

# **5 DISCHARGES TO LAND OR WATER**

## **5.1 INTRODUCTION AND PRINCIPAL REASONS**

### **5.1.1 STATUTORY FRAMEWORK**

This chapter contains provisions relating to land management and water quality. In this context, Section 30(1)(c) of the RMA empowers the ARC to control the use of land for soil conservation; the maintenance and enhancement of the quality of water in water bodies and coastal water; and the prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances. Section 30(1)(f) provides for the control of discharges of contaminants into or onto land or water and discharges of water into water.

This part of the plan uses Section 9 of the RMA to control management practices on sites that undertake an industrial or trade process to avoid contaminant discharges. This section is permissive in that the use of land is allowed except any use that is prohibited or regulated in the plan.

Section 15 of the RMA provides the legal sanctions for controlling discharges of contaminants into water, or onto or into land. The presumption in Section 15(1) is that a discharge is prohibited unless it is expressly allowed by a resource consent, a rule in the plan, or regulations.

### **5.1.2 SCOPE OF CHAPTER**

This chapter deals with the discharge of contaminants into water, or onto or into land. The primary activities addressed in this chapter are;

- Stormwater and wastewater networks;
- Sewage treatment and disposal;
- Sewage solids;
- Rural activities;
- Contaminated Land;
- Landfills; and
- Other discharges of contaminants to land or water.

### **5.1.3 MANAGEMENT APPROACH**

#### **5.1.3.1 STORMWATER AND WASTEWATER NETWORKS**

Stormwater and wastewater networks are key components of the infrastructure necessary for any large city. This plan promotes an integrated approach to both stormwater discharges and wastewater overflows. An integrated approach involves consideration, where possible, of

## DISCHARGES TO LAND OR WATER - 5

environmental performance at the catchment level having regard to the interconnections between the stormwater and wastewater systems, and recognising that discharges from separate systems impact the same receiving environment.

In the natural situation, rainfall soaks into the ground or runs off the land into streams. The water that soaks into the ground, recharges aquifers and provides baseflow and springflow for streams. Impervious (hard) surfaces intercept water, divert it away from its natural flow path, resulting in higher flood flows and lower base flows in water bodies.

Within most parts of the urban area, engineered drainage systems collect stormwater for discharge, and while ground soakage occurs in some places, most ends up in the sea. Stormwater collects a wide variety of contaminants as it passes over surfaces. The contaminants of most concern are suspended solids, heavy metals, oil and other petrochemicals, polynuclear aromatic hydrocarbons and human pathogens.

Numerous studies have proven that the major cause of stormwater contamination arises from vehicle use. Industrial and commercial activities can also contribute to stormwater degradation primarily by negligent or inappropriate product or waste management practices. The most practical way to protect stormwater quality is to put management practices in place to ensure that contamination of hard surfaces is minimised.

Wastewater networks contain sewage and in some cases the liquid wastes generated by industry. The contaminants that derive from wastewater typically cause shorter term effects of most concern to public health. The contaminants that derive from stormwater typically cause longer term effects of most concern to the health of aquatic ecosystems.

Ideally, the stormwater disposal network would operate independently of the wastewater (sewerage) network, but in practice it does not. In certain circumstances, stormwater finds its way into wastewater networks, and wastewater finds its way into stormwater networks (or directly to the environment), for the following reasons:

- (a) In older parts of the city stormwater and wastewater share a common pipe;
- (b) Wastewater networks leak to groundwater and surface waters through joints and pipe failure brought about by deterioration or breakage (exfiltration) no matter how well they are designed or constructed; and
- (c) Stormwater and groundwater also enters wastewater networks through joints and pipe failures (infiltration) and through cross connections from stormwater systems (inflow), sometimes causing them to overflow in wet weather.

While wastewater networks are designed to accommodate some extra flow in wet weather they also have relief points, of necessity, discharging to stormwater networks or waterbodies. Intensification and redevelopment

without system upgrades has compounded the pollution problems from sewage and stormwater.

Wastewater overflows typically contain elevated levels of bacterial and other pathogenic organisms, and organic material that uses oxygen as it breaks down. Such discharges have the potential to affect public health, cultural and amenity values, and aquatic life. The closure of bathing beaches after heavy rain events due to sewer system failure or design overflows is a consequence experienced and disapproved of by many Aucklanders.

Environmental evaluation studies in Auckland have shown that there are significant potential loss of earnings to the region's economy from stormwater and wastewater discharges in addition to adverse effects they cause on aquatic life.

There are no simple solutions to reducing the quantity of discharges, or improving the quality of discharges on a regional basis. The continued growth of Auckland will place added pressure on the Region's existing wastewater networks and stormwater systems and these will require additional capacity. Moreover, there are rising public expectations for environmental protection.

These public expectations emphasise the need to improve water quality and reduce the quantity of contaminants discharged into the waterways of the Region and ultimately the coastal marine area. They are both key drivers to improving the current situation in the Auckland Region.

However, a balance needs to be achieved between the infrastructure needs of the community and the management of discharges into the Region's waterways. Central to this is the progressive upgrading of ageing infrastructure and continuing advances in stormwater and wastewater disposal technology and methodology.

Due to the scale of improvement required and the considerable cost involved, it is recognised that a progressive management approach may be appropriate to enhance the current systems. This will result in both medium and long term reductions in the volume and concentration of contaminants discharged into waterbodies including the coastal marine area. At the same time, a realistic and practical approach needs to be adopted to applications for discharge consents relating to the existing stormwater and wastewater infrastructure.

The costs of addressing all these issues will be substantial and doing so will take time.

The provision and management of stormwater infrastructure in urban areas is largely undertaken by local authorities. Over time the management of stormwater has progressed from a focus solely on mitigating flood risk to an emphasis including flooding, erosion, stormwater quality and the effects of the contaminants. While this has involved a more comprehensive approach and the consideration of stormwater on a catchment basis, the presence of

## DISCHARGES TO LAND OR WATER - 5

untreated wastewater in the stormwater discharges has, to date, been largely ignored.

In addition, the Plan recognises that there are practical difficulties for territorial authorities in requiring management of stormwater quality and quantity, especially where land is developed in compliance with the district plan provisions.

With greater understanding of contaminant transport by stormwater has come the need for a more holistic and integrated approach to catchment management. There are a range of practical and statutory options, such as regulatory, advocacy, education and service delivery mechanisms for the effective management of stormwater to avoid, remedy or mitigate adverse environmental effects.

The most effective options for improving the performance of the systems will be identified on a “whole of catchment” basis. Therefore, before investing in expensive upgrades of wastewater or stormwater infrastructure, it is essential to consider the relative contribution of each to environmental degradation, how practical it is to minimise the effects and the values of the receiving environment itself. The implementation of performance improvements will be prioritised based on public health and environmental risk and acknowledging the costs involved in improving existing networks.

In developing urban areas, wastewater systems need to be designed, constructed and maintained so that wastewater overflows only occur in extreme circumstances.

The key management tool proposed in this plan is the preparation of a management plan by the network operator, whether this is a wastewater network environmental management plan (which addresses risks to the environment from the operation of a wastewater network) or an integrated catchment management plan (which addresses stormwater discharges). The description of both plans has been made as consistent as possible, so as to enable operators, if they desire, to prepare one plan which would meet both sets of requirements.

### 5.1.3.2 SEWAGE TREATMENT AND DISPOSAL

Wastes are conveyed from the sewage collection networks that operate through the urbanised parts of the region to municipal sewage treatment plants. While the treatment plants at Mangere and Rosedale treat the majority of the region’s sewage, satellite townships outside of the Metropolitan Urban Limits have their own treatment and disposal systems. Most of these systems rely upon the assimilation of treated wastewater by waterbodies for final disposal, although some incorporate a land disposal component for at least part of the year.

Areas of the Auckland Region without sewerage reticulation rely on land application for sewage treatment and disposal. There are estimated to be approximately 42,000 households and businesses relying on on-site sewage

treatment and disposal systems. In many areas, this is complicated by the soil types, such as clay soils or free draining sands. Areas with clay soils experience significant problems with conventional septic tank and soakage trench systems, especially where high wastewater volumes are generated. For on-site disposal, problems can be exacerbated by inappropriate design, use or maintenance of systems, increased occupancy rates and changing lifestyle expectations.

Ineffective land disposal can lead to adverse impacts on the water quality and amenity values of the region's waterbodies, such as eutrophication of waterbodies, public health threats and odour. Often, the greatest potential for adverse effects is where on-site disposal systems are clustered around areas of high amenity, for example beach communities.

Recognising recent industry advances in the design of treatment and land application systems is critical if on-site disposal is to be considered a sustainable use of resources or best practicable option as required by the RMA.

### 5.1.3.3 SEWAGE SOLIDS

The treatment of sewage generally involves the separation of the liquid and solid fractions of the wastes entering the treatment plant. Sewage solids that are of a suitable quality for reuse are commonly referred to as biosolids. The region's main sewage treatment plants collectively produce about 400-500 tons of solid wastes per day as part of the sewage treatment process.

These solids are currently disposed of to landfills at significant cost to the region.

Sewage solids contain approximately 3 per cent Nitrogen and 1 per cent Phosphorus and other useful trace elements and therefore have potential for reuse as a fertiliser. However, they also contains varying concentrations of heavy metals, pathogenic organisms and synthetic organic pollutants. Care needs to be taken when applying sewage solids to land to protect public health, groundwater and surface water quality.

### 5.1.3.4 RURAL ACTIVITIES

#### Land Management

Without appropriate erosion and sediment control land disturbing activities, including vegetation removal, can increase the potential for the generation and discharge of elevated levels of sediment. The volume and frequency of sediment generation and discharge depends on the nature, scale, duration and frequency of land disturbing activities and on environmental factors such as rainfall intensity and duration, soil type, slope and soil moisture content.

The small size of the clay particles typical of the region's geology heightens the need to implement erosion and sediment control measures. In particular the fine clay soils, once mobilised, take a much longer time to settle than the

## DISCHARGES TO LAND OR WATER - 5

coarser sand and silt material, and are thus more difficult to remove by typical sediment control measures. Once sediment enters water bodies, recovery times from their impacts are more likely to be measured in years than months.

The adverse effects of sediment discharge include increased flooding, reduced viability of aquatic life, recreational use, potable water supply, stock water and horticultural use and greatly increased sedimentation of water bodies, wetlands, estuaries and harbours.

Discharges of sediment from earthworks, vegetation removal and other land disturbing activities are addressed in the Regional Plan: Sediment Control (2001).

Soil health is also an important factor as it can be degraded by inappropriate land management practices. Loss of soil by erosion depletes the land's productive capacity. Repeated cultivation and disturbance affect the soil's ability to function properly by disrupting natural biological and chemical interactions. Of particular concern in certain parts of the region is the increased potential for nitrate leaching from the soil and consequent effects on groundwater quality. A further serious consequence is reduced soil organic matter content. This increases reliance on artificial fertiliser inputs and decreases the soil's structural resilience, resulting in compaction and poorer natural drainage. Further soil compaction can result when machinery or stock moves over land with a high soil moisture status or where the soil has been disturbed. In severe cases compacted soil may never recover to its full productive capacity.

### **Rural Wastes**

Many common rural land use practices, such as effluent disposal, composting and offal pits, produce waste that, if managed correctly, have only minor effects on the environment and public health. If poorly managed the effects can be significant.

In the absence of a community system to collect and treat wastes, farmers must rely upon land application to minimise the potential for contamination of water bodies. Many agricultural waste materials contain nutrients that have a fertiliser value. Therefore reusing these wastes is a common and beneficial practice in rural areas. As these practices are seen as sustainable management of natural resources they are promoted by a lower level of regulation.

Discharges from farm dairies are addressed in the Operative Regional Plan: Farm Dairy Discharges (1998).

### **Agrichemical and Fertiliser Use**

Agrichemicals are used widely throughout the region for pest and disease control in commercial agricultural and horticultural activities to increase productivity. When agrichemicals are used in accordance with the manufacturer's label recommendations and/or industry codes of practice, the risks of contamination of soils, groundwater or surface water are greatly reduced. However potential adverse effects can still arise from overflows and spillage while sprays are being mixed and spray tanks are being filled.

Fertilisers are used to replace or supplement essential nutrients and trace elements in order to maintain soil fertility, sustain plant health and increase rural primary production. While fertiliser has many positive effects, when poorly managed it also has the potential for significant adverse effects on groundwater and surface waters when nutrients from fertilisers get into water bodies and affect their natural nutrient balance.

Nitrogen is the nutrient of greatest concern in terms of adverse effect which include proliferation of weeds and algae in waterbodies and potential public health problems associated with drinking nitrate-contaminated water. This risk is greatest in the Franklin volcanic aquifer due to the combination of land use for intensive horticulture and the nature of the groundwater resource.

There is also potential for phosphate from fertiliser to adversely affect water quality particularly on free-draining soils such as sands.

In order to avoid or mitigate these effects, users must adopt good management practices to ensure that fertilisers do not enter water bodies either directly or indirectly through runoff or leaching.

#### **5.1.3.5 CONTAMINATED LAND**

A large number of sites around the Auckland Region suffer from contaminated water or soil, mainly from historical industrial mismanagement, as well as some intensive rural activities. The risk to the environment and public health makes remediation or appropriate management necessary.

This plan puts measures in place to prevent more land from becoming contaminated and defines workable guidelines for site management or remediation to a standard appropriate for its existing zoned use.

The cost of remediating contaminated land can be significant. Remediation techniques range from non-interventionist "natural" remediation processes to the removal of contaminated material to an appropriate disposal facility. In some circumstances, land management techniques, such as site capping, can achieve protection of public health and the environment without contaminant removal.

## **DISCHARGES TO LAND OR WATER - 5**

It is also important to note that contaminated site management is an inter-media issue with major implications for air quality in terms of amenity (odour) and human health (inhalation) risks to site workers and neighbours. Other agencies with a public health protection mandate must also be involved in site management and remediation.

### **5.1.3.6 LANDFILLS**

The Auckland Region is currently serviced by four major municipal solid waste landfills at Greenmount, Redvale, Rosedale and Whitford. Both Greenmount and Rosedale have a very limited operative life with final closure by 2003. All operative landfills are consented with stringent conditions specifying design, construction, operation and monitoring. The ARC encourages waste minimisation to avoid or mitigate the potential adverse effects of waste disposal, in terms of both the quantity and toxicity of waste and to preserve the availability of scarce landfill space in the region.

Around 370 old closed landfills of varying sizes and ages have been identified in the Auckland Region. Historically, these sites were poorly constructed and managed, they therefore have the potential to contaminate ground and surface water resources.

Leachate from landfills is best described as a chemical cocktail that varies in composition depending on the type of refuse and the age of the site. It usually comprises heavy metals, synthetic organic contaminants and oxygen-demanding substances. Studies in New Zealand and overseas show that solid waste landfills require a minimum of 30 years of post-closure care. Therefore all closed sites still require a thorough evaluation to ensure that they are not causing adverse environmental or public health effects.

However very old Auckland sites examined to date have leachate of a quality well below international guidelines for the protection of aquatic life. As such these can be managed by a lower level of regulation.

There are a large number of varying sized cleanfills operating across the region at any one time. Cleanfill is primarily made up of inert materials like uncontaminated dirt, sand, concrete, and bricks. As these materials do not create leachate that can then discharge into the environment and cause adverse effects, the level of environmental protection required is low.

### **5.1.3.7 OTHER DISCHARGES OF CONTAMINANTS TO LAND OR WATER**

Many routine and widespread activities result in wastewater discharges, for example concrete or asphalt cutting, swimming pool operation, and the washing of vehicles, plant and machinery. Flow volumes and contaminants from each activity are often minor, but cumulatively they can cause significant adverse effects. In many circumstances there are practicable disposal alternatives, such as the sanitary sewer or land application to avoid adverse effects on waterbodies.

Discharges from some activities involve contaminants of such minor effect that they can be safely carried out using simple management techniques. Low levels of regulation are appropriate for such discharges.

Geothermal water occurs in several locations in the Auckland Region, although at present there are only two places where it is used in large quantities; Waiwera and Parakai. The main geothermal water uses are for therapeutic and recreational purposes, heating hot pools in large public pool complexes or motels and apartments, and in small quantities to heat private spa pools. Once used the water is mostly discharged directly or indirectly into the sea.

The discharge of geothermal water results in changes to water temperature, volume, rate and chemical composition due to the presence of pool water treatment chemicals. Poor management of geothermal discharges can result in significant adverse effects to aquatic life, suitability for use, aesthetic values, erosion and scouring.

## 5.2 ISSUES

### Stormwater And Wastewater Networks

- 5.2.1 The urbanised areas of Auckland are serviced by existing stormwater and wastewater networks, parts of which are old and need refurbishment or have exceeded their design capacity. Improving Auckland's networks and their performance is essential to ensure sustainable management of the region's land and water resources.
- 5.2.2 Stormwater falling on impervious surfaces becomes contaminated by washing off a variety of contaminants that have been deposited by human activities.
- 5.2.3 The diversion of runoff by impervious surfaces reduces the amount that soaks into the ground, affecting groundwater recharge and altering flow regimes in waterbodies with consequent adverse effects on water use and aquatic life.
- 5.2.4 The growth predicted for Auckland means networks require greater capacity in areas of development and expansion in new areas. Expansion of networks needs to be coupled with the refurbishment in older areas and take into account rising public expectations for environmental protection. Regardless of the engineering measures that are employed there will be some circumstances when discharges of contaminants are inevitable.
- 5.2.5 A more holistic and integrated approach to the management of stormwater and wastewater networks is essential to ensure that their operation is efficient and effective while minimising the risks to public health and the environment.
- 5.2.6 There may be considerable public costs involved in achieving significant environmental improvements from the operation of stormwater and

## **DISCHARGES TO LAND OR WATER - 5**

wastewater networks. Therefore, a comprehensive, integrated series of solutions need to be developed over time in order to achieve the best overall long term environmental outcomes.

### **Sewage Treatment and Disposal**

- 5.2.7 Inappropriate wastewater treatment and disposal system design, installation or maintenance can lead to poor system performance resulting in adverse effects on public health and the environment.
- 5.2.8 Poor management of solids and liquids from wastewater treatment plants can have adverse public health or environmental effects due to high levels of pathogenic organisms, heavy metals, synthetic organic contaminants and nutrients.
- 5.2.9 The assimilation capacity of the receiving environment is a critical factor in determining the sustainability of any wastewater treatment system discharge.
- 5.2.10 Land application of wastewater is potentially sustainable outside of reticulated areas, however some of Auckland's soil types and the cumulative effect of many land applications systems in an area make system design critical to avoid adverse effects on groundwater, surface waters or public health.

### **Sewage Solids**

- 5.2.11 Sewage solids (biosolids) have the potential for beneficial reuse, however the presence of pathogens, heavy metals and synthetic organic contaminants requires appropriate management to minimise risks to public health and the environment.

## **RURAL ACTIVITIES**

### **Land Management**

- 5.2.12 Agricultural and horticultural land-disturbing activities create bare surfaces that are subject to erosion and have the potential to discharge sediment if not managed carefully. Sediment is a significant water pollutant as it can result in adverse environmental effects.
- 5.2.13 Soil loss and degradation from inappropriate land management practices result in a reduction in soil quality and consequently the productive potential of the land for future generations.

### **Rural Wastes**

- 5.2.14 Unless managed carefully, discharges from agricultural activities have the potential to cause significant adverse public health and/or environmental effects.

### **Agrichemical and Fertiliser Use**

- 5.2.15 Poor agrichemical storage, handling, spill management and application practices can lead to contamination of soil, groundwater and surface waters.
- 5.2.16 Without careful management, the rate and timing of fertiliser application can result in application rates exceeding plant requirements. Excess soil nitrogen and phosphorus can then enter water bodies via leaching and/or runoff leading to adverse effects on groundwater and surface waters (such as eutrophication). The Franklin volcanic aquifer is vulnerable due to its unconfined nature and the intensive cultivation of the overlying land.
- 5.2.17 Repeated cultivation without careful land management can lead to depletion of soil carbon levels, resulting in accelerated nitrate leaching through the mineralisation of organic matter.

### **Contaminated Land**

- 5.2.18 Regional growth means that land is developed which potentially exposes people to unacceptably high levels of contaminants due to historical land uses. Currently there is no requirement for disclosure of contaminated land leading to risks to public health and/or the environment.
- 5.2.19 The remediation or management of contaminated land is complicated by changes of land ownership and land use activity. This often means that current site owners may have no relationship to the activity that caused contamination of their land and therefore a reluctance to take responsibility for the process.
- 5.2.20 Remediation and or management of contaminated land must take into account potential adverse effects on groundwater and surface waters and the sensitivity of current land use zoning.

### **Landfills**

- 5.2.21 Landfills pose a risk to public health and the environment because they may contain harmful waste and produce leachate which may contaminate groundwater or surface water unless managed appropriately.
- 5.2.22 The inappropriate disposal of contaminants at cleanfill sites can lead to adverse effects on public health and/or the environment.

### **Other Discharges of Contaminants to Land or Water**

- 5.2.23 The discharge of wastewater from some small scale activities such as washing vehicles, and the cleaning, maintenance and preparation of building surfaces may have only minor impacts individually, but are having significant cumulative environmental effects.
- 5.2.24 Without appropriate management, activities that result in large quantities of water with negligible amounts of contaminants can cause adverse effects to

## DISCHARGES TO LAND OR WATER - 5

ground or surface water. Such activities include pipeline testing, reticulated water supply and water containing dye for investigating pipeline integrity.

- 5.2.25 Discharges of geothermal water to water bodies can have adverse effects on the physical, chemical and biological composition of the receiving water arising from the amount of geothermal water discharged at any one time, its temperature and chemical composition.

### 5.3 OBJECTIVES

#### GENERAL OBJECTIVES

- 5.3.1 To protect the quality of land and water in the Auckland Region by:
- (a) Maintaining areas of high environmental quality;
  - (b) Minimising adverse effects on degraded natural and physical resources where these cannot be avoided;
  - (c) Enhancing degraded areas where practicable, by avoiding or minimising:
    - i the discharge of sediment;
    - ii overflows and exfiltration from wastewater networks;
    - iii contaminant levels in stormwater runoff, including from an industrial or trade process;
    - iv contaminant levels in sewage treatment plant discharges;
    - v the application of wastes in vulnerable groundwater protection areas;
    - vi discharge of rural wastes to water;
    - vii inappropriate storage, handling, spill management and application of agrichemicals;
    - viii the excessive application of fertilisers to land;
    - ix discharges from contaminated land;
    - x discharges from landfills;
    - xi contaminant levels in geothermal discharges; and
    - xii contaminant levels in washwater and wastewater from industrial and trade processes.
- 5.3.2 To encourage the reuse of sewage, sewage solids, washwater and rural wastes in a sustainable manner, while avoiding, remedying or mitigating adverse effects on the environment and public health.
- 5.3.3 To ensure that the creation of impervious surfaces is undertaken in a manner which minimises as far as practicable any reduction in aquifer recharge, thereby protecting groundwater quality and aquifer outflows including stream baseflows.
- #### Stormwater and Wastewater Networks
- 5.3.4 To provide for and enable diversions and discharges associated with stormwater and wastewater networks within the Metropolitan Urban Limits, while adopting the best practicable option to minimise any actual or potential adverse effects of these activities.

- 5.3.5 To ensure that the operation of stormwater networks avoids or mitigates the flooding of habitable buildings, and minimises erosion and sedimentation within any natural watercourses utilised as part of the network.
- 5.3.6 To improve the understanding of how stormwater and wastewater networks interact and the adverse effects of network discharges on receiving environments.
- 5.3.7 To promote sustainable site management practices that avoid discharges of contaminated stormwater from an industrial or trade process.

### **Sewage Treatment and Disposal**

- 5.3.8 To ensure the treatment and discharge of sewage is undertaken to protect the environment and public health.
- 5.3.9 To encourage land application disposal of sewage where appropriate.
- 5.3.10 To avoid significant adverse cumulative effects on water quality arising from single lots or multiple on-site systems.

## **RURAL ACTIVITIES**

### **Land Management**

- 5.3.11 To maintain the long-term health, versatility and productive potential of soils in the region.
- 5.3.12 To encourage land management practices that minimise the discharge of sediment, maintain and enhance the productive potential of soil and minimise soil loss and degradation.

### **Contaminated Land and Landfills**

- 5.3.13 To ensure the remediation and management of contaminated land, closed and operative solid waste landfills and cleanfills is undertaken to protect the environment and public health.

## **5.4 POLICIES**

### **GENERAL POLICIES**

- 5.4.1 The discharge of contaminants shall not result in more than minor adverse effects on the values of the Wetlands, Natural and Urban Streams, High Use Streams, High Use Aquifers, Quality Sensitive Aquifers, and Natural and Urban Lake Management Areas.
- 5.4.2 The relevant provisions of the Values chapters of this plan shall be considered in the assessment of any proposal to discharge contaminants.
- 5.4.3 In assessing whether proposals to discharge contaminants into water or onto or into land where they may enter water, or undertake activities in the beds of rivers or lakes in association with stormwater quality management,

## DISCHARGES TO LAND OR WATER - 5

meet the objectives and policies of this plan, the ARC will take into account the urban stream management guidelines set out in Urban Stream Management Areas section. Proposals unable to meet these guidelines shall generally be considered inappropriate unless the applicant can demonstrate that the proposal meets the terms of policy 5.4.8 of this plan.

### **Stormwater and Wastewater Networks**

- 5.4.4 The management of stormwater and wastewater networks shall be integrated by:
- (a) Requiring operators to prepare integrated catchment management plans (ICMP) and wastewater network environmental management plans (WNEMP) which identify actual and potential:
    - i public health risks;
    - ii aesthetic, odour, erosion, sedimentation and flooding adverse effects;
    - iii receiving environment water quality degradation;
    - iv adverse effects on aquatic ecology;and the proposed methods and works for addressing those matters;
  - (b) Considering the interrelationship and nature of local and trunk networks, the interconnections between stormwater and wastewater networks, and the cumulative effects of stormwater and wastewater discharges on common receiving environments; and
  - (c) Requiring higher network performance and environmental outcomes in areas of new urban development or intensification where opportunities to achieve environmental protection and enhancement are greater than in existing urban areas.
- 5.4.5 In all relevant circumstances, appropriate recognition shall be given to the strategic importance of public network infrastructure to enable people and communities to meet their needs for economic and social well-being, while avoiding, remedying or mitigating the adverse effects from stormwater and wastewater discharges on the environment. In particular, appropriate recognition shall be given to the need to manage the network to take into account the following:
- (a) The practicability of upgrading the part of the network at issue, taking into consideration the state of the infrastructure, and the costs of upgrading options;
  - (b) Public health priorities;
  - (c) The nature of both the receiving environment and the discharge; and
  - (d) Priorities for flooding and inundation protection.
- Explanation:*
- The costs associated with infrastructure installation, maintenance and refurbishment are high and due regard needs to be given to community expectations and their ability to fund such works.*
- 5.4.6 When processing consent applications for private stormwater discharges the ARC shall have regard to:
- (a) Relevant stormwater management matters listed in Policies 5.4.9 and 5.4.10.

## DISCHARGES TO LAND OR WATER – 5

- (b) The overall effects of stormwater discharges and diversions from the site, and in particular, the extent to which stormwater quality treatment and quantity control are or will be provided for existing and proposed land uses within the same Certificate of Title or contiguous area.
- 5.4.7 When processing consent applications for private wastewater discharges from new pump stations the ARC shall have regard to relevant wastewater management matters listed in Policies 5.4.9 and 5.4.10.
- 5.4.8 Discharges from stormwater or wastewater networks where, in the opinion of the ARC, the actual and potential adverse effects of the discharge are not adequately avoided, remedied or mitigated, may be considered appropriate if:
- (a) The discharge is unforeseen and intermittent;
  - (b) The discharge occurs infrequently;
  - (c) There are technical and practical difficulties which prevent measures being taken immediately to avoid as far as practicable, remedy, or mitigate the effects of the discharge; and
  - (d) The applicant can demonstrate that there is an appropriate programme in place to upgrade the quality of the discharge infrastructure within a reasonable timeframe to avoid, remedy or mitigate adverse effects.
- 5.4.9 When assessing resource consent applications by public authority network utility operators to divert and/or discharge stormwater or wastewater, regard shall be had to the extent to which the ICMP or WNEMP:
- (a) Achieves integration with ICMPs in adjoining catchments and any WNEMP within the same catchment;
  - (b) Identifies all aspects of network performance which have significant environmental risks and proposes methods to reduce high risks;
  - (c) Takes into account the urban growth projections developed under the Regional Growth Strategy produced by the Auckland Regional Growth Forum;
  - (d) Identifies catchment issues associated with Policy 5.4.4 (a);
  - (e) Assesses and compares alternative options and selects the best practicable option to address: the issues identified in Policy 5.4.5 (a), (b), (c) and (d); the management objectives for urban streams of this Plan; and the objectives and policies of the Regional Plan: Coastal; in particular Objective 20.3.1 and 20.3.2, and Policies 20.4.3 and 20.4.4 of that Plan;
  - (f) Identifies a prioritised programme of physical works, structures and other methods to implement the best practicable option developed under Policy 5.4.9. (e) above, recognising that any programme beyond three years will be indicative only;
  - (g) Documents:
    - i levels of service for the network;
    - ii the financial implications to the community of Policy 5.4.9 (f) and (g) i above; and
    - iii community consultation undertaken;

## DISCHARGES TO LAND OR WATER - 5

- (h) Incorporates low-impact design, source control, community education initiatives and non-structural methods aimed at avoiding, remedying or mitigating the actual and potential adverse effects of discharges;

### *Explanation:*

*The principles and practices of low-impact design are essential to ensure that adverse impacts are minimised. The ARC Technical Publication Number 124, 'Low impact design manual for the Auckland Region' (April 2000) provides guidance in this respect.*

- (i) Places water quality, and where appropriate water quantity, controls on stormwater discharges from private developments that do not have a separate resource consent from the ARC (where those discharges occur to networks managed by the applicant) in order to achieve a consistent outcome with private stormwater and wastewater discharge consents required by this plan;
- (j) Identifies any inconsistencies between the best practicable option and District Plan provisions, to facilitate the implementation of the programme developed under Policy 5.4.9 (f) above;
- (k) Identifies requirements and methodologies for:
  - i monitoring and reporting on the effectiveness of the physical works programme under Policy 5.4.9 (f) above;
  - ii maintaining the physical works or structures required by the physical works programme under Policy 5.4.9. (f) above .

5.4.10 The identification of the best practicable option and the prioritised programme of physical works, structures and other methods in Policy 5.4.9. (e), (f) and (g) shall, where relevant, have regard to:

- (a) protecting the health and safety of people and communities from flooding hazards;
- (b) protecting floor levels of habitable buildings from 100 year ARI floods;
- (c) avoiding adverse effects on authorised surface water and groundwater uses;
- (d) minimising hydrological changes, including changes to baseflows in rivers and lake and aquifer levels (except for the diversion of flow by combined sewers);
- (e) any flow regime for any stream or river, including minimum flow that has been set in this plan;
- (f) the relevant provisions relating to damming for the purpose of stormwater treatment ponds in the Water Allocation chapter of this plan.
- (g) risks to public health;
- (h) methods and levels of treatment for the removal of contaminants from the discharges on a long term average basis;
- (i) maintaining or enhancing existing natural and amenity values in the catchment, including the values associated with riparian vegetation, natural watercourses and groundwater aquifers; and avoiding the use of rivers as drains for treatment locations where there are alternatives available;
- (j) methods to:
  - i minimise erosion and sedimentation;

- ii reduce the area or distribution of impervious surfaces;
  - iii increase the extent of riparian planting;
  - iv provide for fish passage;
  - v minimise the discharge of litter and sediments; and
  - vi artificially recharge aquifers;
- (k) the following additional matters specific to wastewater networks:
- i avoids dry weather overflows to the environment during the normal operation of the network;
  - ii the network operator has an operational and maintenance programme in place that minimises unforeseen dry weather overflows to the environment;
  - iii minimises wet weather overflows to the environment; and
  - iv minimises exfiltration of wastewater to the environment.
- 5.4.11 To the fullest extent practicable, discharges from stormwater and wastewater networks entering rivers and streams that flow into the coastal marine area shall be treated to a level that enables the receiving environment objectives in the Regional Plan: Coastal to be met.
- 5.4.12 When undertaking reviews of stormwater or wastewater catchment or network consents under section 128 of the RMA, the ARC will generally not publicly notify those reviews unless works or activities are proposed by the consent holder that would result in an increase in the scale or intensity of the actual or potential adverse effects associated with the activity authorised by the consent.

### SEWAGE TREATMENT AND DISPOSAL

#### Community

- 5.4.13 The discharge of treated sewage to land shall be at a rate that does not exceed the ability of the land to assimilate the effluent or does not result in significant adverse soil or water contamination and does not pose a threat to public health.
- 5.4.14 The discharge of treated sewage to water shall be considered inappropriate unless it can be demonstrated that the treatment system is:
- (a) Designed to cope with the expected influent volume; and
  - (b) The discharge does not result in significant adverse environmental or public health effects, including cumulative effects.
- 5.4.15 In assessing the effects of treated sewage discharges to water, regard shall be had to:
- (a) Practicability of enhancing the existing water quality of the receiving water body;
  - (b) Whether the discharge to land would have more significant adverse environmental effect, and
  - (c) The current state of technical knowledge regarding the proposed system and the likelihood that the proposed method of discharge can be successfully applied.

## DISCHARGES TO LAND OR WATER - 5

- 5.4.16 Promote the reuse of treated sewage and sewage solids where it can be demonstrated that:
- (a) The extent and nature of the wastewater and solids will not pose a threat to the environment or to human health;
  - (b) The current and proposed future use of the land will not be adversely affected; and
  - (c) Ground and surface water resources are not at risk from contamination.

### **On-site**

- 5.4.17 When considering the use of on-site sewage treatment and disposal systems for new subdivision and/or land use intensification, regard shall be had to the potential for cumulative adverse effects.
- 5.4.18 When considering on-site sewage treatment and disposal, regard shall be had to:
- (a) Adverse public health and environmental impacts on water quality and amenity values;
  - (b) The location and proximity of the discharge to other discharges, and cumulative effects on the receiving environment;
  - (c) The feasibility of connecting the discharge to a sanitary sewer or decentralised system and whether that connection is the 'best practicable option';
  - (d) The system design and whether the volume of the discharge, level of contaminants and rate of discharge has been minimised to the greatest extent practicable;
  - (e) Whether the type of wastewater treatment system is suitable for the site and conditions; and
  - (f) Whether the method of land application is appropriate for the site and conditions.

### **Biosolids**

- 5.4.19 To promote the reuse of biosolids where it can be carried out in such a manner to minimise the potential for contamination of groundwater or surface waters and public health.
- 5.4.20 The reuse of biosolids is inappropriate unless it can be demonstrate that:
- (a) The biosolids contain concentrations of heavy metals, pathogens and synthetic organic chemicals which are acceptable and sustainable within the environment in which they will be applied and into which they may migrate; and
  - (b) The reuse of biosolids will not create a risk to public health.

**RURAL ACTIVITIES****Land Management**

- 5.4.21 The discharge of sediment shall be avoided where it will result in more than a minor adverse effect on the values of any Natural Lakes, Natural Streams and Wetlands Management Areas.
- 5.4.22 Land disturbing and cultivation activities shall avoid, remedy or mitigate adverse effects from the generation and discharge of sediment. In assessing the effects on the environment, regard shall be had to appropriate sediment control measures specified in the Franklin Sustainability Project Guidelines, 'Doing it Right' (2000).

**Rural Wastes**

- 5.4.23 Discharges from rural activities are carried out so as to avoid or minimise contamination of groundwater and surface waters, and to avoid any risk to human health.
- 5.4.24 The re-use of rural wastes is promoted where they are:
- (a) Low maintenance and low risk;
  - (b) Land based, where soil types and disposal areas are adequate; and
  - (c) Operated in accordance with a maintenance, monitoring and contingency plan.
- 5.4.25 The ARC will develop and implement a monitoring programme for rural waste discharges in order to ensure that adverse environmental and public health effects are minimised.

**Agrichemical and Fertiliser Use**

- 5.4.26 To ensure that agrichemicals are stored, handled and applied in accordance with good management practices so as to avoid or minimise contamination of land, groundwater and surface waters.
- 5.4.27 When considering applying agrichemicals, regard shall be had to:
- (a) The type and formulation of agrichemical considering the target organism;
  - (b) The method and rate of application;
  - (c) The proximity of the application to water;
  - (d) The proximity of application to the following Management Areas:
    - i Wetlands;
    - ii Natural Lakes;
    - iii Natural Streams; and
    - iv High Use Streams.
  - (e) The timing of application in relation to weather condition; and
  - (f) Communication requirements in relation to spray discharges.
- 5.4.28 To ensure that fertilisers are used in accordance with good management practices, such as those outlined in the "Code of Practice for Fertiliser Use"

## DISCHARGES TO LAND OR WATER - 5

NZ Fertiliser Manufacturers Research Association 1998, so as to minimise the entry of nutrient into waterbodies.

- 5.4.29 When considering applying fertiliser onto land, regard shall be had to:
- (a) The type and formulation of fertiliser considering crop needs;
  - (b) The method and rate of application;
  - (c) The proximity of the application to water;
  - (d) The proximity of application to the following Management Areas:
    - i Wetlands;
    - ii Natural Lakes;
    - iii Natural Streams; and
    - iv High Use Streams.
  - (e) The timing of application in relation to rainfall and soil water status;
  - (f) Any limitations on fertiliser use created by local soil types;
  - (g) Current soil nutrient status; and
  - (h) The results of a site specific soil nutrient budget.

### **Contaminated Land**

- 5.4.30 To encourage the owners of land, where activities listed as high risk in the 'Guidelines for the Classification of Contaminated Sites', MfE 2001, have been undertaken, to complete a contaminated site assessment especially prior to the sale or redevelopment of the land.
- 5.4.31 To encourage TAs to seek contaminated site assessments prior to allowing a change in land use, subdivision or redevelopment where the land has been used for any activity listed in 'Guidelines for the Classification of Contaminated Sites', MfE 2001.
- 5.4.32 To promote the remediation of contaminated land where the level of contamination has, or has the potential to have, a significant adverse effect on the environment or public health and renders the land unsuitable for its existing zoned land use.
- 5.4.33 To promote the management of contaminated land to ensure that there are no significant adverse effects on the environment or public health.
- 5.4.34 The management of contaminated land may allow contaminants to remain in the ground on the site where it can be demonstrated that:
- (a) The extent and nature of the contamination will not pose a threat to the environment or to public health;
  - (b) The current zoned land use will not be adversely affected;
  - (c) Ground and surface water resources are not at risk from contamination; and
  - (d) Ongoing monitoring and management in a manner appropriate to the extent and type of contamination of the site is undertaken to ensure that (a), (b) and (c) above are achieved.

### Landfills

- 5.4.35 To ensure that all closed landfills are identified and assessed for risks to the environment and public health in accordance with 'A Guide to the Management of Closing and Closed Landfills in New Zealand', MfE 2001.
- 5.4.36 The discharge of leachate from closed landfills shall be considered to be appropriate where it will not have a significant adverse effect on groundwater quality, surface water quality, aquatic life or public health.
- 5.4.37 All closed landfills shall have regular monitoring to ensure the effectiveness of post-closure care relative to the risks of adverse effects from discharges to groundwater, surface waters or public health, in accordance with 'A Guide to the Management of Closing and Closed Landfills in New Zealand', MfE 2001.
- 5.4.38 Closed landfills shall be managed so that:
- (a) Any discharge will not pose a threat to the environment or to public health;
  - (b) The current and proposed future use of the land will not be adversely affected; and
  - (c) Ongoing monitoring and management appropriate to the extent and type of contamination of the site is undertaken to ensure that (a) and (b) above are achieved.
- 5.4.39 Any new proposal to discharge refuse to land shall demonstrate that:
- (a) Any discharge to the environment will not pose a threat to the environment or to public health; and
  - (b) Ground and surface water resources are not at risk from the discharge of contaminants onto or into land.

### Other Discharges of Contaminants to Land or Water

- 5.4.40 Reuse of washwater is the preferred disposal option. Disposal to land will be acceptable where it will not result in runoff or the accumulation of contaminants, such as hydrocarbons and heavy metals, in the receiving environment. Washwater should be discharged to the sanitary sewer where reuse and land application is not available or impractical.
- 5.4.41 Discharges from swimming pools or from activities that result in large quantities of water with negligible amounts of contaminants to land or waterbodies shall be considered appropriate where simple management techniques are adopted which avoid adverse effects on the environment.
- 5.4.42 Any proposal to discharge geothermal water into any water body shall demonstrate that adverse effects on the environment are avoided as far as practicable, remedied or mitigated by ensuring that:
- (a) The volume of the discharge has been minimised to the greatest extent practicable;

## DISCHARGES TO LAND OR WATER - 5

- (b) The adverse effects of added chemicals and filter backwash or other contaminants have been minimised to the greatest extent practicable; and
  - (c) The receiving environment is able to assimilate the discharge without significant adverse effects.
- 5.4.43 New discharges of geothermal water outside of Parakai and Waiwera, or any redevelopment of existing sites which results in a change in the volume or location of a geothermal discharge, shall be encouraged to discharge to territorial authority stormwater systems, rather than discharging at a separate individual discharge point. Any discharge of geothermal water to a reticulated system shall require the approval of the system owner.
- 5.4.44 Discharges of geothermal water to land shall be undertaken in a way that does not give rise to land instability, erosion or flooding either on the site of the discharge or in neighbouring properties.

## 5.5 RULES

### STORMWATER AND WASTEWATER NETWORKS

#### EXISTING STORMWATER DISCHARGES

##### Permitted Activity

- 5.5.1 The diversion and discharge of stormwater, subject to the following conditions:
- (a) It originates from:
    - i land zoned under a rural classification in an operative district plan; or
    - ii a road outside the Metropolitan Urban Limits (MUL);
  - (b) The stormwater discharge or road is existing at the date of notification of this plan;
  - (c) The quantity of the discharge shall not exceed that existing at the date of notification of this plan;
  - (d) It does not originate from an industrial or trade premise;
  - (e) It does not cause scouring at the point of discharge or cause downstream channel erosion; and
  - (f) It does not cause flooding, in a 100 year ARI storm, of a habitable floor level in any dwelling existing at the date of notification of this plan.

##### *Explanation:*

*Rule 5.5.1 relates to existing activities that were previously authorised by permitted activity rules in the Transitional Regional Plan.*

## PRIVATE STORMWATER NETWORKS

### Permitted Activity

- 5.5.2 The diversion and discharge of stormwater subject to the following conditions:
- (a) It originates from a total impervious area of less than 1000m<sup>2</sup> ;
  - (b) The diversion and discharge originates from land within a single Certificate of Title or contiguous area;
  - (c) It does not originate from an industrial or trade premise;
  - (d) It is not otherwise authorised by a public stormwater network consent granted under the provisions of Rules 5.5.10, 5.5.12, 5.5.13, 5.5.14 or 5.5.15.
  - (e) It does not cause scouring at the point of discharge or cause downstream channel erosion; and
  - (f) It does not cause flood levels in a 100 year ARI storm to rise within 0.5 metres of a habitable floor level in any dwelling.

### Controlled Activity

- 5.5.3 The diversion and discharge of stormwater that meet the following standards and terms:
- (a) It originates from an impervious area greater than 1000m<sup>2</sup> but less than 5000m<sup>2</sup>;
  - (b) It is not otherwise authorised by a public stormwater network consent granted under the provisions of Rules 5.5.10, 5.5.12, 5.5.13, 5.5.14, or 5.5.15.
  - (c) It does not cause downstream channel erosion;
  - (d) Stormwater outfalls that cause erosion incorporate erosion control measures at the outfall;
  - (e) It does not cause flood levels in a 100 year ARI storm to rise within 0.5 metres of a habitable floor level in any dwelling;
  - (f) Any stormwater discharged shall be treated to remove at least 75 per cent of total suspended solids on a long-term average basis; and
  - (g) Overland flow paths shall be provided and maintained for flows in excess of the primary drainage network capacity to allow flows up to and including the 100 year ARI storm to discharge with the minimum of nuisance and damage.
- 5.5.4 The ARC shall exercise its control over the following matters:
- (a) The methods of stormwater treatment and erosion control, including vegetation cover on site;
  - (b) The location of the point of discharge;
  - (c) The degree of integration with any public stormwater network consent within the same catchment;
  - (d) The degree of integration with any structure plan prepared for the catchment; and
  - (e) Monitoring and reporting requirements.

## DISCHARGES TO LAND OR WATER - 5

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### Discretionary Activity

- 5.5.5 The diversion and discharge of stormwater from private stormwater networks that meet the following standards and terms:
- (a) It originates from an impervious area greater than 5000m<sup>2</sup>; and
  - (b) It is not otherwise authorised by a public stormwater network consent granted under the provisions of Rules 5.5.10, 5.5.12, 5.5.13, 5.5.14, or 5.5.15.

*Explanation:*

*The diversion and discharge of stormwater from private stormwater networks that originates from an industrial or trade premise and therefore does not meet standard and term of Rules 5.5.1(d) or 5.5.2(c) is regulated by Rules 5.5.16, 5.5.17, 5.5.18, 5.5.19, 5.5.20 or 5.5.21.*

### PRIVATE WASTEWATER NETWORKS

#### Permitted Activity

- 5.5.6 The discharge of wastewater from a private wastewater pumping station, via a pumping station overflow point, subject to the following conditions:
- (a) The pumping station is existing at the date of notification of this plan;
  - (b) It does not render a currently used potable water source unsuitable for human consumption, as defined in the 'Drinking Water Standards for New Zealand', MoH (1995);
  - (c) The average dry weather flow into the pumping station is less than 3 litres/second and the design peak flow into the pumping station is less than 12 litres/second;
  - (d) Any discharge from the pumping station is free of any trade waste not authorised by the wastewater network operator receiving the discharge;
  - (e) It is not otherwise authorised by a public wastewater network consent granted under the provisions of Rules 5.5.10, 5.5.12, 5.5.13, 5.5.14 or 5.5.15;
  - (f) Storage shall be provided above the high level pump start to contain flows in excess of the pumping capacity to a minimum of four hours average dry weather flow; and
  - (g) An alarm shall warn the operator when storage is being utilised and the operator shall take all reasonable steps to prevent a discharge.

#### Restricted Discretionary Activity

- 5.5.7 The discharge of wastewater from private wastewater pumping stations, via a pumping station overflow point, that meet the following standards and terms:

- (a) It does not render a currently used potable water source unsuitable for human consumption, as defined in the 'Drinking Water Standards for New Zealand', MoH (1995);
- (b) The average dry weather flow into the pumping station is less than 3 litres/second and the design peak flow into the pumping station is less than 12 litres/second;
- (c) Any discharge from the pumping station is free of any trade waste not authorised by the wastewater network operator receiving the discharge; and
- (d) It is not otherwise authorised by a public wastewater network consent granted under the provisions of Rules 5.5.10, 5.5.12, 5.5.13, 5.5.14 or 5.5.15.

5.5.8 The ARC shall restrict the exercise of its discretion to the following matters in assessing applications under Rule 5.5.7:

- i the quality, volume, rate and frequency of the discharge;
- ii the methods of wastewater collection, treatment and discharge;
- iii the location of the point of discharge;
- iv the degree of integration with any public wastewater network consent within the same catchment;
- v the degree of integration with any structure plan for the catchment;
- vi the scope and nature of any further consultation required; and
- vii monitoring and reporting requirements.

Applications for consent will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with section 94(1A) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### **Discretionary Activity**

5.5.9 The discharge of wastewater from private wastewater pumping stations, via a pumping station overflow point, that do not meet the standards and terms of Rule 5.5.7.

### **Public Stormwater and Wastewater Networks**

#### *Explanation:*

*The ARC has established a regime whereby existing public stormwater and wastewater network discharges within the MUL are controlled activities and new stormwater and wastewater network discharges are restricted discretionary activities unless they cannot meet specified standards and terms, in which case they are discretionary activities.*

*Outside of the MUL those activities are discretionary unless they cannot meet specified standards and terms, in which case they are non-complying.*

*A public stormwater network consent authorises the discharge of stormwater (and in some cases, wastewater) for the stormwater pipe systems in a catchment over which the consent holder has control. Such a*

## DISCHARGES TO LAND OR WATER - 5

*consent could authorise all existing elements of the network(s) that require consent from the ARC if the application includes those elements. It does not authorise the discharge of the catchment stream(s) to marine waters (as no consent is required for such discharges) and does not transfer the regulatory control for other discharges within the catchment from the ARC to the consent holder. The consent holder is, however, responsible for the quality and quantity of stormwater and wastewater inputs to their network. An integrated catchment management plan is required to support the consent application. Where the ICMP identifies the effects of future urban intensification, the quality and quantity of those future discharges are authorised by the consent.*

### **Within the Metropolitan Urban Limits**

#### **Controlled Activities**

5.5.10 The following activities:

- (a) The diversion of stormwater; and
- (b) The discharge of stormwater or wastewater (via pumping station or network overflows).

where they meet the following standards and terms:

- i the activity is undertaken by a stormwater or wastewater network utility operator;
- ii the activity is existing at the date of notification of this Plan, but includes subsequent upgrades, maintenance or additions to that same pipe network;
- iii the activity occurs within the MUL;
- iv the consent applicant has undertaken consultation with potentially affected parties;
- v For stormwater activities:
  - (a) Discharge outfalls that cause erosion incorporate erosion control measures at the outfall;
  - (b) Any flooding of dwellings adjacent to open watercourses and the overland flowpaths for the primary pipe drainage network in storm events up to and including the 100 year ARI storm is avoided, remedied or mitigated; and where practicable a freeboard of 0.5 metres is provided between those flood levels and the habitable floor levels of dwellings.
  - (c) Overland flow paths shall be provided and maintained for flows in excess of the primary drainage network capacity to allow flows up to and including the 100 year ARI storm to discharge with the minimum of nuisance and damage;
  - (d) The applicant shall prepare an integrated catchment management plan for the purposes of identifying actual and potential:
    - 1) public health risks;
    - 2) aesthetic, odour, erosion, sedimentation and flooding adverse effects;
    - 3) receiving environment water quality degradation;

## DISCHARGES TO LAND OR WATER – 5

- 4) adverse effects on aquatic ecology including fish passage;

and the proposed methods and works for addressing those matters; and

vi For wastewater activities:

- (a) It does not render a currently used potable water source unsuitable for human consumption as defined in the 'Drinking Water Standards for New Zealand', MoH (1995);
- (b) Discharge outfalls that cause erosion incorporate erosion control measures at the outfall;
- (c) The applicant shall prepare a wastewater network environmental management plan for the purposes of identifying actual and potential:
  - 1) public health risks;
  - 2) aesthetic, odour, erosion and sedimentation adverse effects;
  - 3) receiving environment water quality degradation;
  - 4) adverse effects on aquatic ecology;

and the proposed methods and works for addressing those matters;

- (d) The wastewater collection network shall be designed and operated so as to avoid dry weather overflows during normal operation of the network, and the network operator shall have an operational and maintenance programme in place that minimises unforeseen dry weather overflows to the environment ;
- (e) Formal overflow points shall be designed and operated in such a manner so that there are no gross floatable solids visible in the receiving environment following storm events of an ARI of 1 in 6 months or less; and
- (f) Pumping stations which have any potential to overflow wastewater to the environment and have a contributing catchment equivalent population (EP) of 100 or more shall be continuously monitored by telemetry.

5.5.11 The Council shall exercise its control over the following matters when assessing applications under Rule 5.5.10:

- (a) Methods to avoid, remedy or mitigate flooding and downstream channel erosion;
- (b) Methods and levels of treatment for the removal of contaminants from the discharges;
- (c) The location, volume, rate, duration and frequency of discharges;
- (d) The mitigation or removal of existing barriers to fish passage;
- (e) The contents and implementation of the integrated catchment management plan or wastewater network environmental management plan and the programme of implementation for the methods and works outlined in those plans;
- (f) The scope and nature of any further consultation required;

## DISCHARGES TO LAND OR WATER - 5

- (g) Monitoring and reporting requirements; and
- (h) The use of existing dams on perennial streams.

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or lwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### **Restricted Discretionary Activities**

5.5.12 The following activities,

- (a) The diversion of stormwater; and
- (b) The discharge of stormwater or wastewater (via pumping station or network overflows)

that are not existing at the date of notification of this plan and meet the standards and terms i, iii, iv, v and vi of Rule 5.5.10.

The ARC shall exercise its discretion over the same matters upon which it has exercised its control as specified in Rule 5.5.11.

Applications for consent will be considered without notification or the need to obtain the written approval of affected parties or lwi in accordance with section 94(1A) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### **Discretionary Activities**

5.5.13 The following activities,

- (a) The diversion of stormwater; and
- (b) The discharge of stormwater or wastewater (via pumping station or network overflows)

within the MUL carried out by a stormwater or wastewater network utility operator that are unable to meet one or more of the standards and terms iv, v or vi of Rules 5.5.10 or 5.5.12.

## **OUTSIDE METROPOLITAN URBAN LIMITS**

### **Discretionary Activities**

5.5.14. The following activities:

- (a) The diversion of stormwater; and
- (b) The discharge of stormwater or wastewater (via pumping station or network overflows)

where they meet the following standards and terms:

- i the activity is undertaken by a stormwater or wastewater network utility operator,
- ii the activity occurs outside the MUL.

- iii for stormwater activities:
  - (a) Any flooding of dwellings adjacent to open watercourses and the overland flowpaths for the primary pipe drainage network in storm events up to and including the 100 year ARI storm is avoided, remedied or mitigated; and where practicable a freeboard of 0.5 metres is provided between those flood levels and the habitable floor levels of dwellings.
  - (b) Overland flow paths shall be provided and maintained for flows in excess of the primary drainage network capacity to allow flows up to and including the 100 year ARI storm to discharge with the minimum of nuisance and damage;
  - (c) The applicant shall prepare an integrated catchment management plan for the purposes of identifying actual and potential:
    - 1) public health risks;
    - 2) aesthetic, odour, erosion, sedimentation, and flooding adverse effects;
    - 3) receiving environment water quality degradation; and
    - 4) adverse effects on aquatic ecology including fish passage;and the proposed methods and works for addressing those matters.
- iv for wastewater activities:
  - (a) It does not render a currently used potable water source unsuitable for human consumption, as defined in the 'Drinking Water Standards for New Zealand', MoH (1995);
  - (b) For networks servicing an equivalent population (EP) greater than 1000 the applicant shall prepare a wastewater network environmental management plan for the purposes of identifying actual and potential:
    - 1) public health risks;
    - 2) aesthetic, odour, erosion and sedimentation adverse effects;
    - 3) receiving environment water quality degradation;
    - 4) adverse effects on aquatic ecology;and the proposed methods and works for addressing those matters;
  - (c) The wastewater collection network shall be designed and operated so as to avoid dry weather overflows from overflow points;
  - (d) Formal overflow points shall be designed and operated in such a manner so that there are no gross floatable solids visible in the receiving environment following storm events of an ARI of 1 in 6 months or less; and
  - (e) Pumping stations which have any potential to overflow wastewater to the environment and having a contributing

## DISCHARGES TO LAND OR WATER - 5

catchment equivalent population (EP) of 100 or more shall be continuously monitored by telemetry.

### Non-complying Activities

5.5.15 The following activities,

- (a) The diversion of stormwater; and
- (b) The discharge of stormwater or wastewater (via pumping station or network overflows).

undertaken outside the MUL by a stormwater or wastewater network utility operator unable to meet one or more of the standards and terms (iii) or (iv) of Rule 5.5.14.

## INDUSTRIAL OR TRADE PROCESSES

### Permitted Activities

5.5.16 The use of land for the purposes of an industrial or trade process, other than those activities listed as moderate risk and high risk in Schedule 3: Industrial or Trade Processes, subject to the following conditions:

- (a) Storage containers shall be covered to prevent rainwater entry;
- (b) Waste compactors and bins shall be located and operated in such a manner as to prevent leachate/wastes leaking from the bins and entering the stormwater system;
- (c) Contaminated water produced on-site shall be collected either for recycling, or disposal in an authorised manner. For the purposes of this rule wastewater shall include:
  - i boiler and air compressor blow down and condensate;
  - ii all waste and process liquids generated or collected as part of an industrial and trade process; and
  - iii cooling tower water;
- (d) Washwater produced on-site shall be:
  - i collected for recycling or disposal to a consented waste disposal system; or
  - ii discharged to land in a manner that does not result in the overland flow of the washwater entering stormwater, and does not result in accumulation of contaminants onto or into land.
- (e) An Emergency Response Plan shall be developed in accordance with Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, for any environmentally hazardous substance stored on the site. Such plans shall include:
  - i a schedule of inspection to ensure environmentally hazardous substances are stored and banded appropriately;
  - ii a protocol/method for stopping any discharge and ensuring that future events of this nature do not occur;
  - iii emergency holding and clean-up procedures;
  - iv appropriate spill kits to allow containment and/or absorption of spilled material and identification of their locations;
  - v appropriate signage to identify the location of spill kits and the actions to be taken in the event of a spill;

## DISCHARGES TO LAND OR WATER – 5

- vi action to minimise any adverse effects;
  - vii methods for disposal of spilled materials and any other contaminated materials used in the spill clean-up;
  - viii training of personnel in adequate identification of materials and correct operating procedures to avoid or minimise the likelihood of spills;
  - ix up-to-date and accurate copies of all site drainage plans showing the location of the final discharge point of the stormwater system; and
  - x a procedure for notifying as soon as practicable the ARC's 24 hour emergency response service in the event of any spill on site that results in contamination of any stormwater system, waterbody, or into land.
- (f) Environmentally hazardous substances shall be stored under cover or in a secondary containment device (such as a bund) in accordance with Part 4 of the Hazardous Substances (Emergency Management) Regulations 2001, where:
- i the device is constructed of impervious materials that are resistant to chemical attack from the substances contained therein;
  - ii the device is designed, constructed and managed so that uncontaminated stormwater runoff is prevented from flowing into the contained area;
  - iii there shall be a mechanism/protocol for determining if any fluid collected in the containment device is contaminated;
  - iv in the event of a leak or spill within the containment device, a procedure shall be prepared to dispose of all contaminated water and leaked product appropriately;
- (g) A procedure shall be developed and implemented to ensure reconciliation measurements and recorded by the site operator for any material stored in an underground storage tank;
- (h) On-site vehicle re-fuelling facilities with a total storage capacity of greater than 5000 litres shall be contained and housed under cover, and/or surrounded by a drain that drains to an appropriately designed and sized stormwater treatment and spill containment device fitted with a shut-off valve; and
- (i) Any stormwater treatment devices shall be installed and maintained in accordance with either the manufacturer's recommendations or the best practicable option. Such structures may include but not be limited to:
- i stormwater first flush system;
  - ii oil interceptors/separators;
  - iii sand filters;
  - iv settling ponds;
  - v vegetative filters.

5.5.17 The use of land for the purposes of an industrial or trade process listed as moderate risk in Schedule 3: Industrial and Trade Processes, subject to the following conditions:

## DISCHARGES TO LAND OR WATER - 5

- (a) The activity shall be managed and operated in accordance with a site specific environmental management plan which:
  - i complies with all the appropriate matters listed as conditions for Rule 5.5.16;
  - ii identifies the specific contaminants associated with the industrial or trade process on site; and
  - iii sets out the methods to be used to ensure that stormwater does not become contaminated;
- (b) The site Environmental Management Plan and compliance with the conditions in Rule 5.5.16 shall be inspected by an environmental auditor certified by the ARC on an annual basis. The results of this audit shall be forwarded to the ARC within three months of completion.

Where an audit of the Environmental Management Plan has been satisfactorily fulfilled consecutively for three years, the audit requirement will change to a biannual basis. In the event of non-compliance at any time with the condition(s) specified in Rule 5.5.16 the audit shall revert back to an annual basis.

*Explanation:*

*An appropriate Environmental Management Plan can be formulated using the practices outlined in the ARC's 'Environmental Operations Plan', (2001).*

*Note: Refer also to Chapter 8 Financial Contributions Rule 8.6.*

- 5.5.18 The requirement for the audit specified in Rule 5.5.17 (b), and the financial contribution specified in Rule 8.6 shall apply to any industrial or trade process listed as moderate risk in Schedule 3: Industrial or Trade Processes, in the following circumstances:
- (a) Any industrial or trade process commencing from the date of notification of this plan; or
  - (b) Any industrial or trade process confirmed as breaching the conditions of Rule 5.5.16, or Rule 5.5.17 via the ARC's Pollution Incident Response Programme; or
  - (c) Any industrial or trade process audited by the ARC as part of its proactive Industrial Pollution Prevention Programme; and
  - (d) Where an audit of the Environmental Management Plan has been satisfactorily fulfilled consecutively for three years, the financial contribution specified in Rule 8.6 shall be paid to the ARC biannually. In the event of non-compliance at any time with the condition(s) specified in Rules 5.5.16 or 5.5.17 the financial contribution shall be paid annually.

*Explanation:*

*Land use for industrial or trade processes that are either not listed in the plan or are listed as "moderate risk" are permitted as of right provided a comprehensive list of site management practices preventing contamination of stormwater are complied with.*

**Discretionary Activities**

- 5.5.19 Industrial or trade process that are unable to comply with Rules 5.5.16 or 5.5.17 will require a consent to discharge contaminated stormwater subject to the standards and terms specified in Rule 5.5.20.
- 5.5.20 The discharge of contaminated stormwater from an industrial or trade process listed as high risk in Schedule 3: Industrial or Trade Processes, subject to the following standards and terms:
- (a) An Environmental Management Plan which:
    - i has regard to all the appropriate matters listed as conditions for Rule 5.5.16 and Rule 5.5.17;
    - ii identifies the specific contaminants associated with the industrial or trade process on site;
    - iii sets out the methods to be used to ensure the contaminants identified avoid contacting stormwater runoff; and
    - iv identifies appropriate auditing requirements to ensure performance of all components of the Environmental Management Plan.
  - (b) Stormwater treatment shall be implemented to reduce contaminants that are entrained in the stormwater runoff to minimise adverse environmental effects, including cumulative effects, to acceptable levels;
  - (c) Any stormwater treatment devices shall be installed and maintained in accordance with either the manufacturer's recommendations or the best practicable option.

*Explanation:*

*One means of complying with the best practicable option referred to in 5.5.20 (c) is to adopt the practices outlined in 'Stormwater Treatment Devices – Design Guideline Manual, ARC Technical Publication No. 10'.*

- (d) Stormwater monitoring requirements to ensure the performance of the site's Environmental Management Plan and stormwater treatment devices.

*Explanation:*

*An appropriate Environmental Management Plan can be formulated using the practices outlined in the ARC's 'Environmental Operations Plan, 2001'.*

- 5.5.21 Industrial or trade process listed as high risk in Schedule 3: Industrial or Trade Processes shall apply for a stormwater discharge consent in the following circumstances:
- (a) Those commencing from the date of notification of this plan; or
  - (b) Those sites confirmed as polluting via the ARC's Pollution Incident Response Programme; or
  - (c) Those sites audited by the ARC as part of its proactive Industrial Pollution Prevention Programme.

### SEWAGE TREATMENT AND DISPOSAL

#### Permitted Activities

- 5.5.22 The discharge of domestic wastewater from one dwelling to land within a lot from the date of notification of this plan, where either:
- (a) The design flow is not greater than 2 m<sup>3</sup> per day;
  - (b) The proportion of gross Lot area to discharge volume is equal to or greater than 1.5 m<sup>2</sup> per 7 litres per week;
  - (c) The system components and management systems comprise:
    - i Septic tank with outlet filter;
    - ii Recirculating Sand/Textile Filter with 5:1 recycle ratio;
    - iii Pressure Compensating Drip Irrigation land application system at 3 mm (3 l/m<sup>2</sup>) or less per day;
    - iv No less than 25 per cent reserve disposal area;
    - v Programmed maintenance contract; and
    - vi Reporting of programmed maintenance on each occasion to the relevant territorial authority.
  - (d) Design details shall be in accordance with parameter ranges in ARC Technical Publication No. 58 'Onsite Wastewater Disposal from Households and Institutions';
  - (e) There is no significant adverse effects to any underground water at a point of extraction, any surface water, or threat to public health;
  - (f) The treatment and land application system are approved by the territorial local authority; and
  - (g) The lot is not contained or described in a title issued under the Unit Titles Act 1972 or a cross-lease form of title.
- 5.5.23 The discharge of domestic wastewater to ground via a treatment and disposal system lawfully in existence at the date the plan is notified provided that the following can be demonstrated:
- (a) The nature of the discharge is the same as that existing at the date the Plan becomes operative; and
  - (b) The discharge does not exceed 2 m<sup>3</sup> per day and the design flow is no greater than that existing at the date the plan becomes operative; and
  - (c) The discharge does not result in actual or potential contamination of ground water at a point of extraction, any surface water, or stormwater drain, or any public health threat.

*Note: refer also to Chapter 8 Financial Contributions Rule 8.6*

#### Controlled Activities

- 5.5.24 Any system discharging domestic wastewater or wastewater that is domestic in biochemical characteristics via any system which is not permitted by Rule 5.5.22 or 5.5.23, subject to the following standards and terms:
- (a) The design flow does not exceed 6m<sup>3</sup> /day;

- (b) Utilises pressure compensating drip irrigation as a land disposal method;
- (c) It is maintained in a programmed manner approved by and reported to the ARC; and
- (d) Design details are in accordance with parameter ranges in ARC Technical Publication No. 58 'Onsite Wastewater Disposal from Households and Institutions'.

5.5.25 The ARC shall exercise its control over the following matters under Rule 5.5.24:

- (a) The design, volume, level of contamination;
- (b) The design, method, rate of land application, reserve application area and the effects arising from the method chosen;
- (c) The duration of the consent; and
- (d) The monitoring of the activity including reporting in an approved format.

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

#### **Discretionary Activities**

- 5.5.26 The discharge of domestic wastewater or wastewater that is domestic in biochemical character that is not provided for in Rule 5.5.24.
- 5.5.27 The discharge of non domestic wastewater and tradewastes that is not provided for in any other Rule in this section.

#### **Prohibited Activities**

- 5.5.28 The discharge of domestic wastewater or wastewater that is domestic in character by "deep bore" disposal systems as defined in ARC Technical Publication No. 58, 'Onsite Wastewater Disposal from Households and Institutions' (2001).

### **SEWAGE SOLIDS**

#### **Permitted Activities**

- 5.5.29 The application of sewage solids onto or into land, except where used for commercial agricultural or horticultural practices, subject to the following conditions:

Note: All units are on a dry weight basis.

- (a) The maximum application rate of Nitrogen shall not exceed the equivalent of 300 kgN per hectare per year,
- (b) The concentrations of trace elements in the sewage solids shall not exceed the following limits:
  - Arsenic                      20mg As /kg

## DISCHARGES TO LAND OR WATER - 5

Cadmium	1mg Cd /kg
Chromium	600mg Cr /kg
Copper	100mg Cu /kg
Lead	300mg Pb /kg
Mercury	1mg Hg /kg
Nickel	60mg Ni /kg
Zinc	300mg Zn /kg

- (c) The concentrations of synthetic organic compounds in the sewage solids shall not exceed the following limits:

DDT/DDE/DDD (total)	0.5mg/kg
Aldrin	0.02mg/kg
Dieldrin	0.02mg/kg
Chlordane	0.02mg/kg
Heptachlor and Heptachlor Epoxide	0.02mg/kg
Hexachlorobenzene (HCB)	0.02mg/kg
Lindane	0.02mg/kg
Benzene Hexachloride (BHC)	0.02mg/kg
Total Polychlorinated Biphenyls (PCB) (total as arochlor 1242)	0.3mg/kg
Total Dioxins PCDD, PCDF	0.000025mg/kg TEQ

*Note: Toxic equivalents, TEQ, are to be calculated using the International (NATO) toxic equivalent factor scheme. One half of the limit of detection values are to be included in the calculation when the level analyte is below the level of detection.*

- (d) The numbers of micro-organisms in the sewage solids shall not exceed the following limits:
- |   |                |
|---|----------------|
| Faecal coliforms (thermotolerant coliforms) | <200 MPN/gram  |
| Salmonella                                  | <1/25 gram     |
| Campylobacter                               | <1/50 gram     |
| Giardia                                     | <1/50 gram     |
| Cryptosporidium                             | <1/50 gram     |
| Helminth Ova                                | <1/50 gram     |
| Enteric Virus                               | 10 PFU /40gram |
- (e) The above chemical and microbiological standards shall be met at the time when the sewage solids product is prepared for sale.
- (f) The sewage solids are stockpiled and applied to land in such a manner as to avoid contamination of ground or surface waters;
- (g) The sewage solids shall have a maximum moisture content of 75 per cent;
- (h) The sewage solids shall, as far as practicable, be spread evenly across the target area and be thoroughly mixed into the soil matrix at the site of application;
- (i) Sewage solids applied to land for domestic use shall be applied in accordance with the manufacturer's instructions as labelled on the product;
- (j) The sewage solids product shall comply with the requirements of USEPA Class A pathogen and Vector Attraction reduction requirements;
- (k) The sewage solids product shall not be applied to soils with a pH of less than 6; and

- (l) The maximum volume of sewage solids applied to any site shall not exceed 2m<sup>3</sup> and shall not be applied to any Production Land Activities.

*Explanation:*

*To ensure that sewage solids application meets the conditions of this Permitted Activity, labeling provided with the product shall specify the following:*

- *The concentrations of heavy metals, synthetic organic and bacterial levels.*
- *The product's origins.*
- *The N:P:K nutrient status.*
- *The recommended application rates and methods for home use.*
- *Precautionary handling instructions.*
- *Placement of material in relation to waterbodies.*
- *Requirement for incorporation into surface soil layers.*
- *Vector and pathogen attraction reduction measures.*

#### **Discretionary Activities**

- 5.5.30 Any application of sewage solids where the Permitted Activity conditions specified in Rule 5.5.29 cannot be met.

### **RURAL ACTIVITIES**

#### **Land Management**

##### **Permitted Activity**

- 5.5.31 The cultivation of soil for commercial crop production and associated management of surface water and discharge of sediment subject to the following conditions:

- (a) That the following minimum separation distances are maintained in a vegetated condition at all times:
- i 5 metres from any water body or road-side drain; and
  - ii 10 metres from the coastal marine area;
- (b) That slope is less than 15°(27 %).

*Explanation:*

*Slope is defined to be the average slope over 90% of a contiguous parcel of land. 15 degrees (27%) is the slope above which the potential erosion and movement of soil has been measured to greatly increase. Whilst there are many other factors which contribute to erosion potential, (e.g. soil type, crop type and stage, and soil water status), slope angle remains a dominant factor.*

- (c) During 30 April to 1 October each year land shall not be exposed for a continuous period of more than 30 days. The exposure of soil shall

## DISCHARGES TO LAND OR WATER - 5

- be considered from the time of first cultivation following harvest, until subsequent sowing; and
- (d) That appropriate surface water management measures be implemented and maintained, in accordance with recognised best management practices, in order that there is no significant off-site movement of soil, including deposition in road-side drains or onto public roads.

### *Explanation:*

*Compliance with Rule 5.5.31 (d) can be achieved by adopting the principles and practices outlined in the best management practice guidelines document 'Doing it Right – Franklin 'Sustainability Project Guide to Sustainable Land Management' 2000, or 'Erosion and Sediment Control Guidelines for Land Disturbing Activities for the Auckland Region', ARC Technical Publication No. 90.*

*Significant in this case means the obvious deposition of soil peds such as aggregate, crumb, prism, block or granule, formed by natural processes.*

### **Controlled Activities**

- 5.5.32 Any cultivation of soil for commercial crop production that does not comply with Rule 5.5.31 Permitted Activity.

The ARC will have control over the following matters under Rule 5.5.32:

- (a) Soil conservation measures for the purpose of minimising off-site movement of soil;
- (b) Alternative cultivation practices which will minimise soil disturbance and/or minimise the off-site movement of soil;
- (c) The extent to which cover crops are used;
- (d) The continuous length of time the soil surface or a percentage of the soil surface is left exposed (unvegetated);
- (e) The provision and implementation of a Surface Water Management Plan for the site in question;
- (f) How slope length and slope angle are used to minimise the risk of soil movement;
- (g) The time of year when the activity is undertaken;
- (h) Monitoring requirements; and
- (i) The effects on and proximity to the following Management Areas:
  - i Wetlands;
  - ii Natural Lakes;
  - iii Natural Streams;
  - iv Urban Rivers and Streams (Stream Mouths/Estuarine, and High Value Low Disturbance Streams); and
  - v High Use Streams.

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

## RURAL WASTES

### Permitted Activities

- 5.5.33 Discharges of contaminants from the following activities onto or into land subject to the conditions in Rule 5.5.34:
- (a) Composting and stockpiling of:
    - i uncovered vegetative material at a volume not exceeding 100m<sup>3</sup> per hectare at any one time;
    - ii covered vegetative material including silage;
    - iii uncovered livestock solid waste at a volume not exceeding 20m<sup>3</sup> at any one time;
    - iv covered livestock solid waste.
  - (b) Spreading of vegetative material;
  - (c) The storage of agricultural wastewater;
  - (d) The land application of rural wastewater that is the lesser of 2m<sup>3</sup> per day or the following:
    - i piggery washwater from up to 25 pig equivalents per site (a pig equivalent equates to a 50kg pig); and
    - ii poultry washwater from up to 5000 birds.
  - (e) Natural deposition of livestock waste solids;
  - (f) The emergency land application of milk on the site from which it was produced;
  - (g) Washwater from dog kennels or catteries at a rate not exceeding 2m<sup>3</sup> per day;
  - (h) Washwater from plant material, excluding processing, at a rate not exceeding 15m<sup>3</sup> per day;
  - (i) Glasshouse wastewater at a rate not exceeding 2m<sup>3</sup> per day;
  - (j) Food and beverage process wastewater at a rate not exceeding 2m<sup>3</sup> per day;
  - (k) Stock truck wastewater at a rate not exceeding 2m<sup>3</sup> per day;
  - (l) Stockdip wastewater disposal in accordance with the manufacturers recommendations; and
  - (m) The disposal of livestock and offal, using offal holes or shallow trenches except where the material originates from a commercial animal processing business.
- 5.5.34 All Permitted Activities in Rule 5.5.33 are subject to the following conditions:
- (a) A Rural Waste 'Permitted Activity Notification Form' shall be submitted to the ARC within 12 months of the date of notification of this plan for existing activities, or prior to the commencement of discharges from new activities, listed in Rule 5.5.33 (d), (g), (h), (i), (j) and (k);
  - (b) There is no discharge into any surface water body; and

#### *Explanation:*

*The primary way of avoiding direct discharges into water is to leave a separation distance between the application area and waterbodies. A 20 metre separation distance from surface waterbodies and a 100 metre separation distance from water supply bores is a useful guide, however the*

## DISCHARGES TO LAND OR WATER - 5

*actual distance will be dependent on site-specific conditions (including weather) at the time of application.*

- (c) Any discharge to land shall not result in hydraulic overloading or soil degradation; and

*Explanation:*

*Overland flows and/or the presence of ponding of wastewater more than 5 hours after application provides evidence that hydraulic overloading has occurred. In addition, excessive levels of organic materials may lead to anoxic conditions especially if for prolonged periods.*

- (d) The application rate of nitrogen from any combination of contaminants and/or nitrogenous fertiliser
- i onto grazed pasture shall be:
    - (1) at a rate not exceeding the equivalent of 150 kgN/hectare/year and 30 kgN/hectare/day in those areas underlain by aeolian sands and volcanic basalt; *(This includes Awhitu, Kaipara, Taporā, Pakiri, Omaha Flats, Pukekohe, Puni, Waiuku, Bombay and Mangere).*
    - (2) at rates not exceeding the equivalent of 200 kgN/hectare/year and 50 kgN/hectare/day on soils other than those stated above;

*Explanation:*

*The daily application rate is based on maximum recommended nitrogen application rates for grazed pasture that minimises leaching rates of nitrates to soil water.*

- ii onto ground other than grazed pasture, shall be in a manner and at a rate that does not exceed the reasonable nitrogen requirements of the crop being grown;

*Explanation:*

*Application of nitrogenous fertiliser at a rate or in a manner consistent with the "Code of Practice for Fertiliser Use (NZ Fertiliser Manufacturers Research Association, 1998) will be considered to have complied with this Rule.*

- (e) No hazardous substances are contained in the material to be discharged;
- (f) The discharge does not affect any lawful take of water; and
- (g) The discharge shall not result in any significant adverse effects from the spread of pathogens or the attraction of pests.

### **Additional conditions for discharges of rural wastewater**

- (h) There shall be contingency measures in place to ensure that there is no contravention of Rule 5.5.34 in the event of system failure. Details of contingency measures shall be submitted to the ARC for approval prior to discharge.

*Explanation:*

*The contingency plan shall be implemented in the event of system failure or inclement weather conditions preventing land application, and consideration must be given to alternative options of storage and/or disposal in the event*

*that normal land application of washwater or wastewater cannot be undertaken.*

*Note: refer also to Chapter 8 Financial Contributions*

### **Controlled Activities**

- 5.5.35 Discharges from the activities listed in Rule 5.5.33 onto or into land which exceed the thresholds identified are Controlled Activities and the conditions specified in Rule 5.5.34 (a) to 5.5.34 (g) inclusive, shall be the standards and terms for Rule 5.5.35.

The ARC will exercise its control over the following matters under Rule 5.5.35:

- (a) The suitability of the disposal area, including consideration of adjacent land uses;
- (b) The provision of adequate equipment for the collection, treatment and disposal of any discharge;
- (c) The capacity and security of any storage, including design and construction methods and materials used;
- (d) The degree of soil contamination;
- (e) Measures to avoid, remedy or mitigate adverse effects on the following;
  - i the Values identified in Chapter 2; and
  - ii the following Management Areas:
    - (1) High Use Aquifers
    - (2) Quality Sensitive Aquifers; and
- (f) Monitoring requirements for the discharge.

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### **Discretionary Activities**

- 5.5.36 Discharges from rural activities onto or into land and into water that are not specifically provided for by any rule in this plan; or is specifically provided for but does not meet the conditions, standards or terms of any rule in this chapter.

### **Prohibited Activities**

- 5.5.37 The discharge of untreated rural wastes into water is a prohibited activity for which no consent will be granted except where otherwise provided for by this plan.

### AGRICHEMICAL AND FERTILISER USE

#### Permitted Activities

- 5.5.38 The discharge of the following agrichemicals:
- (a) Those registered for aquatic weed control in water; or
  - (b) Those required for pest control by statutory agencies for the purposes of biosecurity, subject to the following conditions:
    - i The discharge shall be undertaken in accordance with the recommendations and advice in New Zealand Standard 8409:1999 'Code of Practice for the Management of Agrichemicals' and the manufacturer's label recommendations.
    - ii Training requirements. Any applicator shall hold, as a minimum, either:
      - (a) A GROWSAFE<sup>®</sup> registered chemical applicators certificate; or
      - (b) A GROWSAFE<sup>®</sup> introductory certificate, and be under the direct supervision of a person holding the qualification in (a).
    - iii Communication requirements
      - (a) The applicator shall prepare a spray plan (generally in accordance with New Zealand Standard 8409:1999);
      - (b) Upon the request of any party, the applicator shall within 7 days supply a copy of the spray plan;
      - (c) Upon the request of any party for notification, the applicator shall either:
        - (1) Provide written notification of the intent to spray at least 24 hours prior to the proposed application, or within a timeframe agreed between the parties; or
        - (2) Provide verbal notification of the intent to spray as soon as practicable prior to the proposed discharge, or within a timeframe agreed between the parties; or
        - (3) If (1) or (2) are impracticable, the applicator shall provide notice publicly through recognised methods, such as notice in the local newspaper, a letter drop, or web site. Details of the notification method shall be included in the spray plan, and public notice shall occur at least seven days prior to the proposed discharge.
      - (d) the applicator shall notify:
        - (1) every person taking water for potable supply within 1 km downstream of the proposed discharge, at least 12 hours prior to the discharge occurring; and
        - (2) every holder of a resource consent for the taking of water for public potable water supply purposes downstream of the proposed discharge, at least 1 week before commencing the discharge.
    - iv Additional condition for aquatic weed control:

## DISCHARGES TO LAND OR WATER – 5

Discharges to water for the purpose of eradicating or controlling unwanted emergent or submerged plants shall not exceed the quantity and concentration required for that purpose.

- 5.5.39 The application of fertiliser into or onto land in circumstances where it may enter water, subject to the following conditions:
- (a) All reasonable steps (Explanation 1 below), shall be taken to ensure that the fertiliser is applied in a manner, which is consistent with the relevant Code of Practice (Explanation 2 below), to minimise the potential for nutrients from the fertiliser to directly or indirectly enter water;
  - (b) Fertiliser shall not be directly applied within 20 metres (Explanation 3 below), of a Wetland, Natural Lake, or Natural Stream Management Area.

*Explanation:*

1. *“Reasonable steps” include avoiding fertiliser application:*
  - a *immediately preceding heavy rain, which is likely to cause fertiliser runoff;*
  - b *during high wind, which is likely to result in drift and deposition of fertiliser into water;*
  - c *when soils are saturated;*
  - d *directly over waterbodies, where possible.*
2. *The relevant Code of Practice for the appropriate application of fertiliser is the Fertiliser Code of Practice (New Zealand Fertiliser Manufacturers’ Research Association, 1998).*
3. *The 20 metre separation distance is based on:*
  - a *collective scientific opinion on appropriate minimum separation distance for reasonable risk reduction, taking into account a range of factors including slope angle and length, riparian vegetation type and width, and soil type and conditions;*
  - b *the need to provide certainty to users regarding separation distances for most situations. A greater separation distance is encouraged where land management and weather conditions could result in nutrients entering water.*

### **Restricted Discretionary Activities**

- 5.5.40 The application of fertiliser into or onto land which is not permitted by Rules 5.5.38 and 5.5.39.

The ARC shall restrict the exercise of its discretion under Rule 5.5.40 to:

- (a) The type and formulation of fertiliser;
- (b) The application method and rate;
- (c) The proximity of application to surface water;
- (d) Proximity of application to any Wetland, Natural Lake, or Natural Stream Management Area;

## DISCHARGES TO LAND OR WATER - 5

- (e) The timing of application in relation to rainfall and soil water status; and
- (f) Any matters not complied with in Rule 5.5.38.

Applications for Restricted Discretionary Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1A) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### CONTAMINATED LAND

#### Permitted Activities

- 5.5.41 The discharge of groundwater or surface water from contaminated land during the process of remediation or after the remediation process is completed, subject to the following conditions:
- (a) Following remediation, the concentrations of contaminants in groundwater shall not exceed background levels for any contaminant as specified in ARC Technical Publication 'Long Term Baseline Groundwater Quality, 2001';
  - (b) The remaining soil and other materials shall not exceed the background levels for the range of contaminants found, as specified in ARC Working Report Number 76 'Trace Element Concentrations in Soils and Soil Amendments from the Auckland Region', August 1999, as amended October 2001, or the Tier 1 soil acceptance criteria for the protection of public health and groundwater quality specified in the 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand', Ministry for the Environment, August 1999;
  - (c) Contaminated soil is disposed of to an appropriately authorised facility or site and evidence of this is provided to the ARC;
  - (d) No contaminated stormwater shall be discharged from the area being remediated; and
  - (e) Within three months of completion of remediation the ARC shall be provided with site validation report, that shall be prepared in accordance with 'Guidelines for Reporting on Contaminated Sites', (MfE June 2001).

#### Controlled Activities

- 5.5.42 The discharge of groundwater or surface water from contaminated land during the process of remediation or after the remediation process is completed, that does not comply with the conditions of rule 5.5.41.
- 5.5.43 The discharge of groundwater or surface water from contaminated land during the process of remediation or from sites that are remediated or managed, subject to the following standards and terms:
- (a) The contaminant discharged shall not either by itself or in combination with other contaminants exceed the 95 per cent trigger

values for freshwater (groundwater) specified in the ANZECC (2001) Water Quality Protection Guidelines.

- (b) The contaminants in remaining soils are present at concentrations not exceeding the greater of:
  - i background concentrations specified in ARC Working Report Number 76 'Trace Element Concentrations in Soils and Soil Amendments from the Auckland Region', August 1999, as amended October 2001;
  - ii tier 1 soil acceptance criteria for the protection of public health and groundwater quality in the 'Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand', Ministry for the Environment, August 1999; and
  - iii international standards specified for specific land use types in the "Summary of Existing Canadian Environmental Quality Guidelines", Canadian Council of Ministers of the Environment (1999).
- (c) Prior to commencement of remediation the ARC shall be provided with a detailed site remedial action plan.
- (d) Within three months of completion of remediation the ARC shall be provided with the following:
  - i a site validation report; and
  - ii an ongoing monitoring and management plan.

The reports specified in (c) and (d) above shall be prepared in accordance with 'Guidelines for Reporting on Contaminated Sites', (MfE June 2001).

5.5.44 The ARC shall exercise its control over the following matters under Rule 5.5.42 and 5.5.43:

- (a) The investigation methodology used to identify the presence and concentration of contaminants on the site;
- (b) The acceptability of the methods of assessment of resources under threat and pathways of contaminant migration and modeling used to demonstrate the level of threat that exists, including cumulative effects;
- (c) The point of compliance for the discharge of contaminated groundwater;
- (d) The requirements for leachability tests to demonstrate the mobility of contaminants present;
- (e) The requirements to provide an acceptable method for reducing groundwater or surface water migration into or out of the contaminated land;
- (f) The requirements for monitoring to assess groundwater and surface water contaminant concentrations; and
- (g) The requirement for and content of an ongoing monitoring and management plan.

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

## DISCHARGES TO LAND OR WATER - 5

### Discretionary Activities

- 5.5.45 The discharge of groundwater from remediated or managed contaminated land not provided for in Rules 5.5.42 and 5.5.43.
- 5.5.46 The discharge of groundwater from remediated or managed contaminated land into any Management Area specified in this Plan.

### Landfills

*Note:*

*The operation of a landfilling activity is subject to the provisions of the Auckland Regional Plan: Sediment Control (2001).*

### Permitted Activities

- 5.5.47 The discharge of contaminants onto or into land from a cleanfill as defined in this plan.
- 5.5.48 The discharge of contaminants from a solid waste landfill that was lawfully being carried out and that closed before 31 December 1960 subject to the following conditions:
- (a) The contaminant discharged shall not either by itself or in combination with other contaminants exceed the 95 per cent trigger values for freshwater (groundwater) specified in the ANZECC (2001) Water Quality Protection Guidelines. Where a trigger value is not specified for any contaminant, background levels as specified in ARC Technical Publication No. 153 'Long Term Baseline Groundwater Quality, 2001' shall not be exceeded;
  - (b) The surface of the landfill is capped and sloped to facilitate surface runoff and to prevent ponding of surface water;
  - (c) The final capping layer is topsoiled and planted with vegetation that will maintain groundcover as far as practicable and whose roots will not intrude into the fill material;
  - (d) Catchment runoff is prevented from entering the landfill; and
  - (e) Stormwater drains shall be adequately maintained so as to prevent leachate exfiltration.

### Controlled Activities

- 5.5.49 The discharge of contaminants onto or into land from a solid waste landfill that was lawfully being carried out and that closed within the period 1 January 1961 to 1 October 1991 is a Controlled Activity subject to the following standards and terms:
- (a) Refuse in the landfill is capped with a suitable low permeability material;
  - (b) The site is protected from saltwater and freshwater/groundwater intrusion or inundation;
  - (c) That groundwater and surface water is protected from leachate migration;
  - (d) The surface of the landfill is capped and sloped to facilitate surface runoff and to prevent ponding of surface water;

## DISCHARGES TO LAND OR WATER – 5

- (e) The final capping layer is topsoiled and planted with vegetation that will maintain groundcover as far as practicable and whose roots will not intrude into the refuse in the landfill; and
- (f) Catchment and site stormwater runoff is prevented from entering the landfill.

These standards and terms shall be prepared in accordance with 'A Guide to the Management of Closing and Closed Landfills in New Zealand', MfE (May 2001).

The ARC shall exercise its control over the following matters in Rule 5.5.49:

- (a) The adequacy of the protection from saltwater and freshwater/groundwater intrusion;
- (b) The mitigation measures necessary to protect receiving water quality, including such measures as containment treatment and disposal systems; and
- (c) The frequency, location and method of sampling, and the determinants to be measured and method of measurement.

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### **Restricted Discretionary Activities**

- 5.5.50 The discharge of contaminants onto or into land from a cleanfill or the discharge of contaminants from a solid waste landfill that was lawfully being carried out and that closed before 31 December 1960, which does not meet the Permitted Activity conditions.

The ARC shall restrict the exercise of its discretion under Rule 5.5.50 to the effects of failing to comply with any condition(s) of the Permitted Activity (Rule 5.5.47 and Rule 5.5.48).

Applications for Restricted Discretionary Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi, in accordance with Section 94(1A) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### **Discretionary Activities**

- 5.5.51 The discharge of contaminants onto or into land from a solid waste landfill that was lawfully being carried out and that closed within the period 1 January 1961 to 1 October 1991 which does not meet the Controlled Activity standards and terms in Rule 5.5.49.
- 5.5.52 The discharge of contaminants to surface water from a solid waste landfill that was lawfully being carried out and that closed after 1 January 1961.

## DISCHARGES TO LAND OR WATER - 5

- 5.5.53 The discharge of contaminants onto or into land or into water from a solid waste landfill that commenced operation after 1 October 1991.

### OTHER DISCHARGES OF CONTAMINANTS TO LAND OR WATER

#### Permitted Activities

- 5.5.54 The discharge of wastewater and/or washwater from the following activities (subject to the conditions in Rule 5.5.55):
- (a) Concrete/asphalt laying or reworking;
  - (b) Drilling activities;
  - (c) Mobile cleaners (including carpets, blinds, domestic animals etc);
  - (d) The washing of vehicles, plant and machinery;
  - (e) The cleaning, maintenance and preparation of surfaces of buildings and associated structures (e.g. driveways, garages etc);
  - (f) The maintenance and repair of buildings, bridges and other structures that do not span or otherwise extend over any water body;
  - (g) Road construction activities; and
  - (h) Maintenance of stormwater treatment devices.
- 5.5.55 The activities in Rule 5.5.54 are subject to the following conditions:
- The discharge shall be either:
- (a) collected for reuse; or
  - (b) discharged onto land in a manner that does not result in runoff or the accumulation of contaminants in that land that will result in any significant adverse effect on the environment or public health; or
  - (c) recycled and collected for disposal at an authorised facility.
- 5.5.56 Discharge of dye or tracer material for investigative purposes, subject to the following conditions:
- (a) Notice of the intended discharge shall be given to the ARC and the relevant territorial authority at least 12 hours before the discharge occurs;
  - (b) The dye or tracer shall be of a type that is designed to be used in natural water and shall be used in accordance with manufacturer's recommendations and any relevant and recognised standards and practices.
- 5.5.57 The discharge of water from the following:
- (a) Testing or emptying of pipelines, tanks or bunds;
  - (b) A reticulated water supply system, excluding backwash water from water treatment plants and scouring water from any water supply reservoir, or
  - (c) Swimming pools, other than saltwater pools and filter backwash water, into any waterbody.
- 5.5.58 The activities in Rule 5.5.57 are subject to the following conditions:
- (a) No welding residues or other debris contained within the pipeline shall be discharged to the receiving water;
  - (b) The swimming pool has been left uncovered and has not been dosed with chemical additives for at least 14 days before the discharge;

- (c) The contaminant discharged shall not either by itself or in combination with other contaminants exceed the 95 per cent trigger values for freshwater (groundwater) specified in the ANZECC (2001) Water Quality Protection Guidelines;
- (d) The discharge does not change the natural temperature of the receiving water by more than 3<sup>0</sup>C after reasonable mixing;
- (e) The discharge does not enter any Wetland, Natural Lake, or Natural Stream Management Area;
- (f) The discharge does not change the natural pH of the water by more than 1.0 pH unit; and
- (g) The discharge does not cause erosion or scouring at the point of discharge or alter the natural course of the water body.

5.5.59 The discharge of swimming pool filter backwash water to land, in a manner that does not result in runoff into surface water.

5.5.60 The discharge of geothermal water from any site at Parakai or Waiwera Groundwater Management Areas, subject to the following conditions:

- (a) Any discharge of backwash water shall only take place from pools with a volume of less than 10m<sup>3</sup>;
- (b) Except as provided for by (a), the discharge shall comprise geothermal water only and shall contain no residual added chemicals;
- (c) The temperature of the discharge shall be less than 35 <sup>0</sup>C;
- (d) The discharge shall be less than 100m<sup>3</sup> per day;
- (e) The discharge shall not be directly into any water body and if directed to a territorial stormwater system, shall occur through a connection approved by the owner and/or operator of that stormwater system.

#### **Controlled Activities**

5.5.61 The discharge of wastewater and/or washwater into water or onto land where it will enter water arising from the maintenance and repair of buildings, bridges and other structures that span, abut or otherwise extend over any waterbody, subject to the following standards and terms:

- (a) The discharge is not permitted by Rule 5.5.54;
- (b) The discharge does not enter any Wetland, Natural Lake or Natural Stream Management Area.

The ARC shall exercise its control over the following matters under Rule 5.5.61:

- i the volume and level of contamination;
- ii the method of discharge and effects arising from the method chosen;
- iii the provision and adequacy of equipment for the collection, treatment, and disposal of any discharge; and
- iv the requirements for and specifications of consent monitoring.

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the

## DISCHARGES TO LAND OR WATER - 5

ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

- 5.5.62 The discharge of geothermal water at Parakai or Waiwera Groundwater Management Areas that does not comply with Permitted Activity Rule 5.5.60, subject to the following standards and terms;
- (a) The discharge shall comprise geothermal water, with or without the addition of pool chemical treatments;
  - (b) The discharge shall not contain any filter backwash water;
  - (c) The contaminant discharged shall not either by itself or in combination with other contaminants exceed the 95 per cent trigger values for freshwater (groundwater) specified in the ANZECC (2001) Water Quality Protection Guidelines;
  - (d) The temperature of the discharge shall be less than 35 °C;
  - (e) The discharge after reasonable mixing does not change the natural temperature of the receiving water by more than 3 °C;
  - (f) The discharge after reasonable mixing does not change the natural pH of the water by greater than 1.0 pH unit;
  - (g) The discharge does not cause erosion or scouring at the point of discharge or cause downstream channel erosion or alter the natural course of the water body; and
  - (h) The discharge does not result in significant flooding.

The ARC shall exercise its control over the following matters:

- i the volume, rate and frequency of any discharge;
- ii the method of discharge and the effects arising from the chosen method;
- iii the quality of any discharge including methods for the treatment and disposal of contaminants, including pool treatment chemicals and filter backwash water;
- iv the location of any discharge point; and
- v the monitoring of the consent.

Applications for Controlled Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi in accordance with Section 94(1)(b) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### **Restricted Discretionary Activities**

- 5.5.63 The discharge of geothermal water at Parakai or Waiwera that does not comply with Controlled Activity Rule 5.5.62. The ARC shall restrict the exercise of its discretion under Rule 5.5.63 to the effects of failing to comply with any condition(s) of the Controlled Activity (Rule 5.5.62).

Applications for Restricted Discretionary Activities will be considered without notification or the need to obtain the written approval of affected parties or Iwi, in accordance with Section 94(1A) of the RMA unless, in the opinion of the ARC, there are special circumstances justifying notification in accordance with Section 94(5) of the RMA.

### Discretionary Activities

- 5.5.64 Any discharge of geothermal water outside of Parakai and Waiwera Groundwater Management Areas.
- 5.5.65 Any discharge, which is not otherwise provided for in any other rule in this plan.

## 5.6 OTHER METHODS

### Stormwater & Wastewater Networks

- 5.6.1 The ARC will encourage TAs to consider the hydraulic capacity of the stormwater and wastewater collection network prior to increasing demands on the network through proposals in district plans. TAs should aim to ensure that increases in demand do not worsen the environmental performance of the stormwater and wastewater networks.
- 5.6.2 The ARC will encourage TAs to:
- (a) Ensure low impact design principles for stormwater are included within structure planning or similar planning for urban and higher intensity rural development; and
  - (b) Enable low impact design solutions for stormwater to be implemented during land development by ensuring that Council Standards and Codes of Practice facilitate these concepts.
- 5.6.3 The ARC will facilitate the development of other common methodologies (such as a common harbour model) amongst stormwater and wastewater operators to improve understanding of environmental performance of their systems and discharges, and of their effects on receiving environments.
- 5.6.4 The ARC will continue to investigate and record the effects of stormwater and sediment discharges on receiving environments and make this information publicly available.
- 5.6.5 The effectiveness of rules relating to stormwater management at sites conducting an industrial or trade process will continue to be assessed via the ARC's reactive and proactive urban pollution control strategy.
- 5.6.6 The ARC will develop appropriate coastal marine receiving environment guidelines for contaminants commonly contained in stormwater and wastewater discharges. Achieving these guidelines will facilitate the achievement of the objectives of the Regional Plan: Coastal. The coastal marine receiving environment guidelines will be inserted into the Regional Plan: Coastal by way of a Variation to the Plan.
- 5.6.7 The ARC will encourage TAs and network operators to ensure that adequate resourcing and commitment is made to facilitate the implementation of appropriate stormwater and wastewater management outcomes. This may include Heads of Agreement, which consider linkages

## DISCHARGES TO LAND OR WATER - 5

between the ARC, TA policy and development departments and the network operators.

### **Sewage Treatment and Disposal**

- 5.6.8 Where appropriate, the ARC will involve TAs in the development of an education strategy and develop an advocacy role with the on-site wastewater industry.
- 5.6.9 The ARC will encourage TAs to require programmed maintenance reports from treatment systems under the Permitted Activity existing use criteria specified in this plan and to report to the ARC the number of Permitted Activities assessed by that authority for the preceding 6 months.

### **Sewage Solids**

- 5.6.10 The ARC will include in its public education programmes information on the sustainable reuse of biosolids.
- 5.6.11 The ARC will produce educational material specifically for generators of biosolids that outlines:
- (a) Appropriate levels for contaminants of concern;
  - (b) The quality requirements of biosolids for specific end uses;
  - (c) Appropriate testing methodologies to ensure that biosolids meet the requirements of the Permitted Activity conditions; and
  - (d) The need for labelling to inform end-users of the requirements for beneficial reuse of biosolids.

## **RURAL ACTIVITIES**

### **Land Management**

- 5.6.12 The ARC will advocate best management practices for soil conservation and sustainable land management, including the following:
- (a) Advancing the integrated management of land and soil resources through liaison between landowners, resource users and Tangata Whenua; and
  - (b) Providing input when individuals, communities, local and central government are considering the Region's land management issues.
- 5.6.13 The ARC will support and promote industry initiated Codes of Practice and guidelines, and help landowners prepare individual property plans that identify opportunities and risks associated with sustainable land management.
- 5.6.14 The ARC will undertake further monitoring to effectively measure the state, pressure and response of the impact of various land use activities on the health, versatility, quantity, productiveness and integrity of the region's land and soil resources.

**Rural Wastes**

- 5.6.15 The ARC will encourage public education programmes regarding sustainable re-use of agricultural by-products.

**Agrichemical and Fertiliser Use**

- 5.6.16 The ARC will encourage the use of agrichemicals and fertilisers in accordance with codes of practice promulgated by industry.
- 5.6.17 The ARC will carry out a range of activities in relation to rural wastes, agrichemicals and fertiliser use, including:
- (a) Developing partnerships with industry, resource users and community groups to increase awareness of the adverse effects on the environment;
  - (b) Undertaking and sharing research;
  - (c) Providing up to date information on good management practices through publications, pamphlets, seminars, field days and workshops.
- 5.6.18 The ARC will promote the development of a holistic farm planning process for landowners including good farming practices that minimise adverse environmental effects.
- 5.6.19 The ARC will facilitate training in the use of nutrient budgeting decision-support systems.

**Contaminated Land**

- 5.6.20 The ARC will identify and classify in a publicly available register all land in the Auckland Region that is confirmed by the ARC using the National Guidelines for Classification of Contaminated Sites, MfE 2001.
- 5.6.21 The ARC will assist with the development of national guidelines for the identification, assessment and management of contaminated land.
- 5.6.22 The ARC will educate the public on the potential risks associated with existing contaminated land and the need to avoid future contamination.
- 5.6.23 The ARC will undertake a proactive programme of investigating land for contamination, focusing first on those listed as high risk in the Guidelines for Classification of Contaminated Sites, MfE 2001.

**Landfills**

- 5.6.24 The ARC will educate territorial authorities and other landfill owners of the potential risks associated with landfills and the need for post-closure care and the avoidance of potential contaminated discharges.

**Other Discharges of Contaminants to Land or Water**

- 5.6.25 The ARC will produce and disseminate education material that details the importance of appropriately disposing of wastewater and swimming pool water and acceptable methods for disposal.

### 5.7 ANTICIPATED ENVIRONMENTAL RESULTS

The following are the results anticipated from the provisions of this plan in relation to the provisions of Chapter 5 – Discharges to Land or Water.

This chapter of the plan includes a wide range of activities, including the discharges of stormwater and wastewater from network systems to contaminated land and the application of fertilisers. All of these activities are different and they have differing environmental effects. However all of these activities potentially contribute to degraded land and water quality which can adversely affect the natural functioning of aquatic and terrestrial ecosystems. Therefore while there are a number of specific results set out below the overarching anticipated result that is expected from the provisions of this section, as well as the other sections, is:

*“that the values of aquatic and terrestrial ecosystems are maintained where they are currently high and that they are enhanced where they are degraded”*

The following are the more specific results anticipated particularly for the relevant management areas.

- 5.7.1 The maintenance and protection of freshwater stream ecosystems and their associated riparian zones within the Natural Streams Management Area characterised by the presence of an appropriate full range of native fish and stream invertebrates including freshwater crayfish, a keystone species, along with a healthy range of native aquatic vegetation. The riparian zone will consist of a natural assemblage of healthy native plants covering a minimum zone of 40 metres either side of the watercourse and 600 metres in length.
- 5.7.2 That the water quality in degraded rural streams and rivers (outside of the Natural Streams Management Area) will at least be maintained and where practicable improved, characterised by reduced bacterial levels, nutrients, turbidity, temperature and increased dissolved oxygen levels and minimum flows. Also instream physical habitat will be extensive and diverse with stable stream banks. An increase, over time, in the diversity and abundance of native fish, invertebrates and aquatic plants is expected.
- 5.7.3 The maintenance and protection of aquatic and terrestrial ecosystems associated with the rural lakes within Natural Lakes Management Area which have existing high water quality characterised by the presence of an appropriate full range of native fish and lake invertebrates including the freshwater crayfish, a keystone species, along with a healthy range of native aquatic plants including planktonic species. The riparian zone will consist of a natural assemblage of healthy terrestrial and wetland plants.
- 5.7.4 That the lakes within the Natural Lakes Management Area which have degraded aquatic and associated terrestrial ecosystems will, where practicable, be improved, characterised by reduced bacterial levels,

## DISCHARGES TO LAND OR WATER – 5

nutrients, turbidity and maintenance of minimum water levels so that marginal emergent vegetation and wetlands are enhanced.

- 5.7.5 That the biological communities and water quality in urban streams (within the Urban Streams Management Area) will be maintained where it is currently good, characterised by healthy and diverse fish and invertebrate communities, stable, diverse stream channels, low levels of bacteria, nutrients, turbidity, settleable solids, contaminants, oil, foams etc, and water temperatures and normal dissolved oxygen levels.
- 5.7.6 That the biological communities and water quality in degraded urban streams (within the Urban Streams Management Area) will at least be maintained and where practicable enhanced, characterised by an increase in the abundance and diversity of fish aquatic invertebrates, reduced levels of bacteria, nutrients, turbidity, settleable solids, contaminants, oil, foams, temperature and increased dissolved oxygen levels.
- 5.7.7 The preservation and protection of wetlands within the Wetland Management Area and other wetlands characterised by healthy and diverse wetland flora and fauna, and normal water quality.
- 5.7.8 The improvement where practicable of degraded wetland ecosystems within the Wetland Management Area and other wetlands characterised by improved health and diversity of wetland flora and fauna, and water quality.
- 5.7.9 High Quality Coastal and Estuarine ecosystems adjacent to where streams and rivers discharge will be protected or where adverse effects are unavoidable these will be minimised characterised by low bacterial levels and contaminants in water, sediments and aquatic organisms, absence of nuisance plant growths, a normal range of turbidity, dissolved oxygen and sediment characteristics, and aquatic biota will be abundant, diverse and healthy.
- 5.7.10 Degraded Coastal and Estuarine ecosystems adjacent to where streams and rivers discharge will, where practicable, be enhanced, characterised by reduced levels of bacteria and contaminants in water, sediments and aquatic organisms, reductions or absence of nuisance plant growths, a more normal range of turbidity, dissolved oxygen and sediment characteristics. The abundance, diversity and health of aquatic biota will be increased from that typical of degraded environments to that typical of healthy environments.
- 5.7.11 The maintenance and protection of water quality within those aquifers identified in the Quality Sensitive Aquifer Management Area characterised by water that is not degraded.
- 5.7.12 The recognition of the relationship of Tangata Whenua with the wetlands, lakes, and rivers of the region in accordance with Section 6 (e) of the RMA.
- 5.7.13 That the quality of urban and rural land within the region, is maintained and where practicable enhanced.

## DISCHARGES TO LAND OR WATER - 5

5.7.14 That the management of stormwater and wastewater networks is undertaken in an integrated way to ensure:

- the efficient removal of contaminants from within the urban parts of the region, and
- that the quality of the discharges is as high as possible thereby reducing adverse effects on the aquatic and terrestrial ecosystems to be able to satisfy the 'anticipated environmental results' specified above.