler slopes, Judgeford and Belmont soils (brown earths, typical of the area) have developed in the silty loess and colluvium. On the gully and valley sides, the loess has largely been eroded away and the shallower Korokoro and Makara soils occur over greywacke bedrock. With increasing altitude towards the ranges, rainfall increases sharply and the soils are strongly leached (Ruahine and Rimutaka steepland soils) and podsolized (Renata soils).

Around Pauatahanui and east of the Hutt Valley, the soils undergo a marked change. Whereas Belmont/Pauatahanui soils are friable silt loams with only 20-30 percent clay, the Paremata and Taita soils of these areas are deep, compact and clay textured (40-70 percent clay), and of very low fertility.

There are recent alluvial soils on the floodplains of the major rivers. The most obvious examples of these are within the Hutt and Wainuiomata valleys.

Wairarapa Soils

The soils of the Wairarapa can largely be divided into three groups; recent alluvial soils, steepland hill soils, and the east coast sand dunes.

The recent alluvial soils occur on the floodplains and lower terraces of rivers. The soils are formed from predominantly sandy and silty material (alluvium) eroded from the rocks of the catchment. The alluvium is sorted and deposited in layers during flood events, thus forming free draining and fertile floodplains. Where free from regular flooding, and of sufficient depth, some of the recent alluvial soils are the most versatile and naturally fertile soils in New Zealand. Consequently they have a wide range of uses.

The soils of the eastern Wairarapa hill country are dominated by siltstone and mudstone lithologies. When undisturbed, these hill soils have a distinct topsoil overlying paler lower horizons. However, in general these soils are prone to both shallow soil slips and mass movement erosion, and restorations rates of the soil are very slow. The traditional land use of pastoral farming is still common, although in recent years a noticeable change to forestry has occurred.

The east coast sand dunes have similar limitations for land use as the west coast equivalents. In particular, summer drought and wind erosion can severely limit productivity.

2.2 Issues

General

2.2.1 **The adverse effects of human land use activities on the soil resource are compounded by the fact that significant parts of the Region are inherently susceptible to high levels of erosion.**

More than 40 percent of the Region is made up of highly erodible young sedimentary rocks, that is, mudstones, siltstones and sandstones. These rocks are poorly structured and are further weakened by tectonic processes, such as earthquake faulting and crushing. A further 24 percent of the Region, incorporating the Tararua, Rimutaka and Aorangi ranges, is steep, recently uplifted greywacke bedrock. These ranges have ongoing tectonic processes and high annual rainfalls (mean annual rainfall up to 6000 mm), which contribute to rapid rates of erosion.

Some land use activities on such highly erosion prone land have the potential to generate significant adverse effects on the soil resource, compared with the same activities on more stable land.

2.2.2 **Inappropriate land use activities can reduce the potential of the Region's soils to provide for a range of uses for present and future generations.**

Land use activities can impact on both the quantity and quality of the soil resource. Adverse impacts, which in human timeframes are irreversible, effectively reduce the potential of the soil resource to provide for a full range of uses. The loss of soil potential will impact on present and future generations.

Soils throughout the Region contain different physical, chemical and biological properties which, either individually or collectively, enable a range of different uses to be undertaken. Where irreversible change to these soil properties occurs, the existing potential of the soil resource to meet a range of current and future needs is reduced. Activities such as topsoil mining and turf farming may keep the soil resource within the Region but reduce soil potential at the original site.

Another concern is the requirement for the use of land irrespective of the nature of the overlying soil resource. Present and future generations will continue to demand land for urban development. Such demands can be for residential, industrial or commercial land uses. These types of land use place more emphasis on the physical components of the land, such as slope, aspect and rock type. Similarly, demands for mining and quarrying land uses place greater emphasis on the quality of material below the soil than the quality of the

soil. In these cases, the nature of the soil resource is largely irrelevant to the land use decision. These types of land use have essentially irreversible effects on the soil resource as the physical, chemical and biological properties are affected to such an extent that the soil can subsequently only provide for a reduced range of uses. Allowing activities with irreversible effects to locate on high quality soils reduces the potential of the Region's soils as a whole. In some cases, there may be no suitable alternative sites and some soil loss has to be accepted. With regard to mining and quarrying, the purpose of the Act (section 5) does not include the sustainable management of minerals, but does include the sustainable management of soils.

2.2.3 **A long-term reduction in soil quality can result from land use practices.**

Land use practices such as overstocking and over-cultivation can result in a long term reduction in soil quality. A long-term reduction in soil quality may reduce the life-supporting capacity of the soil, and therefore reduce the soil's potential to meet the reasonably foreseeable needs of future generations. Activities such as over-irrigation and grazing of stock on wet soil or erosion prone land can cause pugging of pastures and long-term degradation of soil quality.

In this Plan, ‘soil quality’ means the state of a particular soil with respect to those desirable components required to maintain the life-supporting capacity of the soil. Components of a quality soil that maintain the life-supporting capacity of the soil include:

- **Soil fertility and chemical properties**
  - suitable pH
  - presence and availability of soil nutrients
- **Physical properties**
  - organic matter
  - good structure
  - adequate drainage
  - adequate moisture
- **Biological properties**
  - sustainable, diverse and stable soil biota
  - high earthworm numbers

In undisturbed environments, the required components of a quality soil are usually in a natural state of balance. For example, a large proportion of nutrients taken up by plants are eventually returned to the soil as plant litter. The plant litter is then broken down into nutrients able to be used for further vegetation growth. In this way, nutrients continuously cycle between the soil and the vegetation cover. When an area is used for crops or animal production, this cycling of nutrients can be interrupted.

Management

2.2.4 **There is sometimes incomplete or limited information about soil resources and the effects of activities on the soil resource to determine whether some land uses are unsustainable.**

For the provisions of this Plan to be most effective, the Council needs the most up to date information available, which can be used to:

- re-evaluate sustainable land management as relevant to the Region;
- assess the state of soil resources;
- monitor compliance with resource consents; and
- provide background information in the development of regional plans.

Monitoring and investigation must be carried out for these purposes and to benefit resource users and the community in general.

2.2.5 **Land users are often unaware of the effects of their activities on the environment.**

The effects of activities are often gradual and may not be noticed until significant damage and corresponding lowering of productivity has occurred. For a positive change to occur, the community needs to be aware of the risks and effects of inappropriate use of soil resources. For effective community response, individuals need to have information on sustainable land management made available to them.

2.2.6 **Uncertainty about the respective roles and responsibilities of land stakeholder groups, including land users, industry and local government, has the potential to lead to uncoordinated and ineffective sustainable land management initiatives.**

A number of stakeholder groups, including the Council, have interests in sustainable land management. Land users and those who provide support services need to recognise and understand their respective roles so that the long term and permanent changes that are required to achieve sustainable land management do occur.

Tangata Whenua

2.2.7 **Use of the Region's soil resource can adversely affect cultural and spiritual values. Therefore, the management of soil resources needs to take into account the issues of significance to tangata whenua.**

This includes:

- recognition of the value placed upon sites of spiritual, cultural or historical importance such as waahi tapu;
- encouragement of tangata whenua involvement in decision making processes; and
- the Maori view of the environment as a living being.

Vegetation Cover

2.2.8 **Vegetation disturbance on some landforms may result in accelerated erosion leading to a significant adverse effect on the soil resource and water quality.**

Some landforms are inherently unstable and may experience erosion irrespective of land use. However, much erosion can often be avoided or minimised if vegetation is retained.

Mass movement erosion can be minimised if appropriate vegetation is maintained on-site. Deep rooted vegetation, for example many tree species, provides an “anchoring” effect on slope stability through the mechanical holding of the soil. As well as roots, vegetation features such as evapotranspiration and canopy interception assist slope stability because they remove or restrict water from the soil profile and so prevent water-logging. When such vegetation is removed, the anchoring effect is gradually lost as the plant roots die. Slope failure may then be triggered should intense rain or protracted wet weather occur. Where trees have to be removed, as in commercial forest harvesting, measures may need to be taken to avoid the adverse effects of erosion and slope failure.

Vegetation such as pasture, tussock and shrubs provide effective sediment traps, reducing the rate of soil runoff and wind erosion.

Loss or removal of vegetation cover on loess soils may initiate or increase the occurrence of desiccation cracks. Such cracks can lead to the development of under-runners and tunnel gully erosion.

Should vegetation clearance trigger erosion or sediment runoff, the following adverse effects may occur:

- aggradation of river and stream beds, which may increase the flood hazard and reduce the effectiveness of flood protection works;
- a decline in water quality and instream habitats leading to adverse effects on aquatic life and amenity values; and
- a loss of productive capacity of the eroded area and of the runout zone.

2.2.9 **The removal of riparian vegetation cover may exacerbate riverbank and stream bank erosion and reduce the effectiveness of river margins to trap sediment and nutrient runoff.**

Removal of riparian vegetation can lead to localised effects such as undercutting of banks by rivers and streams due to a reduction in river or stream bank stability.

In addition, the erosion of the margins of rivers or streams can have off-site effects. For example, vegetation clearance can lead to elevated sediment loads which in turn may lead to the following effects:

- aggradation of river and stream beds, which may increase the flood hazard and reduce the effectiveness of flood protection works; and
- a decline in water quality and instream habitats leading to adverse effects on aquatic life and amenity values.

Effective riparian management can reduce these adverse effects.

2.2.10 **Erosion may be triggered or reinitiated if erosion control plantings are removed or poorly maintained.**

Erosion control plantings include:

- spaced tree plantings on hill sides;
- dense tree plantings in gullies where runoff is concentrated;
- tree plantings on the banks of rivers and streams;
- sand dune stabilisation plantings;
- roadside and slip reseeding; and
- soil conservation woodlots.

If erosion control plantings are not adequately maintained, the effectiveness of the plantings in stabilising land will be reduced.

A decline in the effectiveness of erosion control plantings can be caused by many factors. Inappropriate species selection and siting, or allowing river and stream bank plantings to become too large and therefore increasing the possibility of windfall, will all reduce the usefulness of the plantings. Poor logging practices while harvesting "soil conservation woodlots" may also accelerate erosion rates, while grazing of erosion control plantings by stock and/or pests will reduce the effectiveness of such vegetation.

Soil Disturbance

2.2.11 **There are concerns within the community that the life-supporting capacity of soils may be lost or reduced during and following soil disturbance activities.**

Some soil disturbance activities may result in the physical loss of the soil. Should this occur, the life supporting capacity of the soil resource may also be lost. However, all the concerns and interests of the community must be considered in decision making and it must be accepted that in some activities the life supporting capacity cannot be fully or partially restored.

Soil largely forms from the top down. Hence, the most developed and productive soil (known as the A horizon) occurs at or near the surface. If this A horizon is damaged or removed (such as through topsoil mining), then less developed and less productive soil becomes exposed to the elements (i.e., rain and wind). Moreover, this less developed soil is generally more susceptible to erosion from such forces than the more developed upper soil.

The formation of a fertile, productive soil takes many years. Soil can be damaged in a relatively short time, along with a corresponding decline in its productive capability. The recovery rates for some soils may take hundreds of years. Therefore, adverse effects and a decline in the productive capability of a soil tend to be long term.

2.2.12 **Sediment-laden runoff can have adverse effects on the receiving environments during and following soil disturbance activities.**

Soil disturbance activities can lead to large quantities of sediment generation and runoff. Sediment-laden runoff may cause deterioration of water quality, enhanced flood risk, and siltation of shallow marine and wetland environments.

Sediment-laden runoff may also cause the aggradation of sediment on the beds of rivers and streams. Such aggradation can lead to reduction in the flow capacity of rivers and streams, and to reduction in the capability of the design

capacity of flood mitigation works, with a corresponding increase in the risks associated with flooding.

Sediment-laden runoff into shallow marine environments, such as Pauatahanui Inlet, may also cause in-filling of the receiving environment. Such in-filling, and any reduction in the aesthetic and biotic qualities of shallow marine environments, is undesirable.

While these adverse effects of sediment-laden runoff occur in the coastal marine area or in rivers and lakes, the activities which cause those effects are land based and thus are managed through this Plan.

3. Interpretation

In this Plan:

Act	means the Resource Management Act 1991, including any subsequent amendments.
Area 1	is that area of land within the Wellington Regional Council's jurisdiction that extends: • east of the Ruamahanga River to the east coast; and • west of State Highway 1 to the west coast, north of Pukerua Bay. (See Appendix 1)
Area 2	is that area of land within the Wellington Regional Council's jurisdiction where: • the eastern boundary is the Ruamahanga River; and • the western boundary is the west coast south of Pukerua Bay and State Highway 1, north of Pukerua Bay. (See Appendix 1)
Erosion	means the wearing away of the land surface by running water, wind, ice or other agents, including processes such as gravitational creep.
Erosion prone land	means any land within Area 1 (see definition) with a slope greater than 23 degrees; and any land within Area 2 (see definition) with a slope greater than 28 degrees. Slope is the angle from horizontal and is measured in degrees to an accuracy no less than that achieved by a hand-held inclinometer or abney level.
Ground-based methods	means the disturbance of vegetation through the use of mechanical means such as crawler tractors, skidders, forwarders, or farm tractors, but does not include aerial or cable logging systems.
Hapu	means a tribe or subtribe (see also iwi).
Iwi	means a tribe or people.
Kaitiaki	means a person or agent who cares for taonga; taonga may be spiritual or physical; a guardian or steward, but the meaning of Kaitiaki in practical application may vary between different hapu and iwi.
Kaitiakitanga	means the exercise of guardianship by the tangata whenua of an area in accordance with tikanga Maori in relation to natural and physical resources; and includes the ethic of stewardship.
Re-established in woody vegetation	means the physical replanting of an area of vegetation disturbance in exotic or regenerative indigenous species to achieve canopy closure, but does not mean regeneration of the area by natural processes.

Roading or tracking activities means any earthworks associated with the formation of any new road or track, or the upgrade of any existing road or track. Roading or tracking activities include the formation of skid sites and any access way, such as driveways and paths and railway tracks, but excludes any tracking undertaken by a mine or quarry operation which either had a currently valid mining license, or was lawfully established, at 26 April 1997 (the date the Regional Soil Plan was publicly notified).

Root raking means a land preparation method using a root rake whereby the root systems of vegetation are removed by mechanical means. Because the root systems are targeted, this method necessarily requires the disturbance of soil. Root raking does not mean the clearance of slash, debris or other cut vegetation lying on the land surface.

Slash means the woody debris remaining after logging or vegetation disturbance activities.

Soil means a layer of organic and inorganic materials that overlies inorganic materials (either consolidated or unconsolidated)**[**, including rock fragments weathered from the bedrock**]**.

Soil disturbance means the disturbance of soil by any means, including blading, blasting, contouring, ripping, root-raking, moving, removing excavating, and cutting.

Soil disturbance excludes:

- soil disturbance as a result of vegetation disturbance activity;
- non-motorised soil disturbance activities;
- thrusting, boring, trenching or mole ploughing associated with cable or pipe laying;
- soil disturbance undertaken by a mine or quarry operation which either had a currently valid mining licence, or was lawfully established, at 26 April 1997 (the date the Regional Soil Plan was publicly notified);
- cultivation and grazing; and
- foundation works for structures.

Tikanga Maori means Maori customary values and practices.

Upgrade Upgrade of an existing road or track means an increase in the road or track width by undertaking earthworks on the batter that extends the road or track width by greater than 20% of the existing width, within any 12 month period.

Upslope batter height means the vertical height of a formed cut or slope immediately upslope of any road or track. (See Appendix 2.)

Vegetation disturbance

Means the clearance or destruction of vegetation by physical/ mechanical or chemical means and includes logging, felling or harvesting of trees and the burning of vegetation.
Vegetation disturbance does not include*:*

- vegetation disturbance associated with a roading or tracking activity or a soil disturbance activity;
- root raking;
- grazing or cutting of grass;
- pruning, thinning or layering;
- plant pests (as identified in Table 2 of the Regional Pest Plant Management Strategy, Wellington Region 1996-2001 (WRC/WA-G-96/38) cut by hand;
- clearance of scattered or intermittently occurring regenerating bush or scrub on existing pastoral land;
- the collection of plants for traditional medicinal or cultural use;
- the trimming of vegetation (for example, along existing private and public roads, railway lines, and under or over a public utility network, or within public reserves and land held under the Conservation Act 1987);
- the removal of vegetation for the purposes of creating a building site;
- vegetation disturbance undertaken by a mine or quarry operation which either had a currently valid mining licence, or was lawfully established at 26 April 1997 (the date the Regional Soil Plan was publicly notified); or
- spraying of annual pasture weeds and all thistles, including biannual thistles.

  Note: The spray application of agrichemicals is addressed in the Regional Air Quality Management Plan for the Wellington Region.

Waahi Tapu means a sacred site. These are defined locally by the hapu and iwi, which are the kaitiaki for the waahi tapu.

Water body means fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area.

Watercourse means any permanently flowing river or stream and any intermittently flowing river or stream with a bed width greater than or equal to one metre.

The meaning of soil was substituted for the original meaning by Plan Change 1 to the Regional Soil Plan 2003

4. Objectives and Policies

4.1 Objectives

General

4.1.1 Land use practices reflect the inherent susceptibility of some landforms to erosion.

4.1.2 The potential of the Region's soils to provide for a full range of uses for present and future generations is maintained or enhanced.

4.1.3 The life-supporting capacity of the Region's soils is maintained.

Management

4.1.4 There is sufficient information available to make sound resource management decisions.

4.1.5 People and communities are informed about sustainable land management and soil conservation.

4.1.6 Land users and those who provide support services have a clear understanding of their respective roles and responsibilities for achieving sustainable land management.

Tangata Whenua

4.1.7 The principles of the Treaty of Waitangi are taken into account in the management of the Region's soil resource.

Vegetation Cover

4.1.8 Any adverse effects of accelerated erosion are avoided, remedied or mitigated.

4.1.9 On erosion prone areas vegetative cover is maintained (including maintained through revegetation), enhanced or established; or

where the retention of vegetation is not practical, other methods are used so that the adverse effects of erosion are avoided, remedied or mitigated.

4.1.10 Riparian vegetation cover is maintained, enhanced or established, so that erosion and sediment deposition is minimised in and around water bodies.

Soil Disturbance

4.1.11 Land management practices are adopted for the effective control of sediment runoff to water bodies.

4.2. Policies

General

4.2.1 To promote land management practices that recognise the inherent susceptibility of some landforms to erosion.

Explanation. *Policy 4.2.1 recognises that erosion is not uniform across different landforms within the Region. Given this situation, land management practices should be tailored to recognise the inherent susceptibility of different landforms to erosion. For example, practices that are suitable in the more stable greywacke areas (Area 2) will not be appropriate in areas of sedimentary rocks (Area 1). One example of land use where practices need to be tailored is forestry, where different harvesting techniques are used according to the erodibility of the landform.*

4.2.2 When considering land use activities which have the potential for irreversible effects on soils, to have regard to locating those activities, where practicable, on soils of low versatility.

Explanation. *Land use activities which cause irreversible effects are of most concern when considering the use and development of soils. It is recognised, however, that on some occasions the adverse effects of activities on the soil resource may be irreversible. When these situations arise, consideration should be given to locating such activities on less versatile soils so as to minimise the loss in potential of the Region's soil resource as a whole.*

When the situation arises as part of a resource consent application, whilst noting the site specific nature of resource consents, where practicable, regard should be had to soil versatility. With respect to a district plan change or variation, where practicable, soil versatility should be one of the factors to be taken into account in the zoning of land.

Soil versatility is determined by the physical, biological, and chemical properties of a soil. All soils have some degree of soil versatility. The naturally occurring

properties of some soils mean they have the potential to support a wider range of uses compared to soils of lower versatility. Versatile soils may be valued for a variety of reasons. These include the capacity to produce a wide variety of crops, the capacity to support indigenous vegetation or habitats and the capacity to fulfil water and soil conservation functions.

When planning for and considering resource consents for land use activities, the decision making process should include, amongst other things, a consideration of the effects of the activity on soil versatility. Regard should be had to locating activities that have irreversible effects on the soil resource on sites of lower versatility if alternative sites exist and it is practicable for the activity to be located there. This policy signals that soil versatility should be one factor for consideration in the decision making process for resource consent applications relating to land use. The policy does not necessarily mean that activities which do not make full use of the soil resource cannot obtain a resource consent to establish and operate.

4.2.3 To encourage the implementation of planned soil conservation initiatives on a whole catchment, sub-catchment or single property basis.

Explanation. *Policy 4.2.3 encourages whole catchment or sub-catchment soil conservation programmes, while recognising that in many situations, in order to develop whole or sub-catchment soil conservation programmes, single property programmes may be the best starting point.*

In this policy 'encourage' means that, where appropriate, the Council may:

- *provide financial assistance;*
- *target erosion prone soils on a priority basis;*
- *initiate Catchment Control and Landcare schemes;*
- *provide advice on appropriate soil conservation plant species; and*
- *promote sustainable land management.*

4.2.4 To encourage users of soil resources to adopt an ethic of stewardship for future generations.

Explanation. *The ethic of stewardship recognises that land users are 'caretakers' of the soil resource and that any use of the soil will not reduce the options for future generations.*

Such an ethic ensures that users of the soil resource consider their present needs as well as the needs of future generations.

4.2.5 To promote and facilitate the adoption of sustainable land management practices.

Explanation. *This policy is self explanatory.*

Management

4.2.6 To provide for research and monitoring which will assist the Council to further its sustainable land management objectives.

Explanation. *Policy 4.2.6 recognises that information on the state of the soil resource and the effects of land use on soils is required in order to determine the sustainability of differing land use practices.*

4.2.7 To have particular regard to the National Sustainable Land Management Strategy and further develop this for the Wellington Region.

Explanation. *A National Sustainable Land Management Strategy has been prepared by the Ministry for the Environment. The purpose of the Strategy is to enable land users and those who provide support and services to land users, to work together more effectively. The Strategy provides a national framework and statement of what the Government intends to do to encourage environmental improvements on private land.*

The Strategy has implications for the Council as a key stakeholder. The Council presently undertakes a number of land management activities and is looked on as a lead agency for developing and co-ordinating sustainable land management initiatives. As the national strategy is progressively implemented a significant amount of information and support systems are expected flow through to key stakeholder groups. The Council's role is to give effect to these initiatives at the regional level.

4.2.8 To work with other relevant agencies and groups in order to determine roles and responsibilities for promoting and achieving a co-ordinated approach to sustainable land management.

Explanation. *Relevant agencies and groups with responsibilities and interests which may affect sustainable land management include the Council, territorial authorities (responsible for land use), the Ministry of Agriculture and Forestry, Department of Conservation, Ministry for the Environment, Crown Research Institutes, Federated Farmers, NZ Farm Forestry Association, Forest Owners Association, mining and quarrying industry representatives and tangata whenua.*

In order to achieve sustainable land management, clear roles and responsibilities must be established and a co-ordinated approach to sustainable land management implemented.

4.2.9 To recognise that land managers and owners have the prime responsibility for achieving sustainable land management in the Wellington Region.

Explanation. *A key to achieving sustainable land management is for land users to feel responsible for the sustainable use of their land and to be accountable for the effects of their activities on the environment. This accords with section 17 of the Act, which states that every person has a duty to avoid, remedy or mitigate adverse effects on the environment. Information and support services can be provided by a number of stakeholder groups, but the final responsibility for implementing sustainable land management initiatives rests with land owners and managers.*

In the context of this policy, "land managers" refers to those who make and carry out the day-to-day management decisions regarding the use and development of land, and not the statutory land management responsibilities that agencies may have under the Act. Such managers include land owners, farm managers and forestry managers.

4.2.10 To recognise that voluntary action by land users is the preferred approach to achieving a change in unsustainable land management practices.

Explanation*. Reliance on voluntary actions by landowners is the preferred policy approach to achieving the adoption of more sustainable land management practices. In many situations, a strong regulatory approach is not justified and often cannot be supported with defensible evidence of the adverse effects generated by some land use activities.*

Adopting a voluntary approach is in accordance with the Council's belief that the majority of land users are already making significant advances in managing the effects of their activities on the environment.

4.2.11 To recognise that information and support services will be required to achieve voluntary change in unsustainable land management practices.

Explanation. *Using voluntary actions as a means to achieve sustainable management outcomes will rely on educating land users about the effects of their activities. Information and support services will be important tools to assist land users to change unsustainable land management practices.*

4.2.12 To ensure that territorial authorities adopt subdivision provisions in their district plans, and include conditions on subdivision consents, to avoid, remedy or mitigate adverse effects of soil disturbance and vegetation clearance, including any adverse effects on water quality or soil conservation, where those effects are associated with the subdivision of land.

Explanation. *The policy provides guidance to territorial authorities about the types of effects the Council wishes to see controlled through the subdivision process. Because territorial authorities have responsibility for subdivision, it is appropriate that district plans and subdivision consents consider the full range of*

potential effects associated with the subdivision of land. The effects on water quality relate to the generation and discharge of elevated levels of sediment into water bodies and coastal waters resulting from soil disturbance activities undertaken as part of the subdivision activity. The soil conservation effects of concern relate to slope stability and erosion of land within and adjacent to the subdivision site.

Compliance with this policy can be achieved by incorporating as subdivision consent conditions, the requirement to comply with provisions of the Wellington Regional Council Guidelines for Silt Control Associated with Mass Earthworks, 1988 and any relevant codes of practice for subdivision and land development, or such similar document (e.g., the Code of Practice for Urban Land Subdivision, NZS 4404: 1981, and the Code of Practice for Earth Fill for Residential Development, NZS 4431: 1989).

Tangata Whenua

4.2.13 To encourage resource consent applicants to notify and consult directly with any affected tangata whenua group where a resource consent application is for an activity in, or immediately adjacent to, a site of significance to tangata whenua. As part of this consultation the applicant should determine:

- whether the granting of the resource consent would have any effects on the values that cause the site to be significant to tangata whenua; and
- how any actual or potential adverse effects which might result from the activity could be avoided, remedied or mitigated (in that order of preference).

Explanation. *Soil disturbance activities could potentially affect the values which make specific sites significant to tangata whenua. The applicants will need to show whether any actual or potential adverse effects can be avoided, remedied, or mitigated. This could be achieved through changes in design of the proposal, negotiation with tangata whenua, or conditions on the resource consent. The tangata whenua group affected may be an iwi authority, but it is also likely to be a smaller group such as a land-owning trust, a hapu, or a whanau.*

In the context of this policy, "site of significance" means any site which is identified as a result of implementing Method 6.2.3. In the period before the sites have been identified and the listing is available for use, sites of significance can be determined through reference to the New Zealand Archaeological Association database, available through the Department of Conservation, the Historic Places Trust, and tangata whenua databases of waahi tapu places.

Applicants should also note that the Historic Places Act, 1993 has additional requirements about the disturbance and modification of historic and archaeological sites.

Vegetation Cover

4.2.14 To avoid, remedy or mitigate the adverse effects of vegetation disturbance by promoting:

- the maintenance and enhancement of vegetation in erosion prone areas;
- the conversion of erosion prone areas to forestry or soil conservation woodlots, or regeneration or active restoration to native bush;
- riparian management, including where this will help safeguard the life-supporting capacity of aquatic ecosystems;
- compliance with industry recognised standards and procedures such as the Logging Industry Research Organisation's (LIRO) “Forestry Code of Practice” (Second Edition, 1993); and/or
- the maintenance and retention of erosion control plantings.

Explanation. *All land is potentially erodible following vegetation disturbance. However, much accelerated erosion can be avoided, remedied, or mitigated by ensuring long-term vegetation cover on land and adhering to industry recognised standards and procedures. The promotion of the points listed can be done through the Council’s advisory service for soil conservation and through the placing of conditions on resource consents.*

A Riparian Management Strategy will be prepared by the Council as a means of implementing those policies and methods relating to riparian management, that are included in the Regional Policy Statement, Regional Soil Plan, and Regional Freshwater Plan for the Wellington Region. This strategy will:

- *determine the potential of managed riparian margins for controlling adverse effects on water bodies in the Region (such as, pollution, aquatic ecosystem degradation, and bank erosion);*
- *identify those situations where the Council should promote riparian management and determine a cost effective means by which this can be done;*
- *identify land management practices which reduce the incidence of non-point source pollution and determine ways by which these practices could be promoted; and*
- *promote the management of Council lands for the purposes of maintaining or improving the structural integrity of the beds and banks of water bodies, flood management, maintaining and enhancing water*

quality, and encouraging the healthy functioning of aquatic and riparian ecosystems.

Soil Disturbance

4.2.15 To regulate soil disturbance activities to ensure that they are unlikely to have significant adverse effects on:

- erosion rates;
- soil fertility;
- soil structure;
- flood mitigation structures and works;
- water quality;
- downstream locations;
- bridges, culverts and other water crossing structures;
- aquatic ecosystems; and
- historic sites with tangata whenua values.

Explanation. *This policy is self explanatory.*

4.2.16 To ensure that recognised erosion control and land rehabilitation techniques are adopted to avoid, remedy or mitigate any adverse effects resulting from soil disturbance activities.

Explanation. *Recognised erosion control and land rehabilitation techniques include:*

- *controlling the extent and duration of soil disturbance activities;*
- *implementation of sediment retention works, for example, silt ponds in accordance with the Wellington Regional Council Guidelines for Silt Control Associated with Mass Earthworks (1988);*
- *contour cultivation, field bordering, and the establishment of riparian strips;*
- *revegetation;*
- *retention of existing vegetation where feasible;*
- *stabilisation of disturbed areas;*
- *inspection and maintenance of sediment retention works;*
- *direct drilling;*
- *stockpiling topsoil for reuse in a manner that preserves its structure and biological activity;*
- *for topsoil mining activities, compliance with land rehabilitation guidelines, as contained in Appendix 3;*

- *for mining and quarrying sites, compliance with site management plans;*
- *controlling the timing of soil disturbance activities;*
- *protecting areas from grazing animals;*
- *channelling and drainage; and/or*
- *retaining walls.*

5. Regional Rules

5.1 Guide to the Regional Rules for Uses of Land

The rules in this Plan restrict some uses of land described in section 9(4) of the Act. Section 9 is permissive, that is, any use of land is allowed as of right unless it is specifically restricted by district rule or a regional rule. This means that any use of land that is not described in any of the rules in this Plan can proceed without a resource consent from the Council. This does not exempt people from complying with the requirements of district plans, and other regional plans that apply in the Wellington Region.

The uses of land restricted by regional rules in this Plan are as follows:

Soil disturbance

Rule 1	Restricted Discretionary Activity	Roading and tracking
Rule 2	Restricted Discretionary Activity	Disturbance of more than 1,000 cubic metres of soil on erosion prone land

Vegetation Disturbance

Rule 3	Permitted Activity	Disturbance of more than one hectare of vegetation on erosion prone land
Rule 4	Restricted Discretionary Activity	Disturbance of more than one hectare of vegetation on erosion prone land and not complying with the conditions of Rule 3

5.2 Rules for Soil Disturbance

Rule 1 Roading and tracking

Any roading or tracking activity that is:

(1) located in Area 1 and, during any 12 month period, will result in a road or track having a continuous length of new upslope batter extending for greater than 200 metres, with a height of greater than 1.5 metres measured vertically; or

(2) located in Area 2 and, during any 12 month period, will result in a road or track having a continuous length of new upslope batter extending for greater than 200 metres, with a height of greater than 2 metres measured vertically;

excluding any roading or tracking activity that is

(a) undertaken in accordance with conditions on a subdivision consent;

is a **Restricted Discretionary Activity**.

Discretion

The matters over which the Wellington Regional Council has restricted the exercise of its discretion are:

(1) the duration of the consent;

(2) the carrying out of measurements, samples, analyses, surveys, investigations, or inspection;

(3) the provision of information to the consent authority at specified times;

(4) compliance with monitoring, sampling and analysis conditions at the consent holder's expense;

(5) the payment of administration charges;

(6) the methods of sediment retention and sediment run-off control to be adopted;

(7) any measures necessary to rehabilitate the land following the completion of the activity;

(8) the effects of the activity on soil conservation and water quality, including any measures necessary to avoid, remedy or mitigate those adverse effects;

(9) any steps to be taken to ensure the minimisation of vegetation, soil, slash or any other debris entering any water body;

(10) any steps to be taken to avoid, remedy or mitigate the effects of the activity on slope stability; and

(11) the effects of the activity on tangata whenua values.

Notification

Applications for resource consent under Rule 1 will be considered without notification or the need to obtain written approval of affected persons in accordance with section 94 of the Act, except where the consent authority considers that there are special circumstances which justify notification or the obtaining of written approval from affected persons.

Application for a resource consent for an activity described in Rule 1

An application for a resource consent for an activity described in Rule 1 shall be made in accordance with section 5.4 of the Plan.

Explanation*. Any effects of roading and tracking activities undertaken in accordance with a subdivision consent will be managed by conditions attached to that consent.*

The terms "roading and tracking activity", "erosion prone land", "Area 1", "Area 2" and "water body" are defined in the Interpretation in section 3 of the Plan.

Rule 2 Soil disturbance on erosion prone land

Any soil disturbance on erosion prone land that:

(1) involves the disturbance of greater than or equal to 1,000 m^3 of soil, within any 10,000 m^2 area (calculated using a minimum width of 10 m) and within any continuous 12 month period; or

(2) involves root raking over an area greater than 10,000 m^2 in any continuous 12 month period;

excluding any soil disturbance;

(a) associated with roading and tracking activities, or

(b) undertaken in accordance with conditions on a subdivision consent;

is a **Restricted Discretionary Activity**.

Discretion

The matters over which the Wellington Regional Council has restricted the exercise of discretion are:

(1) the duration of the consent;

(2) the carrying out of measurements, samples, analyses, surveys, investigations, or inspection;

(3) the provision of information to the consent authority at specified times;

(4) compliance with monitoring, sampling and analysis conditions at the consent holder's expense;

(5) the payment of administration charges;

(6) the methods of sediment retention and sediment runoff control to be adopted;

(7) any measures necessary to rehabilitate the land following the completion of the activity;

(8) the effects of the activity on soil conservation and water quality, including any measures necessary to avoid, remedy or mitigate those adverse effects;

(9) any steps to be taken to ensure the minimisation of vegetation, soil, slash or any other debris entering any water body;

(10) any steps to be taken to avoid, remedy or mitigate the effects of the activity on slope stability; and

(11) the effects of the activity on tangata whenua values.

Notification

Applications for resource consent under Rule 2 will be considered without notification or the need to obtain written approval of affected persons in accordance with section 94 of the Act, except where the consent authority considers that there are special circumstances which justify notification or the obtaining of written approval from affected persons.

Application for a resource consent for an activity described in Rule 2

An application for a resource consent for an activity described in Rule 2 shall be made in accordance with section 5.4 of the Plan.

Explanation*. Clause 1 of Rule 2 means that any number of soil disturbance activities occurring within a 10,000 m^2 area, that cumulatively result in the disturbance of greater than 1,000 m^3 within any 12 month period, will be defined as a restricted discretionary activity. The area parameter (10,000 m^2) ensures that several soil disturbance activities occurring at quite separate locations, that cumulatively result in the disturbance of greater than 1,000 m^3, will not require consent, while those occurring contiguously will.*

Any effects from soil disturbance undertaken in accordance with a subdivision consent will be managed by conditions attached to that consent.

The terms "soil disturbance", "roading and tracking", "erosion prone land", "root raking" and "water body" are defined in the Interpretation in section 3 of the Plan.

5.3 Rules for Vegetation Disturbance

Rule 3 Vegetation disturbance on erosion prone land

Vegetation disturbance, excluding vegetation disturbance undertaken in accordance with conditions on a subdivision consent, of a continuous area of more than one hectare on erosion prone land is a **Permitted Activity** provided the following conditions are met:

Conditions

(1) The Wellington Regional Council's Regional Soil Conservator is notified in writing at least 21 days prior to the vegetation disturbance being undertaken. Notification is to include details of the site location and timing of the vegetation disturbance operation.

(2) The area of vegetation disturbance will be re-established in woody vegetation within 18 months from the start of the vegetation disturbance operation.

(3) Where ground-based methods are used, best management practices as described in the New Zealand Forest Code of Practice (LIRO 1990, revised 1993) are adopted.

(4) No vegetation or slash with a diameter of greater than 100 mm shall be allowed to remain in any watercourse and when removed, shall be placed in a position where that material cannot enter any watercourse.

Explanation*. The terms "vegetation disturbance", "erosion prone land" and "watercourse" are defined in the Interpretation in section 3 of the Plan.*

Rule 4 Vegetation disturbance on erosion prone land

Any vegetation disturbance activity which is provided for by Rule 3 but does not comply with any of the conditions in Rule 3 is a **Restricted Discretionary Activity**.

Discretion

The matters over which the Wellington Regional Council has restricted the exercise of its discretion are:

(1) the duration of the consent;

(2) the carrying out of measurements, samples, analyses, surveys, investigations, or inspection;

(3) the provision of information to the consent authority at specified times;

(4) compliance with monitoring, sampling and analysis conditions at the consent holder's expense;

(5) the payment of administration charges;

(6) the methods of sediment retention and sediment run-off control to be adopted;

(7) any measures necessary to rehabilitate the land following the completion of the activity;

(8) the effects of the activity on soil conservation and water quality including any measures necessary to avoid, remedy or mitigate those adverse effects;

(9) any steps to be taken to ensure the minimisation of vegetation, soil, slash or any other debris entering any water body;

(10) the deposition of soil on, or immediately adjacent to, the area of land being disturbed;

(11) any steps to be taken to avoid, remedy or mitigate the effects of the activity on slope stability; and

(12) the effects of the activity on tangata whenua values.

Notification

Applications for resource consent under Rule 4 will be considered without notification or the need to obtain written approval of affected persons in accordance with section 94 of the Act except where the consent authority considers that there are special circumstances which justify notification or the obtaining of written approval from affected persons.

Application for a resource consent for an activity described in Rule 4

An application for a resource consent for an activity described in Rule 4 shall be made in accordance with section 5.4 of the Plan.

Explanation. *The terms "vegetation disturbance", "erosion prone land", "water body" and "watercourse" are defined in the interpretation in section 3.*

5.4 Making an Application for a Resource Consent

An application for a resource consent for an activity described in this Plan shall be made on the prescribed form and shall, where relevant, include:

(1) a map at an appropriate scale, showing the location of the activity and the nature of the land, including existing vegetation, slope, aspect, the location of any water bodies, any known archaeological and historic sites, and existing roads or tracks;

(2) a description of the intended activity, stating clearly and accurately the extent of any proposed activity;

(3) the proposed start and completion dates and any seasonal variations;

(4) for **roading and tracking activities**:

- the height of any upslope batter;
- the indicative length of the road or track;
- the methods and techniques to restrict sediment discharge from the site; and
- the proposed steps to be taken to ensure that no vegetation, soil, slash or any other debris can enter any water body;

(5) for **soil disturbance**:

- the type of disturbance;
- the estimated amount of soil to be disturbed (in situ measure);
- a site management plan describing the methods and techniques to restrict sediment discharge from the site; and
- what future management (including rehabilitation) is planned;

(6) an assessment of any actual or potential effects that the activity may have on the environment and the ways in which any adverse effects may be mitigated. Such an assessment shall be:

- in such detail as corresponds with the scale and significance of the actual or potential effects that the activity may have on the environment;
- prepared in accordance with the Fourth Schedule of the Act; and
- limited to those matters specified over which the Council has restricted the right to exercise its discretion;

(7) a statement detailing the consultation with any person or organisation that might be affected by the proposal, including relevant tangata whenua in the area, and the Historic Places Trust where archaeological or historic sites have been identified in (1) above; and

(8) any other information that is necessary to understand the application.

Additional Information

Section 92 of the Act may be invoked and additional information sought if the application and accompanying information do not adequately address the requirements listed above.

6. Methods (other than Rules)

6.1 Promotion and Education

The Wellington Regional Council will:

6.1.1 Co-ordinate and initiate the development of sustainable land management guidelines for the Region. The guidelines will:

- be developed with input from other relevant agencies and groups;
- be circulated first to land owners and managers and then to land users; and
- promote and provide information on sustainable land management practices.

6.1.2 Implement a publicity and education programme to increase community understanding and commitment to the ethic of sustainable land management.

6.1.3 Convene and run workshops and seminars on sustainable land management issues, such as sediment runoff, soil structure deterioration and riparian management.

6.1.4 Promote sustainable land management programmes to raise community awareness, such as the Decision Support Package.

6.1.5 Promote and support the development of Landcare and Community Catchment Control schemes.

6.1.6 Produce and distribute Riparian Management Guidelines to raise awareness of the importance of maintaining and enhancing vegetated riparian margins. The Guidelines will be targeted at land owners and will provide information on the benefits of maintaining and effectively managing riparian areas.

6.1.7 In conjunction with other stakeholders, hold field days on properties to demonstrate practical aspects of sustainable land management and promote examples of good practice that may be used to promote sustainable land management.

6.2 Investigations and Monitoring

The Wellington Regional Council will:

6.2.1 Initiate investigations into determining suitable indicators of sustainable land management within the Region. This will be done with particular regard to the

National Environmental Indicators Programme. Priority should be given to the development of suitable indicators for hill country erosion and agricultural impacts on soil health and water bodies.

6.2.2 Monitor sustainable land management within the Region.

6.2.3 Investigate, with tangata whenua, methods of identifying, recording, and protecting sites of significance to tangata whenua. Where appropriate, the Council will:

- help establish appropriate protocols for managing such information, including the use of silent files, the development of a waahi tapu inventory, and iwi planning documents;
- consider the inclusion of a table of sites of special value to the tangata whenua in this plan by way of a plan change; and
- assist tangata whenua in the development of a framework to assess and respond to applications involving identified sites of significance.

6.2.4 Develop and promote the use of a decision support framework for versatile soils to assist territorial authorities in land use planning and in the consideration of resource consents.

6.2.5 Investigate the options for using financial incentives to achieve sustainable land management objectives.

6.2.6 Establish a monitoring framework for soil health by identifying and establishing a regional network of representative soil benchmark sites.

6.2.7 In consultation with stakeholder groups undertake an evaluation of soil health in the Region. The evaluation will include identification of at-risk soils, and land use practices impacting on soil health in the Region.

6.2.8 Based on initiatives undertaken at the national level and on the evaluation of the state of the Region's soil resource, establish soil health indicators appropriate for the Region.

6.2.9 Investigate ways the Council could assist and encourage landowners to protect soil benchmark sites for monitoring and research purposes.

6.3 Co-ordination between Agencies and Interest Groups

The Wellington Regional Council will:

6.3.1 Initiate discussions with relevant agencies and interest groups to determine roles and responsibilities for promoting and achieving a co-ordinated approach to sustainable land management.

7. Principal Reasons for Adopting the Provisions

7.1 Principal Reasons for the Objectives and Policies

The principal reasons for the objectives and policies in this Plan are twofold. First, the objectives and policies are there to ensure that the uses of the soil resource of the Region do not have significant adverse effects on the environment. Second, they are there to enhance resource users' understanding of sustainable land management.

The objectives and policies recognise that the soils of the Region are, under some circumstances, sensitive to land use. Where this is the case, care must be taken over their use to ensure the life-supporting capacity of the soil is maintained.

The policies also recognise that resource users must be allowed to provide for their economic and social well-being, provided that any potential adverse effects of the activity are avoided, remedied or mitigated. Part of this is the recognition that different areas of the Region will require different land management practices because of their susceptibility to erosion. As an initial guide to susceptibility, the Region has been divided into two areas on the basis of relief and rock type (Areas 1 and 2 in Appendix 1). Area 1 is generally more susceptible to erosion than Area 2.

The objectives and policies do not only recognise the adverse effects of physical soil erosion. Concepts such as soil quality are also highlighted and addressed. The objectives and policies also address the potential offsite effects of different soil related activities and provide direction to avoid, remedy and mitigate such effects. Policies are also included to encourage applicants for resource consents to consult with tangata whenua.

The policies also recognise that soil conservation initiatives are more effective in reducing any potential adverse effects of land degradation when carried out in conjunction with whole catchment or sub-catchment programmes.

7.2 Principal Reasons for Methods (including Regional Rules)

The Plan includes rules for the management of accelerated erosion on steep erosion prone land in the Region. The Plan does not use a regulatory approach through rules, to address all of the issues in the Plan. A mix of regulatory and non-regulatory mechanisms is expected to achieve the best results in achieving sustainable land management in the Region.

The rules in the Plan are applied using the concept of erosion prone land. This concept is used because it enables the rules to be targeted to the area of land where the effects are being generated. Within the definition of erosion prone land, slope thresholds are used to distinguish land that is considered to be erosion prone. The slope thresholds take into account the susceptibility of land based on the underlying rock type. Therefore, for the more dominant greywacke land in the western side of the Region, the slope angle threshold is 28 degrees, and in the younger sedimentary country in Wairarapa a slope angle of 23 degrees is used. These slope angles have been chosen as they capture land identified in the Land Use Capability classification system as having moderate to severe erosion potential.

The rules in the Plan are designed so that only high risk activities are restricted. The rules do not aim to restrict normal day to day activities, or activities located on non-erosion prone land. To achieve this, a number of small scale activities that have only minor effects are excluded from the rules in the Plan. Such activities include the maintenance of roads and tracks and the construction of platforms for structures.

The principal reasons for rules which permit uses of the soil resource is to allow those uses which have only minor potential effects on the environment to proceed with little or no interference by the Council. In this Plan, only one permitted activity rule is prescribed, that is, vegetation disturbance activities on erosion prone land. The Council believes that such an activity, if undertaken in accordance with the listed conditions, should only have a minimal effect on the environment and therefore be allowed to proceed.

The permitted activity conditions in Rule 3 require best management practices to be adopted for those aspects of vegetation disturbance where adverse effects can occur. Condition (1) requires that the Council is notified 21 days prior to the activity beginning. The aim of this condition is to encourage sufficient planning of land clearance operations. The condition provides the opportunity for Council staff to work with operators to achieve good environmental results.

Condition (2) focuses on replanting of the cleared site. This condition is based on the belief that tree cover is the most sustainable land management option for erosion prone land. This condition requires that trees are re-established on steep slopes within a minimum time period following vegetation clearance.

Condition (3) targets a land preparation method which can have significant adverse effects if mitigation measures are not undertaken during wet weather. The condition requires good management practices and provides examples of the types of methods that can be adopted to minimise adverse effects.

Condition (4) addresses the clearance of vegetation near water bodies. The condition recognises that the accumulation of material in water bodies can

cause downstream flooding and accelerated erosion of river and stream banks. Compliance with this condition will address a common problem associated with the clearance of riparian vegetation. The combination of conditions (4) and (1) should minimise the adverse effects occurring near water bodies and avoid such problems occurring in the future.

All of the restricted discretionary activities can be processed as non-notified consents without the need to obtain written approval of affected parties. The ability to not require affected party approval is appropriate for the majority of restricted discretionary activities, because they often occur within a property, rather than at property boundaries. Additionally, the effects over which the Council has retained discretion relate to soil conservation and water quality which, more often than not, occur on-site rather than off-site. Although the rules specify that consents may be processed as non-notified, the Council still retains the ability to publicly notify an application if special circumstances exist pursuant to Section 94(5) of the Act.

Uses of the Region's soil resource that have potential major adverse effects are restricted discretionary activities. Restricted discretionary activity status allows the consent authority to assess each application to undertake a land use activity. These applications are assessed against the requirements of the Act, and the objectives and the policies in this Plan. The restricted discretionary activity status also provides the consent authority with the flexibility to avoid, remedy, or mitigate potential adverse effects in the most appropriate manner.

The principal reason for the other methods in the Plan is to address those issues that the Council believes are best addressed through means other than regulatory means. The Council believes that for many activities a non-regulatory approach will achieve the desired results more effectively than through the use of regulation, e.g., soil health.

The Council recognises that the responsibility for co-ordinating and initiating sustainable land management in the Region is their own. By developing sustainable land management guidelines, the Council believes issues such as soil quality, riparian management, and soil and land monitoring can be provided for. Once such issues and appropriate responses have been clearly established, advocacy and information transfer will ensure an increase in community awareness and appreciation of sustainable land management.

8. Environmental Results Anticipated

ER1 The potential adverse effects of erosion are controlled, and positive soil conservation initiatives are in place. This will enable people and communities to utilise the Region's soil resource to provide for their social, economic and cultural well-being.

ER2 The life supporting capacity of soils is maintained because:

- up-to-date information on soil conservation and sustainable land management are made available to all resource users and interested parties;
- recognised soil conservation initiatives are carried out on erosion prone areas; and
- monitoring of sustainable land management is undertaken on an ongoing basis.

ER3 The adverse effects from soil erosion in the Region are reduced because:

- recognised soil conservation initiatives are carried out on erosion prone areas;
- riparian buffer strips are retained or developed; and
- activities which have a high potential to cause erosion are controlled.

ER4 The relationship of Maori to the land is recognised and provided for, and unnecessary damage of valued sites avoided, because:

- the values of tangata whenua are taken into account in the management of the Region's soil resource;
- the principles of the Treaty of Waitangi are taken into account in the management of the Region's soil resource, and
- the effects on valued sites will be considered when assessing soil disturbance activities.

9. Implementing and Reviewing the Plan

This chapter covers the procedures to be used to:

- deal with issues which cross local authority boundaries and issues between territorial authorities and regions;
- monitor the effectiveness of the Plan as a means of achieving its objectives and policies; and
- review the matters contained within this Plan.

These procedures need to be viewed in the context of the requirements of Sections 35 and 79 of the Act. Section 35 places a duty on the Council to monitor the effectiveness of this Plan. Section 79 requires that this Plan is reviewed no more than ten years after the date it becomes operative.

9.1. Procedures for Addressing Cross Boundary Issues

Cross boundary issues can arise in three situations:

(1) issues which cross territorial authority and regional council responsibilities;

(2) issues between territorial authorities in the Region; or

(3) issues between Wellington Regional Council and the adjoining regional council horizons.mw (Manawatu-Wanganui Regional Council).

9.1.1 Issues which cross territorial authority boundaries

Many activities that take place on land can have an effect on soil. Generally, the control of the effects of the use of land is a territorial authority responsibility. However, Section 30(1)(c) of the Act gives regional councils the function to control the use of land in some circumstances (i.e., for the purpose of soil conservation, the avoidance or mitigation of natural hazards, and the maintenance and enhancement of the quality of water in water bodies and coastal waters). Thus, both territorial authorities and regional councils have responsibilities for the control of the use of land. If district and regional plans are not well integrated, there is great potential for confusion and inconsistency. It is important that the Wellington Regional Council works with all the territorial authorities within the Wellington Region to ensure that soil is managed in an integrated manner.

9.1.2 Issues which cross regional boundaries

Regional council boundaries are based on river catchments. Hence, there are unlikely to be many issues within the Region area which directly affect the Manawatu-Wanganui Region. However, it is important that there is constant communication between both councils as there will be some properties that straddle the regional boundary.

9.1.3 Processes to address cross boundary issues

Where appropriate, the Wellington Regional Council will:

- work with territorial authorities and the Manawatu-Wanganui Regional Council;
- seek a consistent approach between plans dealing with the control of activities where such activities span boundaries or the effects of activities span boundaries;
- advocate for the inclusion of appropriate objectives and policies in other resource management plans to ensure consistency between the provisions of this Plan and those plans prepared by other local authorities;
- use joint hearings in those situations where resource consents are required from both the Wellington Regional Council and a territorial authority for any activity which spans jurisdiction of both authorities; and
- use joint hearings in those situations where resource consents are required from both the Wellington Regional Council and the Manawatu-Wanganui Regional Council, should any activity span the regional boundary.

9.2 Procedures for Monitoring the Effectiveness of the Plan

Subject to the provisions of its Annual Plan, the Council will monitor changes to the following aspects of the environment, using techniques identified in section 9.2.1:

(1) The nature and extent of use of soil within the Region.

(2) The natural and physical resources, including land, soil, water and vegetation.

(3) Ecosystem characteristics, including existing physical disturbance of soil and land, water, essential natural environment processes, plants and animals.

(4) Any risk to human life, property, or other aspects of the environment from natural hazards (particularly flooding and erosion).

(5) The costs and benefits of compliance with the provisions of the Plan.

The results from the monitoring will be evaluated to determine:

(1) if any changes to matters in 1 - 5 above are attributable to the objectives and policies of this Plan or omissions from this Plan, and whether there have been unintended consequences as a result of the implementation of the Plan;

(2) whether the original assessment of benefits and costs of principal alternative means of dealing with issues carried out in accordance with Section 32 of the Act, including likely implementation and compliance costs, is still applicable. This will also involve an evaluation of the distribution of benefits and costs resulting from the Plan; and

(3) the extent to which substantiated concerns, priorities and aspirations of people and communities have been addressed by the objectives, policies, rules, and other methods in this Plan.

9.2.1 Monitoring techniques

The following monitoring techniques will be used as appropriate in individual circumstances:

(1) Ongoing surveys of attitudes to the environment held by central government, other resource management agencies, business people, farmers, community groups, outdoor recreation clubs, and Council staff.

(2) Analysis of feedback, compliments, and complaints received through the news media, meetings, correspondence, and other means from resource users, the public, and other interested or affected parties.

(3) Conditions on resource consents to require self monitoring of activities relating to soil and land use.

(4) Compliance audit checks of all self monitoring carried out by resource consent holders.

9.3 Procedures for Reviewing the Regional Soil Plan

The Council will undertake a complete review of this Plan within ten years of it becoming operative. In the interim period, the information gained from the monitoring described in section 9.2 will be used on an “on-going” and “as required” basis to determine if any action is required.

Should the Plan monitoring procedures (described in section 9.2) determine that there are issues which may need to be addressed prior to the ten-yearly review, the Council may use one or more of the methods below to implement any required actions.

(1) Continue monitoring or undertake a specific investigation to confirm causes and effects.

(2) Advocate action by other resource management agencies (this may be important if the effects are caused by an activity beyond the control of the Council).

(3) Increase public awareness, and thereby indirectly advocate a course of action by others.

(4) Issue abatement notices or seek enforcement orders if the effects are related to an activity in breach of the Act or this Plan.

(5) Review conditions on resource consents where this has been provided for in the consent or is allowed by the Act.

(6) Implement any change to this Plan, the Regional Policy Statement, or other regional plans.

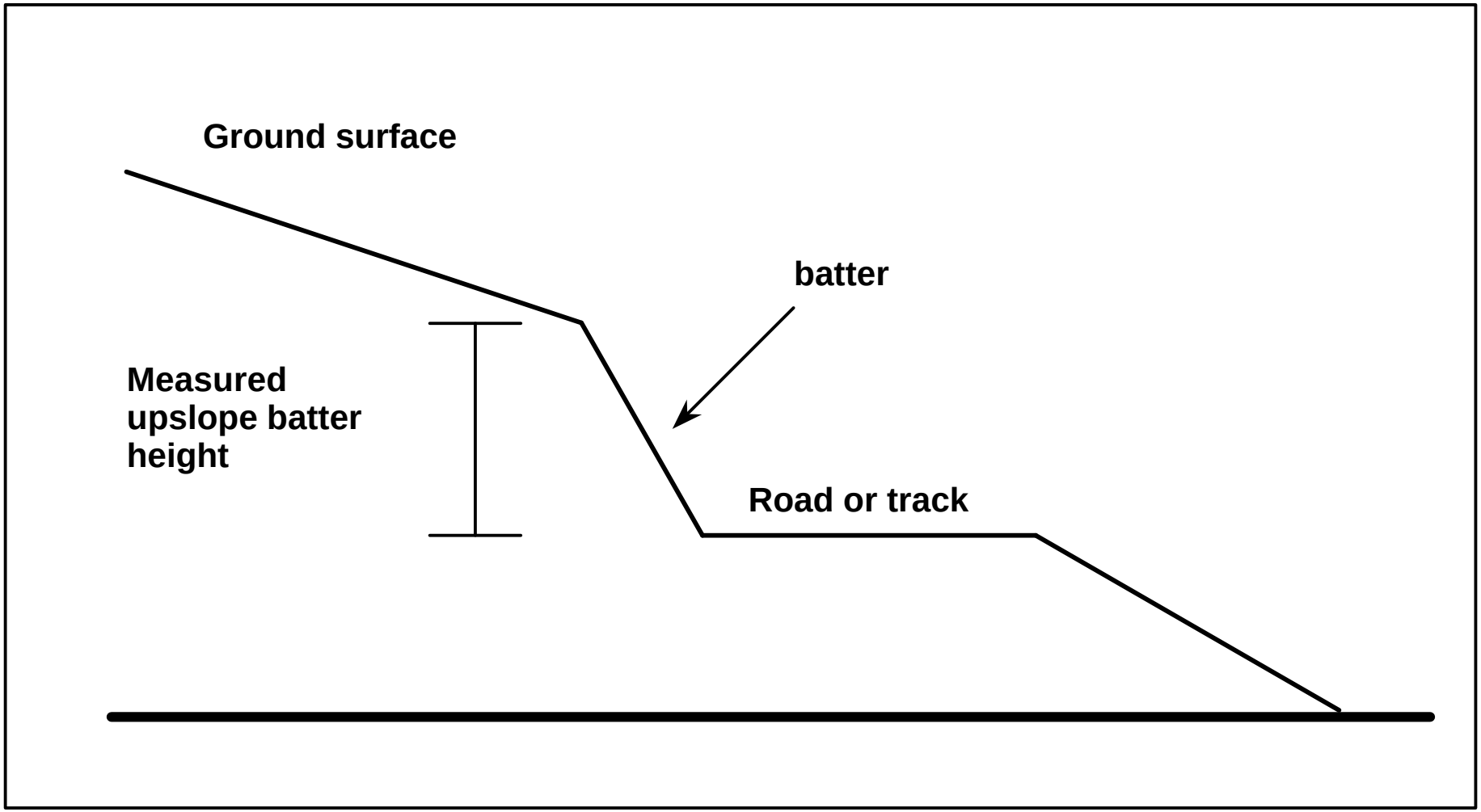
(7) Prepare a further regional plan.

(8) Advocate a change to a district plan.

Appendices

Appendix 2

Upslope Batter Height for Roading and Tracking Activities



Appendix 3

Guidelines for Topsoil Mining

(Based on the recommendations in Chapter 5 of Hart, August & Watts (1990) "Topsoil mining in the Wellington Region: Background issues, agronomic and cost/benefit studies on an upland soil, and rehabilitation guidelines for the Region").

1. Objectives

Topsoil mining should be undertaken within the following two objectives:

(a) Mining of topsoil should not compromise the versatility of the soil resource.
(b) Where topsoil mining is allowed, land should be rehabilitated to a state that ensures its long-term sustainability for plant growth.

2. Management Plans

Topsoil mining should be undertaken only after the preparation of detailed site operation and rehabilitation plans. Each of the plans should cover a period of five years from the initial date of actual topsoil removal.

These plans would provide for the minimum work necessary to restore pasture production, to minimise erosion and to protect off-site areas at risk from siltation of water bodies, sand and silt deposits and nutrient enrichment. Such plans need to have the full support of the landowner.

The management plan duration also provides for a reasonable period for councils to maintain liaison with the applicant, monitor the progress of the topsoil removal and restoration operations, agree to modification to the plans should site conditions or other circumstances dictate such change and ensure that restoration standards are met.

2.1 Operational Plans

The operational plans should contain the following conditions:

(a) The maximum extent of bare ground resulting from topsoil mining operations should not exceed two hectares at any one time.

(b) The turf layer (which could include up to 5cm of topsoil) should be first removed and stockpiled for re-spreading during the rehabilitation phase.

(c) Topsoil mining should cease during very dry periods when lighter soils may be blown away.

(d) Topsoil mining should cease during high rainfall periods when compaction of soils and loss of sediment and nutrients into waterways may occur.

(e) Topsoil mining operations should be completed not later than a specified date and that re-grassing and other restoration operations will commence on or before that date.

(f) Scrub and debris from the operation should not be pushed into gullies and watercourses, but should be windrowed around the edges of the topsoil mined areas to minimise sediment and nutrient run-off.

(g) Topsoil stockpiles should be located away from water bodies to avoid soil loss into channels during periods of heavy rainfall or strong winds.

(h) Silt traps should be installed for all water generated from the site.

2.2 Rehabilitation Plans

The planning for rehabilitation needs to be practical and should also be structured to involve consultation between all parties. The relevant parties may include the Regional Council, district councils, land owners and the mining operator.

The rehabilitation plans should take into account the following:

(a) The topsoil mined land (including any silt traps) should be managed in accordance with the aim of developing and maintaining a new topsoil supporting a healthy and vigorous pasture free of weeds at least as good as that previous to topsoil mining.

(b) Soil compaction should be relieved by subsoiling or other (specified) cultivation methods (if appropriate to the site).

(c) Drainage systems should be installed (if appropriate to the site).

(d) The stockpiled turf layer should be re-spread over the topsoil mined land.

(f) The topsoil mined land should be initially sown with a suitable grass/clover based pasture mix. Clovers should be inoculated with rhizobium bacteria. (This is probably unnecessary if the stockpiled turf layer is re-spread over topsoil mined land.)

Management plans will vary according to site conditions and would need to cover in detail; methods of subsoiling, cultivation, soil fertility testing and pasture management. After an initial period of pasture the land could be put to an alternative use with the agreement of all parties.

Responsibilities for the management of rehabilitated land over succeeding months / years needs to be clarified between the land owners and topsoil miners. A major point to decide is when the topsoil miner is released from his / her obligations. It is recommended that topsoil miners retain some responsibility for the supervision of restored land for the first year after sowing. This will allow for sufficient time to elapse before determining that pasture establishment is properly achieved and that the initial level of productivity is satisfactory.