Background Statutory Requirements and Assessment of Effects

1. Application

1.1 Consents Applied For and their Locations

The following is a list of the discharge permit applications lodged by the Hutt City Council for eight wastewater overflow points and their respective locations.

WGN 960002(01): To intermittently discharge wastewater to the Hutt River from the river crossing at Silverstream downstream of the Silverstream rail bridge, at or about map reference NZMS260:R27 775 047.

WGN 960002(02): To intermittently discharge wastewater to the Hutt River from Barber Grove Pump Station opposite Gear Island, upstream of the Waione Street Bridge, at or about map reference NZMS260:R27 694 958.

WGN 960002(03): To intermittently discharge wastewater to the Hutt River from Mary Huse Pump Station upstream of Pomare rail bridge, at or about map reference NZMS260: R27 755 028.

WGN 960002(04): To intermittently discharge wastewater to the Hutt River from Welcon Scour downstream of the Pomare rail bridge, at or about map reference NZMS260:R27 747 025

WGN 960002(05): To intermittently discharge wastewater to Hulls Creek from Pinehaven Relief Scour at the end of Kiln Street, at or about map reference NZMS260:R27 787 046.

WGN 960002(06): To intermittently discharge wastewater to Awamutu Stream from Awamutu Grove Overflow by Awamutu Grove at or about map reference NZMS260:R27 702 964.

WGN 960002(07): To intermittently discharge wastewater to the Waiwhetu Stream from Hinemoa Street Overflow at the corner of Hinemoa Street and Riverside Drive, at or about map reference NZMS260:R27 707 961.

WGN 960002(08): To intermittently discharge wastewater to the Waiwhetu Stream from Malone Road Pump Station above Te Whiti Park, at or about map reference NZMS260:R27 714 966.

2. Background

The Hutt City Council administers the Hutt Valley Bulk Wastewater System that stretches from Te Marua in the north, to Petone and Eastborne in the south.

At present, wastewater (both domestic and trade waste), from Upper Hutt, Lower Hutt and Petone, is pumped through the Milliscreening Plant at Seaview where it undergoes preliminary treatment. Milliscreened wastewater is then pumped through the Eastern Bays' reticulation to the main shoreline outfall which discharges into Cook Straight, south of Pencarrow Head.

This current wastewater treatment situation is to be upgraded. The Wellington Regional Council granted consents to the Hutt City Council in 1996 for a new wastewater treatment plant in Seaview where wastewater will be fully treated. This plant is due for commissioning in 2001.

In order to provide a safe, disruption-free wastewater collection service, and to maintain the wastewater network, the Hutt City Council seeks to incorporate a number of discharge points, comprising of emergency overflows, scour outlets and pumping station bypass connections, into the wastewater system that discharge to nearby watercourses. Hutt City Council outlines the circumstances leading to overflows as:

(a) true emergency circumstances such as massive or prolonged power failures or during major mechanical problems;
(b) foreseeable overflow situations such as when pipes are overloaded in high flow events and the capacity of the system is exceeded; and
(c) during programmed maintenance of the wastewater network when a temporary discharge is required to repair or improve the system.

Hutt City state that type (a) overflows are beyond the reasonable control of the Hutt City to contain, and will rarely occur (e.g. massive power failure, earthquake, act's of God). Furthermore such events are covered by the emergency provisions set out in sections 330 and 341 of the Resource Management Act 1991. The current applications are not in this category of discharge.

The overflows described in (c) deal with discharges during planned maintenance work such as upgrading a pump station or pipeline. In these instances Hutt City Council states that the work is programmed so the duration of the discharge is likely to be known, and these overflow events are therefore likely to require specific discharge consents.

Foreseeable overflow discharges (type b), from the wastewater system occur during extreme rain events when pipes or pumping stations are overloaded due to stormwater inflow and groundwater infiltration into the wastewater pipe system. This category of discharge requires resource consent and forms the subject of these applications. The Hutt City Council has identified nine points in the Hutt Valley Wastewater System with potential for overflow should the capacity of the system be exceeded in high flow events.

One of these nine overflows points is from the existing main pumping station at the treatment plant at Seaview and discharges into the Waiwhetu Stream. The overflow occurs because of the limited capacity of the main outfall sewer downstream of the pumping station. This overflow was granted consent in 1996 as part of Hutt Valley Wastewater Project applications. Furthermore, once the proposed wastewater treatment plant at Seaview has been completed, any overflows to Waiwhetu Stream at this location will be fully treated effluent only.

The remaining eight overflow sites that form the subject of these applications, their frequency and maximum discharge rates, are listed in Table 1.1 below. A map of the overflow sites is contained in Attachment 3.

Table 1.1: *Overflow discharge points from the Hutt Bulk Wastewater System.*

Overflow location	**Receiving Water**	**Average**	**Estimated**

		Frequency (per year)	Maximum Rate (l/s)
River crossing at Silverstream	Hutt River	<1	450
Mary Huse Pump Station	Hutt River	1	300
Welcon Scour	Hutt River	4	650
Barber Grove Pump Station	Hutt River	3	600
Awamutu Grove Overflow	Awamutu Stream	8	20
Pinehaven Relief Scour	Hulls Creek	2	300
Hinemoa Street Overflow	Waiwhetu Stream	7	40
Malone Road Pump Station	Waiwhetu Stream	7	35

3. Description of Proposal

Hutt Overflows

There are four overflow discharge sites along the Hutt River; at Welcon Scour, the river crossing at Silverstream, at Mary Huse Pump Station, and at Barber Grove Pumping Station.

The Welcon Scour, also known as the Western Hills Main Sewer Scour No.4, is located on the west bank of the Hutt River about 700 m downstream of the Pomare Rail Bridge. During periods of heavy rain and high flows, the Ava pumping station located at the end of the Western Hills Main Sewer becomes overloaded. As there is no overflow facility at the pumping station, the Western Hills Main Sewer can be partially closed or closed at the Welcon Scour to divert flow from the Upper Valley into the Hutt River. This strategy provides capacity downstream of the Welcon Scour to accommodate flows from the Western Hills suburbs and Alicetown. On average, these overflows occur about 4 times per year, with an average flow rate of 400 l/s, and for a duration of up to 5 hours.

The Hutt River crossing is where the Western Hills Main Sewer crosses the Hutt River at Silverstream on the Western Hills Main Sewer. The overflow discharges via a scour outlet structure into the middle of the Hutt River. At present this scour is not used, as the Welcon Scour is being operated preferentially as the main overflow point. It is proposed however, to relocate the primary overflow point to the River Crossing at Silverstream as part of an excess flow storage facility development at Silverstream, due for completion in 2005. Once the excess flow facility is completed, the frequency of overflows would be about once every two years. The overflow would occur in large rain events greater than a 1 in 2 year storm, with an overflow rate of up to 450 l/s, and a duration of less than 8 hours.

The Mary Huse Pumping Station is located at the end of the Mary Huse Grove in Manor Park, with the discharge point located on the true right bank immediately upstream of the Pomare Rail Bridge. At times of sustained wet weather and high flows in the Western Hills Main Sewer, when the sewer at Welcon Scour is closed or partially closed, wastewater can back up the pipeline causing high levels of overflow at the Mary Huse Pumping Station discharge. The overflow occurs once a year on average during heavy rain, with a flow rate of about 300 l/s.

The Barber Grove pumping station is located on the Hutt Valley Main Sewer, at Barber Grove. This overflow operates when wastewater flow backs up along the incoming pipeline and reaches a high level overflow bypass in a manhole at the rear of the pumping station. From there, a pipeline runs south to a manhole with a flap-gate, and then to the discharge point at the Hutt River, about 500 metres upstream of the

Waione Street Bridge at Petone. It is estimated that the overflow operates about 3 times per year, with the typical duration of the overflows being less than 5 hours.

Waiwhetu Overflows

There are two overflow discharge points into the Waiwhetu Stream, one at Hinemoa Street and another at the Malone Road Pumping Station. The applicant's AEE states that the current discharge at the corner of Hinemoa Street and Riverside Drive into the Waiwhetu occurs infrequently (seven times per year) for short intervals, with a potential overflow rate of 40 l/s during an extreme rain event. At the Malone Road pumping station, at the corner of Malone Road and Godley Street, overflows can occur up to 7 times per year, at a rate of up to 35 l/s. Since July 1996 overflows typically last for about 8 hours at this site.

Hulls Creek

At times of sustained wet weather and high flows the Pinehaven Relief Scour overflows into Hulls Creek via a 15 inch pipe with the flap gate, at the end of Kiln Street. The average overflow rate is less than 200 l/s, and these overflows occur twice a year.

Awamutu Stream

Awamutu Steam is a small highly modified urban stream that is piped for much of its length prior to entering Waiwhetu Stream. The overflow discharge point is located beside the Awamutu Grove culvert. The stream flows in an open channel for a short reach upstream and downstream of the Awamutu Grove culvert. Downstream of the discharge point, the stream flows along Leighton Avenue. Overflows begin to occur, up to 6-8 times per year, when the wastewater exceeds about 80 l/s. The rate of discharge is estimated to be up to 20 l/s, and can last longer than 24 hours in a modest to heavy rainfall.

4. Statutory Reasons for Requiring Resource Consents

Discharge permit applications (WGN 960002 (01) - (08)) seek consent to discharge wastewater into the Hutt River, Waiwhetu Stream, Hulls Creek and Awamutu Stream. These activities are not *expressly allowed* by a rule in a regional plan; the applications need consent under section 15 (1)(a) of the RMA.

Under the Transitional Regional Plan (TRP) the proposed discharges of dilute sewage are **non-complying** activities. The relevant part of the Transitional Regional Plan is section 4.11 in RP24 Wellington Regional Water Board Bylaws 1976, Part IV.

Under the Proposed Regional Freshwater Plan for the Wellington Region (PRFP), the proposed discharges to water are covered by rule 5, *All Remaining Discharges to Fresh Water,* and have status as **discretionary** activities.

The Transitional Regional Plan (TRP) includes a final water classification for the Hutt River under the Water Pollution Regulations 1963. The Hutt River at Welcon Scour is classified as *C,* and at other discharge locations as *D.* The discharge at Waiwhetu is classified as *SC*. Under the TRP, Hulls Creek and Awamutu Stream are not classified at the discharge points.

5. Notification

The applications were publicly notified in *The Evening Post* on Saturday 7 March 1998 and in the *Hutt News* on 11 March 1998. Signs that described the applications were posted near each of the discharge points.

Persons considered by the Wellington Regional Council to be directly affected by the proposed discharges were individually notified. These people included the Ministry for the Environment, Department of Conservation, Wellington Fish and Game Council, Iwi, Public Health Service, Transit, Tranz Rail, Wellington Conservation Board, Royal Forest and Bird Protection Society Inc, New Zealand Historic Places Trust, Residents Associations, Ratepayers' Association, and neighboring residents and businesses/services surrounding the discharge sites.

6. Submissions

A total of 27 parties made submissions by the time submissions closed on Wednesday 4 July 1997. Three submissions were received after the closing date. Twenty-five submissions opposed the application, and two submissions clearly offered conditional support. Some submissions opposing the application were signed by many people.

Many of the opposing submissions were received from residents in the vicinity of the Awamutu Grove overflow discharge point.

The main issues raised in the submissions are summarised below:

Submissions in Opposition to the Application

- Lack of knowledge regarding the discharges;
- Flooding problems in Awamutu Grove from the Stream ;
- Health risks posed by the overflows such as the spread of diseases, risks to children playing in the stream, increased vermin, risk to pets and other animals;
- Odour;
- Potential pollution of ecological systems and food resources e.g: eel fisheries;
- Loss of property values at Awamutu Grove;
- Overflows restricting access to Awamutu Stream ;
- Eliminate the need for discharges into the Hutt River ;
- The scheme to eliminate overflows should be implemented within 2 years

Submissions in Conditional Support of the Application

- Shorter term of consent for discharges to the Hutt River i.e 20 years rather than 35
- Disinfect properties after flood events
- Clearer timeframe for elimination of discharge
- Pipe Awamutu Stream
- Raise river banks and stopbank
- Inform residents of the presence of the overflows
- Buy land affected by the discharge and compensate for any losses as a result of the discharges.
- Compensate the residents who want temporary accommodation during the events.
- Cover medical costs if residents contract diseases.

7. Meetings and Further Information

A pre-hearing meeting was held on Tuesday 28 April 1998 at Waiwhetu School, Lower Hutt. The meeting was attended by the applicant, Wellington Regional Council Officers and about 25 submitters. The pre-hearing meeting report is held on file.

Not all the submitters' issues were resolved at this meeting. The meeting was strongly focussed on the overflows and flooding problems at Awamutu Grove. As a result, the applicant resolved to carry out an investigation into the submitters concerns. The results of Hutt City Council's investigation were formulated into a report entitled *Leighton Avenue Wastewater Catchment Overflows Investigations*, and a summary of this report was sent to all submitters for their comment.

A further pre-hearing meeting, held on 19 October 1998, discussed the results of the investigation report and the issues raised at the last meeting. The notes from the meeting are held on file. As a result of these discussions, draft conditions were developed and sent to the submitters for their comment. All submitters, except two have provided their written approval to the conditions and have withdrawn their right to be heard.

Two of the three submitters who have not provided their written approval have informed me they no longer wanted to be involved in the process due to personal health reasons. I therefore consider it unreasonable to require these submitters written approval.

8. Matters to be Considered by the Committee

The following are matters that a consent authority must have regard to when deciding on the applications in relation to sections 104 and 105 of the Resource Management Act 1991.

- relevant sections of the Resource Management Act 1991 (RMA) including Part II, sections 104(1), 104(3), 105, and 107
- relevant policies, objectives and rules in the Regional Policy Statement (RPS)
- the Transitional Regional Plan (TRP)
- the Proposed Regional Freshwater Plan for the Wellington Region (PRFP)

A more detailed list of these matters is held on file.

9. Discussion of Matters to be Considered - Assessment of Effects

9.1 Introduction

The following is my assessment of the potential and actual effects arising from the intermittent discharges of wastewater to the various watercourses. This section of the report includes discussions of the relevant planning provisions, the submitters' concerns and mitigation measures proposed by the applicant.

Section 104 (3) states that where an application is for a discharge permit, the consent authority shall, in having regard to actual and potential effects on the environment of allowing the activity, have regard to –

(a) The nature of the discharge and the sensitivity of the proposed receiving environment to adverse effects and the applicant's reasons for making the proposed choice; and

(b) Any possible alternative methods of discharge, including discharge into any other receiving environment.

9.2 Beneficial Effects

The applicant has stated that the current practice of discharging excess wastewater flows to the various watercourses avoids *spillage of wastewater from manholes onto public streets and private properties, where it would present a serious health risk to the community.*

Since the application was been lodged, and as a result of the pre-hearing meetings, Hutt City Council has also undertaken further investigations into the overflow at Awamutu Stream. The outcome of these investigations is a reduced time frame to eliminate this overflow. This work will benefit nearby properties affected by the overflow. The applicant is also currently working to reduce the time period for eliminating foreseeable overflows at other discharge sites.

9.3 Adverse Effects

The applicant has stated that the wastewater overflow discharges will result in a temporary decrease in water quality, with a short-term increase in bacteria concentrations. However, the applicant argues that the discharges occur in times of heavy rainfall and river flows, when the background water quality is known to be poor, with *"elevated levels of suspended solids, nutrients, oxygen demand, and bacterial content .. derived from agricultural and urban runoff, as well as sewage overflows"* [1].

The applicant argues that the wastewater is dilute before it is discharged to receiving waters as stormwater infiltration into the sewerage system in an overflow situation generally provides a 4 to 10 fold dilution of sewage concentration. However, it is also important to note that sewage/wastewater, although dilute, is an unstable, offensive mixture of dissolved and suspended solids, containing human wastes with the potential for disease transmission. Wastewater also contains the faeces and urine of people using the sewerage system, the water from their baths, showers, domestic waste disposal machines, basins, dishwashers, and washing machines. Wastewater also contains wastes from hotels, restaurants, shops, offices, laundries and industries; and other liquids which people pour into the wastewater network.

The following sections discuss the effects of the dilute wastewater on each of the receiving environments.

9.3.1 Overflow discharges to the Hutt River

During wet weather events, overflow discharge points into the Hutt River will be submerged. At these times the applicant has stated that the background water quality in the Hutt River is known to be poor, with elevated levels of suspended solids and short term increases in bacteria concentrations.

The applicant's AEE states that monitoring by Hutt City Council during high river flows indicates that faecal coliform levels are typically in the range 4000 colony forming units(cfu) per 100 ml (due to rural and urban stormwater run off) in the middle reaches of the river, and with the addition of sewage overflows, may reach up to 4600 cfu/100ml based on full mixing below the discharge points. A smaller flood may cause a significant overflow but provide less dilution, in which case a fully mixed downstream river faecal coliform concentration in the range of 5000 to 6000 n/100ml is possible.

The main contaminants from these overflows of concern in terms of human health are pathogenic micro-organisms, in particular, viruses, some bacteria and some protozoans such as *Giardia* and *Cryptosporidium*. Such organisms can cause a variety of health problems including ear, nose, throat and skin infections, and stomach aliments.

The sections of river affected by overflows are easily accessed by neighbouring suburbs such as Taita at Welcon Scour, and Stokes Valley and Manor Park at Silverstream. In these areas the river has moderate recreational amenity value for in-stream and riverside activities. The Hutt River is also identified in the Proposed Regional Freshwater Plan as a water body whose water quality needs to be managed for contact recreation purposes (canoeing, swimming and angling). The potential health risks to recreational users of the river from the overflows may be reduced as the rivers are in flood when the high levels of bacteria occur, which will curtail contact recreational activities - with the possible

[1] *Hutt Valley Wastewater Systems Overflows Assessment of Environmental Effects*, Hutt City Council, Montgomery Watson, February 1998; 18

exception of kayaking. People who use these areas of the river should also normally be aware that bathing water standards can not be maintained under high flow conditions.

To help warn recreational users of the health risk, it is appropriate to place a condition on consents, that requires the applicant to place signs at or near the discharge site detailing the location and health risks of the overflows.

The Hutt River is also identified in the Proposed Regional Freshwater Plan as a water body whose water quality needs to be managed for fishery and fish spawning purposes. The river supports 15 species of indigenous fish as well as a good population of brown trout. The overflow at Barber Grove discharges upstream of the Hutt Estuary, which is an important nursery area for juvenile flatfish as well as a significant feeding ground for wading birds.

Fish and other aquatic life are able to adapt to flood conditions and can withstand high flood flow. However, there is a risk that the contaminants in the wastewater may stress the habitat of the river by reducing dissolved oxygen necessary for aquatic life. Heavy metals can also affect aquatic life causing genetic, physiological or behavioral disorders that may result in death or reproductive problems. The applicant argues, that while the Hutt River biota is likely to suffer some short term adverse impact during high river flows, these impacts are due to physical disruptions and loss of habitat, and any additional impact caused by contributions of sewage overflows is likely to be negligible. Although the effects of the discharges could be considered to be intermittent and short term, efforts need to be made to reduce the adverse effects of the overflows in the long term. Hutt City Council has therefore developed mitigation measures and a works programme to upgrade and eliminate overflows. These measures are as follows:

- Wet weather storage flow facility at the Silverstream River Crossing;
- A comprehensive inflow-infiltration programme to determine the areas where there is direct entry of stormwater into the sewer, and to determine the sub-surface entry of groundwater into the sewer through open joints and cracks, at the Silverstream River Crossing and Mary Huse pumping station;
- Possible network modification at Mary Huse pumping station;
- Welcon Scour will be relocated to Silverstream river crossing; and
- Network modelling and enhancement at Barber Grove, along with an upgrade of the pumping equipment.

The overflows from the Mary Huse pumping station and Welcon Scour are to be eliminated within 7 years. However, the applicant has applied for up to 35 years for the overflows from the Silverstream river crossing and Barber Grove. This 35-year duration has been opposed by local iwi, and a 20 year term has been agreed to.

9.3.2 **Overflow discharges to the Waiwhetu Stream**

The surrounding land use around both the Hinemoa and Malone Street discharge points is predominately residential. The Waiwhetu Marae is situated about 600 metres south of the Malone Street overflow site, and this overflow also flows through the northern end of Te Whiti Park which is a popular recreational area.
Currently the water quality of the Waiwhetu stream between Naenae and Waiwhetu (where the discharge points are located) is influenced by suburban activity, and though the Waiwhetu Stream in this stretch does present some opportunity for recreational activities, bacteriological water quality is poor and unable to meet contact recreation standards (200 cfu/100ml) at times of low flow. Further downstream, the Waiwhetu

stream has been subject in the past to long-standing heavy metal pollution from being used as receiving water for industrial discharges.

The discharge of wastewater into Waiwhetu Stream will increase the suspended solids, organic material load, and the pathogens levels in the stream. The applicant's AEE states that the background facael coliform levels in the Waiwhetu Stream during heavy rain are likely to be up to 10,000 cfu/100ml. An overflow from the Hinemoa Street could potentially double this value to give a peak downstream concentration of around 20,000 cfu/100ml. At the Malone discharge site, the overflow could potentially increase the peak downstream concentration to around 22,000 cfu/100ml.

Therefore during heavy rain, when the Waiwhetu Stream contains high levels of suspended solids and organic material from a variety of urbanized sources, there will be a temporary reduction in the general amenity value of the stream. The addition of wastewater overflows will further reduce the water quality, however, during flood events recreational activities should be curtailed thereby avoiding any adverse health effects from the overflows.

The Waiwhetu Stream has been identified in the Proposed Regional Freshwater Plan as a water body with water quality needing enhancement for aquatic eco-systems purposes. A macroinvertebrate survey[2] of the stream found that in the middle reaches of the steam, only pollution tolerant species were encountered, and greater species diversity was encountered in the upper reaches where the stream habitat is of better quality. The middle Waiwhetu Stream is known to support a short finned eel population, a valued food resource for local Maori and others.

The contaminants in the wastewater may place stress on the stream habitat by reducing dissolved oxygen necessary for aquatic life. Heavy metals can also affect aquatic life by causing genetic, physiological or behavioral disorders that may result in death or reproductive problems. Aquatic life may therefore suffer some short-term adverse impact during high stream flows depending on the scale of the event.

The impacts of these overflows to the Waiwhetu stream can be interpreted as being temporary and minor, as they occur at a time when the stream is unable to be used by people due to high flows. However, efforts should be made to improve stream water quality and minimize or eliminate these sewage overflows. Hutt City Council has provided measures to avoid and remedy long term adverse effects from the discharge as follows:

- Flow and Catchment modeling to better assess the type and degree of inflow and infiltration;
- Inflow reduction modeling to show where stormwater is entering the wastewater pipe system;
- Possible installation of a supplementary wet weather pump, (if required in heavy events), and storm flow supplementary delivery pipeline linking the Malone Road and White Lines East pump stations to the Barber Grove pump station.

The applicant originally proposed to eliminate the overflows to Waiwhetu Strema within seven years. Submissions received from local iwi have requested that this term be reduced. The applicant has investigated this issue further as part of an investigation programme examining the problems at the Awamutu Grove/Leighton Avenue

[2] Royds Consulting 1996: Waiwhetu Stream Management Plan Phase I – Baseline Environmental Survey. Prepared for the Wellington Regional Council.

overflows. As a result, the applicant intends to eliminate foreseeable overflows from the two overflow sites at Waiwhetu within 5 years.

9.3.3 **Overflow discharge to Hulls Creek**

Hulls Creek is an urban stream described by the applicant as a *highly modified drainage channel.* The channel around the discharge point is deeply incised with an almost vertical concrete wall and a concrete and cobble bed. There is no instream vegetation or any significant aquatic life near the discharge point and the visual quality and water quality of the water has been described in the consent application as "moderate to poor". Hulls creek flows to the Hutt River below the Silverstream Rail Bridge.

Access to the creek at the discharge point is difficult as the area is fenced restricting any opportunity for contact recreation. The creek is also surrounded by residential and commercial land use with the Silverstream railway station and railway line located on the northern bank of the stream.

The applicant has explained that in times of high rainfall and high stream flow, the water quality of Hulls Creek is known to be very poor, with elevated levels of suspended solids, nutrients, oxygen demand, and bacterial content. The main effect of the overflows is an increase in the background faecal coliform content in the receiving waters. The applicant has estimated that during an extreme rainfall event, a concentration of around 10,000 cfu/100ml might increase to 40,000cfu/100ml below the overflow point. This level should only occur for a short period during the peak overflow discharge.

As the creek has low recreational and ecological values due to its highly modified character, any effects of the discharge should be temporary and minor. Its impact on the Hutt River should also be negligible. Appropriate conditions have been placed on the consent to deal with any adverse effects.

Hutt City Council has also detailed the measures for eliminating foreseeable wet weather overflow at this site within seven years.

- catchment modeling to determine where the inflow is coming from;
- a comprehensive inflow-infiltration programme to determine the areas where there is direct entry of stormwater into the sewer, and to determine the sub-surface entry of groundwater into the sewer through open joints and cracks. This programme is already underway and indications so far show that it has already achieved a major reduction in peak wet weather flows;
- a monitoring programme to record the frequency of overflows;
- implementation of a network enhancement works by the year 2005. These works will allow peak flows to be carried downstream to the proposed excess flow storage facility at Silverstream and are expected to eliminate wet weather wastewater overflows into Hulls Creek.

9.3.4 **Overflow discharges to the Awamutu Stream**

The land use surrounding the Awamutu Grove overflow is predominately residential. Many submissions opposing the overflow were received from residents in this area. These submissions stated that the area is prone to flooding and if the overflows coincide with high stream levels, this would pose a serious health risk to the local community at Awamutu Grove and Leighton Avenue. These concerns were also voiced at the pre-hearing meeting along with other issues regarding the time frame for eliminating the

overflows, flooding issues and general maintenance of the stream, the lack of a notification process to advise residents that an overflow has occurred, and the availability of clean up procedures to residents possibly affected by an overflow.

As a result of these concerns, Hutt City Council undertook further investigations into the overflow and the wastewater reticulation system in Awamutu Grove and Leighton Avenue to obtain a better understanding of the capability of the system, and to help provide the information required to enable a resolution of the overflow problems at Leighton Avenue/ Awamutu Grove.

Water quality samples were taken of the stream to determine the health risks involved in an overflow situation. It was found that in normal dry weather flows, bacterial contamination levels were about 1000 cfu/100ml, which the applicant describes as fairly typical for a small stream receiving urban runoff. During wet weather events, the faecal coliform levels upstream of the overflow point increased to 20,000 to 30,000 cfu/100ml, as a result of urban runoff, infiltration and some wastewater inflow into the storm water systems. Wastewater discharged from the Awamutu overflow had a faecal coliform content of about 300,000 cfu/100ml, and the applicant contends that if a wastewater discharge occurs during a heavy rain event, the contaminated wastewater would normally receive a 50 to 250 flood dilution in the stream water, resulting in faecal coliform levels in the range 25,000-35,000 cfu/100ml in the stream.

The concern at Awamutu Grove and Leighton Avenue is that the stream frequently floods onto residential properties thereby increasing the risk of human contact with the overflows and presenting a significant health risk. The Hutt City Council therefore has developed a strategy for the elimination of wet weather overflows in Leighton Avenue catchment as follows:

- Flow monitoring at Malone Road and White Lines East pump stations to assess the type and degree of inflow and infiltration;
- Refine the computer modeling of wastewater flow and overflows in the area;
- Inflow reduction – smoke testing to see where there area illegal connections to sewer pipes and house to house inspections ;
- Upgrading sections of Leighton Avenue sewer which have insufficient capacity or damaged by tree root intrusion;
- Separation of Leighton Avenue sewer from the Central City sewer to discharge directly to a new pump station at Barber Grove;
- Construction of additional pumping capacity at Barber Grove pumping station to provide full capacity for flows from Malone Road, White Lines East and Leighton Avenue catchments. This measure means that even with high well levels at Barber Grove pump station as a result of flows from other catchments, the Leighton Avenue sewer hydraulic grade line can be kept low enough to ensure that the sewer will not surcharge and overflows occur;
- Monitoring and assessment of flow reductions achieved by the above; and
- Installation of supplementary pumping if required – install storm pumps at Malone Road, and install storm delivery pipeline linking Malone Road and White Lines East stations to the Barber Grove pump station.

Hutt City Council proposes to eliminate foreseeable overflows to Awamutu Stream within 3 years. The applicant also intends to adopt a wastewater management plan as an interim measure to achieve necessary health protection. This plan includes establishing a communication link between residents and Hutt City Council Officers so that residents can notify the Council when flooding is occurring, and officers can initiate water testing

and co-ordinate any assistance required for cleaning up or disinfecting contaminated areas.

Concerns were also raised about the effect the overflow may have on property values, and whether Hutt City Council would compensate nearby property owners for any decrease in property values. These concerns are outside the ambit of this resource consent, and it would be more appropriate to address these concerns in another forum.

Concerns were also raised about the lack of maintenance of the stream. As a result Hutt City Council carried out an inspection of the stream and identified the need for vegetation clearing work including removing some trees considered to restrict stream flow. This work is currently being carried out within 5 metres of the stream edge.

This stream maintenance work is in addition to previous routine maintenance carried out by Hutt City Council in the bed and edges of the stream itself. Conditions have also been placed on the consent that deal with stream maintenance, and providing submitters with a flood study investigation into stream channel improvements. These conditions have been agreed to by the Hutt City Council and the submitters. Although the issue of stream maintenance is outside the ambit of this consent, this additional stream maintenance work Hutt City Council is prepared to undertake is commendable.

9. 4 **Iwi**

Issue 7.1.8 of the Proposed Regional Freshwater Plan for the Wellington Region emphasizes fresh water is taonga to the tangata whenua, and the many cultural uses and values associated with it mean that any discharge into water, including sewage in any form, adversely affects the mauri (life essence) of the resource. The tangata whenua therefore consider that discharges into freshwater of the Region should be avoided.

Furthermore, objective 7.2.3 states that the quality of the water should be as far as practicable, consistent with the values of the tangata whenua. The discharge will diminish the cultural and spiritual values of the receiving environments to the local tangata whenua.

Submissions from Te Runanganui o Taranaki Whanui Ki Te Upoko o Te Ika A Maui Inc, and Wellington Tenths Trust have stated that they oppose the 35-year duration of the overflows into the Hutt River at the River Crossing and Barber Grove. Wellington Tenths have requested a term of 20 years as an alternative time period, and have since provided their written approval to the overflows. The applicant has agreed to a 20 year team and written approval has been received Te Runanganui o Taranaki Whanui Ki Te Upoko o Te Ika A Maui Inc.

10. Conclusions – Can the Consents be Granted?

As stated above the discharge of dilute sewage into the Hutt River, Waiwhetu Stream, Awamutu Stream, and Hulls Creek, will result in a deterioration of the water quality increasing the suspended solids, organic load and bacterial content. This deterioration will further render the watercourses unsuitable for contact recreation during heavy rainfall events, resulting in a temporary reduction in the general amenity value. It is also likely that people's appreciation of the streams cultural, aesthetic and recreational attributes will be adversely affected. However, it is important to note that these overflows will occur when the receiving water in the watercourses has poor water quality due to flooding.

Section 107 of the Resource Management Act states that a discharge can only be granted if, after reasonable mixing, the discharge does not result in a number of adverse effects as follows:

- The production of any conspicuous oil or grease films, scums or foams or floatable or suspended material.
- Any conspicuous change in colour or visual clarity.
- Any emission of objectionable odour.
- The rendering of fresh water unsuitable for consumption by farm animals.
- Any significant adverse effect on aquatic life.

The overflows will result in most of the adverse effects outlined above, however, the receiving water itself will also be breaching these standards due to the low water quality apparent in the watercourses in flood events. Furthermore, it would be impossible to establish a reasonable mixing zone in these flood conditions. The applications therefore breach the above standards and also the water classifications derived under the Water Pollution Regulations 1963, and the water policy guidelines of the Proposed Regional Freshwater Plan derived under section 70 of the Act.

The water classifications for the relevant streams/rivers under the Transitional Regional Plan will also be breached by the discharges. At the time of the overflows the water contained in these streams and rivers will not meet these water classifications either, as the flood waters will already be highly contaminated from other urbanised and rural non point source pollution.

Consent can be granted for a discharge that breaches section 107 (1) of the Resource Management Act under section 107 (2), and for a discharge that breaches water

classifications under section 369 (4) of the Act, if the discharge meets certain criteria as follows:

- exceptionable circumstances justify the granting of the permit; or
- the discharge is of a temporary nature; or
- the discharge is associated with necessary maintenance work.

Policy 7.3.10 of the Proposed Regional Freshwater Plan also encompasses this criteria and states that a discharge of contaminants to freshwater which does not satisfy relevant water classifications, can be granted only where;

- The discharge is of a temporary nature;
- The discharge is associated with necessary maintenance works;
- The discharge will result in an overall improvement in the water quality of the water body; or
- The discharge was present at the time this Plan was notified and meets the following:

  (a) the person responsible for the discharge has defined a program of work for upgrading the discharge; and

  (b) after reasonable mixing and disregarding natural perturbations, the discharge is not likely to cause a decrease in existing water quality.

The question arises as to whether the wastewater overflows that do not comply with s107(1) standards can be considered as "temporary" discharges for the purposes of s107(2) and 369(4) of the Act. Cases such as Bell v Wellington RWB (1976) 6 NZTPA 165 (PT) provide guidance on what constitutes temporary.

The proposed discharges are intermittent and should only occur during wet weather events (ranging from less than once a year to eight times per year). They could therefore be interpreted as being temporary. Furthermore, Hutt City Council has outlined a comprehensive program to upgrade and eliminate most of the foreseeable wastewater overflows within 3 to 7 years. Some of these measures are well underway and the applicant has stated they are already providing a progressive reduction in overflow frequency, and should help to improve the overall existing water quality.

The overflows to the Hutt River from the River Crossing at Silverstream and the Barber Grove pumping station, occur very infrequently (Barber Grove less than 3 times per year, and River Crossing less than once a year). However, a term of 35 years has been applied for by Hutt City Council for these two consents. I consider 20 years to be appropriate based on submissions from local iwi, and the need to improve the Hutt River water quality in the long term.