5 September 2008
File: WGN070242 [26052], [26053], [26054]

Report to the Manager, Environmental Regulation
From Hugh Dixon-Paver, Senior Resource Advisor

Application by Wellington Regional Council, Flood Protection Department, for resource consents associated with undertaking operations and maintenance activities within the Waitohu Stream, Otaki

1. Purpose

To report to the Manager, Environmental Regulation on the resource consent applications to Greater Wellington Regional Council (GW) by Flood Protection Department GW (FPD) under the Resource Management Act 1991 (the Act).

2. Application

2.1 Applicant

Wellington Regional Council
Flood Protection Department
PO Box 11646
Manners Street
Wellington 6142

Attention: Tracy Berghan

2.2 Consents applied for

[26052]: Discretionary Activity

Land use consent to undertake the following stream operations and maintenance activities within the Waitohu Stream, including the associated disturbance of the bed of the stream:

- placement of impermeable erosion protection structures,
- maintenance of existing structures;
- cross-blading and stream re-alignments; and
- gravel extraction.

[26053]: Discretionary Activity

Water permit to temporarily and permanently divert the flow of the Waitohu Stream in association with undertaking stream operations and maintenance activities.

[26054]: Discretionary Activity

Discharge permit to temporarily discharge natural stream sediment into the Waitohu Stream in association with undertaking stream operations and maintenance activities.

2.3 Location

An approximate 4km section of the Waitohu Stream, between Ringawhati Road and Cow Race Bridge (located within Wakapua Farm), Otaki, as shown in Figure 1 below.

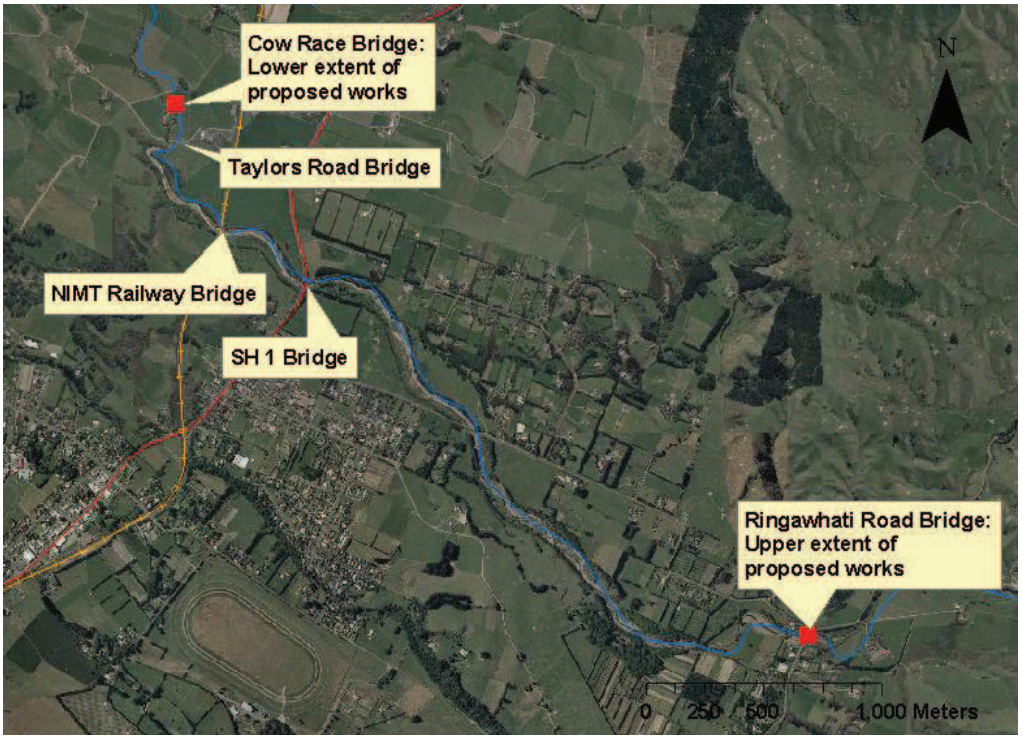


Figure 1: The reach of the Waitohu Stream relevant to this consent application, showing the stream and bridges referred to in the report. Ringawhati Road Bridge is the upper (upstream) limit of the application, and Cow Race Bridge is the lower (downstream) limit.

Apart from two lots owned by Kapiti Coast District Council (KCDC), the majority of the land boarding this section of the Waitohu Stream is in private ownership. Works are proposed to be undertaken within the following lots:

Lot 1 DP 17041
Lots 1, 3, 4 & 5 DP 71359
Lots 1 & 2 DP 348647
Lot 1 DP 42292
Pt Lot 1 & Lot 2 DP 75327
Lot 2 & Pt Lot 4 DP 57645
Lot 1 DP 83994
Lots 2, 3 & 4 DP 90112
Lot 3 DP 62503
Lot 26 DP 769
Lot 1 DP 72330
Lot 2 DP 334096
Pt Lot 1 & Lot 2 DP 59203
Lot 2 DP 60995
Lot 1 DP 72331
Lot 2 DP 71215
Lot 1 DP 71775
Lots 11 & 12 DP 64517
Pt Lot 2 DP 7971
Lot 2 DP 59205
Lots 1 & 2 DP 325378

3. Background

3.1 Purpose of the works

The Flood Protection Department of Greater Wellington Regional Council (the applicant), undertakes stream operations and maintenance work in the Waitohu Stream for the purpose of erosion and flood mitigation. Works carried out by the applicant in the past under their previous consents, and applied for within this application include; construction of impermeable erosion protection structures, maintenance of existing structures, stream re-alignments, cross-blading and gravel extraction.

Resource consents applied for to undertake these activities are 'global'. The main benefit of applying for 'global' consents is that they provide greater flexibility and certainty for both the applicant and the community, as consents do not have to be applied for on a regular basis for individual works.

3.2 Flood history and management plans

Since 1989 the applicant has held statutory responsibility for flood and erosion mitigation in the Waitohu area.

During the 1990s, the Otaki Flood Management Plan (OFMP) was prepared. The OFMP provides a blueprint for the management of the Otaki River and floodplain. The Waitohu Stream physically links with the Otaki River, with overflows between the two systems occurring occasionally via the Mangapouri and Rangiuru Streams. In recognition of this, the OFMP states that *"for the purposes of this plan, the Otaki catchment includes the Waitohu and Mangapouri Streams where they interact with flood flows from the Otaki River. In the case of the Waitohu Stream, this covers the reach between the mouth and State Highway 1 bridge."* However, the OFMP does not explicitly deal with the flood and erosion hazard in the Waitohu Stream.

Several flood events and resulting erosion within the Waitohu Stream catchment, combined with general development pressure on the Kapiti Coast,

led the applicant and Environment Division of GW to initiate the Waitohu Stream Study (WSS[1]) in 2003, to investigate the flood hazard posed by the stream and to review its water quality and stream health.

3.2.1 Waitohu Stream Study

A summary report of the WSS[4] findings was completed in June 2006. The summary report contains recommendations for the ongoing management of the Waitohu Stream, including measures that can be implemented to recognize and mitigate flood risk and protect against erosion.

Recommendations of relevance to this resource consent application that can be implemented now include:

- **Manage the stream channel between Ringawhati Road and Taylors Road Bridge to the proposed design channel and alignment**. Works required to meet this approach include minor in-channel works in areas where severe distortions develop (i.e. flood damage where the channel has shifted from the proposed design channel), bank repairs and monitoring for 'transition strengthening' (i.e. strengthening the channel banks to keep the design channel profile). Typically the banks between these locations are subject to erosion.

- **Undertake gravel extraction, within the identified zone** (between SH 1 and the NIMT Railway line). The current estimate of gravel supply to the reach from SH 1 to the Taylors Road access is approximately 1500m³ per annum, on average (WSS). The report notes that regular monitoring of the stream bed in this reach is necessary to refine the target rate.

3.3 Consent history

Since 1989 (commencement of the applicant administering the Waitohu Stream) records show that:

- Between 1989 and 2001, the applicant has undertaken mitigation works under a series of 'one-off' or 'interim' resource consents.

- In 1999 the applicant prepared an application for resource consent to enable ongoing operations and maintenance over the majority of the length of the Waitohu Stream for a duration of 15 years. This application raised concerns from some residents, and for this reason the application was discontinued.

- For the periods of 2001-2004 and 2004-2007, the applicant held two resource consents, each for a duration of three years, to undertake mitigation works within a 4km stretch of the Waitohu Stream. The most recent resource consent, WGN040359, expired on the 19 July 2007. These consents did not affect those residents who raised concerns with the 1999 proposal. The two most recent consents were required to allow works to be carried out during the interim of undertaking the WSS, which took longer

[4] Wellington Regional Council, 2006, *Waitohu Stream study summary report*

to complete than anticipated. GW granted an extension to WGN040359 pending this application.

3.3.1 Compliance history

Since 2002 (latest obtainable GW records), no significant adverse environmental effects attributable to the works have been observed by officers of GW.

The applicant has had a good record of compliance with conditions imposed on previous resource consents.

3.3.2 Quantum of operations and maintenance activities undertaken

Since 1991, the following operations and maintenance activities have been undertaken within the Waitohu Stream:

- Four grade control structures;
- Two concrete block bank edge protection structures;
- 42 meters of concrete block linings; and
- Up to 2500 m³ of gravel has been extracted per annum.

4. Proposal/description of activities

4.1 Proposed stream operations and maintenance works

The works/ activities applied for and the methodology used to undertake these works is outlined below.

4.1.1 Construction of impermeable erosion protection structures

The applicant states that the construction of new structural works will generally occur where the existing willow protection is repeatedly failing and a more permanent solution is appropriate.

Types of structure

- Concrete block linings, groynes or gabion baskets – up to 50 lineal meters per annum;

- Mass concrete slab linings – up to 80 lineal meters per annum;

- Grade control structures – maximum of 2 over the duration of the consent.

Instances when undertaken

- Linings or gabion baskets - to reinforce a section of bank edge which is repeatedly eroding or as a stream alignment control;

- Grade control structures - used to maintain a stable bed profile, preventing localised or general bed degradation.

Methodology

Mass concrete blocks typically weigh around 1.5 to 2.5 tonnes, with no exposed reinforcing steel. These concrete blocks can be cabled together for additional strength and serve a similar purpose to gabion baskets. The applicant states that the concrete blocks are usually embedded, cabled together and stacked in rows. A grade control structure comprises of a line of concrete blocks across the stream rather than along the bank edge.

All structures are constructed by using a hydraulic excavator to excavate a trench in the stream bed of 0.5 - 1.5 metres deep. This work normally follows a temporary realignment of the stream, to ensure that all operations are undertaken outside of the actively flowing. The blocks (or other structure) are then placed in the excavated stream bed, which is subsequently backfilled with *in situ* gravel.

The applicant has advised that new structural works are a minor element of the stream's management and are unlikely to be undertaken extensively throughout the duration of the consent.

4.1.2 Maintenance of existing structures

Maintenance works primarily relate to the maintenance of existing structures including minor extensions and alterations, as well as repair and replacement.

Instances when undertaken

- Repositioning of concrete blocks when dislodged due to scour, generally following a significant flood event;
- Installing additional cabling or anchoring;
- Extending structures to avoid outflanking.

Methodology

Maintenance works are required in situations where concrete blocks have become dislodged or become susceptible to movement due to scour, typically as a result of a flood event. Maintenance works will require the blocks to be repositioned using an excavator as outlined above for the original construction methodology and may involve additional cabling or anchoring to secure the structure. Generally, a diversion of the stream flow will not be required unless the flow is too deep or swift to create a suitable platform for the excavator, on the adjacent bank.

Maintenance of existing structures in the Waitohu Stream is not a major activity as there are not many structures present. The applicant states that maintenance works are required for a total of up to 1.5 days per year (depending on seasonal variations) and the majority of these works will be carried out during the summer to autumn period.

4.1.3 Cross-blading and channel re-alignment activities

As part of the operations and maintenance works, cross-blading and channel realignments may be required. The applicant has applied for the following:

- Cross-blading or channel re-alignment – up to 200 meters per annum;
- Channel diversions – up to 2 per annum. – in association with channel realignments, and cross-blading where the flow of the stream is permanently diverted.

Instances when undertaken

- To realign the low flow channel prior to construction works or planting;
- To confine the active channel to the preferred channel alignment;
- To prevent erosion of unstable banks and areas, and prevent scour to structures such as bridges;
- To reduce erosion, usually at the outside of a bend or to divert the stream off a threatened area e.g. farmland or house. Usually the first response after a flood event.

Methodology

Cross blading generally involves using a bulldozer or excavator to push river gravels from an opposite beach into a vulnerable area, after which the vulnerable area will usually be planted with willows. Channel realignment involves the excavation of the new channel through the beach on the inside of a bend, using this material to partially or completely fill in the old channel. The new channel is bunded at either end to minimise silt discharge while it is being formed.

The requirement for channel shaping activities is dependent on the occurrence of flood events and the impact of these events, which is highly variable.

4.1.4 Gravel extraction

Referring to Figure 1, the applicant proposes to undertake gravel extraction within the defined 4 km stretch. However, the preferred area of gravel extraction is between the SH1 and NIMT Bridges, which is a natural deposition area.

Volume of gravel extraction

The applicant proposes to undertake the following:

- Until 30 June 2009, extract up to 4500m³ of gravel;

- From 1 July 2009, the applicant proposes to undertake bed level surveys every five years to determine the gravel supply and therefore the amount to be extracted annually.

The proposed annual volumes of gravel extraction are intended to return the flood carrying capacity of the channel to approximately that of 1998 levels, as recommended in the report Waitohu Stream Gravel Analysis (GW, 2007). The initial gravel extraction rate is relatively high in order to reduce the historical backlog.

Instances when undertaken

- To increase the waterway under the bridges and the channel carrying capacity; and

- To prevent the inundation of land and the stream realigning itself through existing farmland.

Methodology

Gravel extraction is normally undertaken in the dry using hydraulic excavators or front-end loaders to directly load trucks. Some extraction could occur in the wet in narrow sections of the stream bed where water covers the entire channel. Extraction usually occurs in uniform strips, parallel to the path of the stream; to a depth no lower than 100mm above the normal level of the adjacent flow. Stream crossings will be kept to a minimum, and restricted to a single crossing point.

4.1.5 Water diversions

To enable the activities described above to be carried out, the normal flow of the Waitohu Stream may require either temporary or permanent diversion depending on the specific location and works required.

Temporary Diversions

Temporary diversions are undertaken in association with the construction and/or maintenance of impermeable structures.

Permanent Diversions

Permanent diversions are undertaken in association with channel re-alignment and cross-blading works.

The applicant has accordingly applied for a water permit to carry out diversions when necessary, with a limit of two stream diversions per annum.

4.1.6 Discharge

As a result of the operations and maintenance activities the discharge of natural stream sediments to water is likely to occur. Therefore the applicant has also applied for a discharge permit enabling discharge of natural sediments to water.

Each instance of discharge will be short-term and low intensity due to the nature of the material being worked, and the short duration that activities are undertaken over.

5. Consultation

The applicant provided the local iwi Te Runanga o Raukawa with a copy of the draft application as part of the limited notification.

The applicant has carried out consultation with property owners along the length of the Waitohu Stream in which the works are proposed. A list of the landowners consulted with is included in section 6 of this report.

The applicant has also consulted with a number of organisations. These organisations include; Fish and Game New Zealand, Transit New Zealand, Ontrack, KCDC and the Department of Conservation (DoC).

6. Notification and submissions

6.1 Notification details

The application has been processed on a limited notified basis. 55 parties were determined to be actually or potentially affected by the proposal, which fell into one of the following categories:

- Owners/occupiers of properties bordering the defined 4km reach;
- Owners/occupiers of properties located immediately upstream/downstream of the defined 4km reach;
- Local Iwi;
- DoC;
- Transit New Zealand;
- ONTRACK; and
- Waitohu Streamcare.

These parties were served notice of the application on 24 May 2007.

6.2 Submissions received

One submission was received within the submission period (Kris Ericksen – DoC) which closed on 22 June 2007, and one further submission (Wakapua Farms Limited – Rod Agar) was received two days following this date. The applicant did not reject the late submission by Rod Agar. Accordingly, the time frame for receiving submissions was extended under section 37 of the Act and the late submission was accepted.

6.3 Nature of submissions received

- DoC were concerned about the cleaning of machinery such that undesirable biota were not transferred into the Waitohu catchment, maintenance of fish passage and habitat for fish during and after all activities in the stream bed.

- Rod Agar was concerned that the applicant's 'preferred' area of gravel extraction did not include the area between the NIMT and Taylors road Bridges (as shown in Figure 1).

7. Further information and meetings

7.1 Te Runanga o Raukawa

Te Runanga o Raukawa did not put forward a submission, and have expressed "no concern regarding the proposed works". However, they have corresponded directly with the applicant, and requested to be informed before any works are undertaken in the area below the NIMT Railway Bridge and Taylors Road Bridge. As a result the applicant has amended their application to reflect this concern, and a recommended condition has been agreed upon by both parties. Te Runanga o Raukawa indicated acceptance of this on 1 August 2008. I concur with this condition, which is condition 5 of WGN070242 [26052] and have included it in my recommendation.

7.2 Department of Conservation

DoC was concerned with a number of areas of the proposal particularly in terms of the cleaning of machinery, the passage of fish through grade control structures, the maintenance of fish passage and ensuring that the proposed conditions reflect the mitigation of environmental effects. The applicant consulted with DoC independently regarding these matters. As a result the applicant has amended their application to reflect these concerns, and recommended conditions have been agreed upon by both parties. DoC formally waived their right to be heard on 8 October 2007. I concur with these conditions, which are Conditions 11, 13, 14, 15, 16, 26 and 27 of WGN070242 [26052], and have included them in my recommendation.

7.3 Rod Agar

A pre-hearing meeting was held on 25 April 2008 between GW, the applicant and Rod Agar, to discuss concerns raised in his submission. These related mainly to extending the preferred area of gravel extraction (as discussed in section 4.1.4 of this report), to include the area between the NIMT Bridge and the Cow Race Bridge. In order to properly address the concerns of the submitter, the Waitohu Stream Gravel Analysis Update was undertaken and provided as further information. As a result the applicant has amended their application to reflect these concerns, and recommended conditions have been agreed upon by both parties. Rod Agar formally waived his right to be heard on 5 August 2008. I concur with these conditions, which are conditions 17, 18 and 25 of WGN070242 [26052] and have included them in my recommendation.

7.4 Reporting officer

I held meetings with the applicant on 20 and 26 August 2008 regarding the consent duration and the proposed amount of gravel to be extracted.

As all submitters have waived their right to be heard, there is no need to hold a formal hearing, as there are no further issues to be resolved. In cases such as this where no hearing is held, the Manager, Environmental Regulation, has the delegated authority to make a decision on the application.

8. Statutory reasons for requiring resource consents

8.1 Land use consent WGN070242 [26052]

Land use consent WGN070242 [26052] is to undertake stream operations and maintenance activities within the Waitohu Stream for flood and erosion mitigation purposes.

Section 13 of the Resource Management Act 1991 (the Act) places restrictions on certain uses of the beds of lakes and rivers. Section 13(1) (a) and (b) states:

(1) No person, in relation to the bed of any lake or river, -

(a) Use, erect, reconstruct, place, alter, extend, remove or demolish any structure or part of any structure in, on, under, or over the bed; or

(b) Excavate, drill, tunnel, or otherwise disturb the bed; ...

... unless expressly allowed by a rule in a regional plan and in any relevant proposed regional plan or a resource consent.

The applicant's activities are not expressly allowed by a rule in a regional plan and therefore require resource consent under Section 13 of the Act.

Activities in the beds of lakes and rivers within the Wellington Region are governed by rules in the Regional Freshwater Plan for the Wellington Region (RFP). Each of the proposed operations and maintenance activities are assessed against the rules of the RFP below.

Construction of impermeable erosion protection structures

Rule 48 of the RFP provides for the placement of impermeable erosion protection structures that are an integral part of any Floodplain Management Plan (FMP) or River Control Scheme (RCS) as a controlled activity. As the Waitohu Stream does not have a FMP or RCS, the proposed structures are outside the ambit of this Rule.

Therefore, the construction of the proposed structures will fall for consideration under Rule 49 of the RFP, which provides for all remaining uses of river beds which are not specifically provided for in Rules 22 to 48, as a **discretionary activity**.

Maintenace of existing structures

Rules 22 and 43 of the RFP provides for the maintenance, repair, replacement, extensions, additions and alterations to structures as a permitted or controlled

activity (respectively) provided that the listed requirements are met. As the proposed maintenance works may result in additions that are greater than 5% of the cross-sectional area of the existing structures the maintenance works cannot meet the requirements of these rules.

As such, the proposed maintenance works will fall for consideration under Rule 49 of the RFP, which provides for all remaining uses of river beds which cannot meet the requirements of Rules 22 to 48, as a **discretionary activity**.

Cross-blading and Channel realignments

Rule 37 of the RFP allows "beach" recontouring, such as cross-blading, as a permitted activity provided that the works fall within the ambit of the Rule. As the proposed cross-blading works may be undertaken in areas covered by water, the activity cannot be considered under this Rule.

The proposed cross-blading and channel re-alignment activities therefore default to Rule 49 of the RFP, which provides for all remaining uses of river beds which cannot meet the requirements of Rules 22 to 48, as a **discretionary activity**.

Gravel extraction

Rule 38 of the RFP provides for minor sand and gravel extraction as a permitted activity provided that the listed requirements are met. As the proposed gravel extraction quantity is greater than what is allocated in the listed requirements, the activity cannot be considered under this rule.

As such, the proposed gravel extraction works will fall for consideration under Rule 49 of the RFP, which provides for all remaining uses of river beds which cannot meet the requirements of Rules 22 to 48, as a **discretionary activity**.

8.2 Water permit WGN070242 [26053]

Water permit WGN070242 [26053] is to allow the temporary and permanent diversion of the flow of the Waitohu Stream in association with undertaking stream operations and maintenance works.

Section 14 of the Act restricts certain activities and uses relating to water. Section 14(1)(a) states:

(1) No person may take, use, dam or divert any –

(a) Water (other than open costal water); ...

... unless the taking, use, damming, or diversion is allowed by subsection (3).

Subsection (3) of the Act states:

(3) A person is not prohibited by subsection (1) from taking, using, damming, or diverting any water ... if –

(a) The taking, damming, or diversion is expressly allowed by a rule in a regional plan and in any relevant proposed plan or resource consent; ...

and the taking or use does not, or is not likely to, have an adverse effect on the environment; or ...

The applicant's activity is not expressly allowed by a rule in a regional plan and therefore requires resource consent under Section 14 of the Act.

Rule 9 of the RFP allows minor diversions of water from an intermittently flowing stream as a permitted activity. As the Waitohu Stream is permanently flowing in nature, the activity cannot be considered under this Rule.

As such, the proposed diversions fall for consideration under Rule 16 of the RFP; which provides for the taking, use, damming or diversion of water which is not specifically provided for in any other rules in the plan; as a **discretionary activity**.

8.3 Discharge permit WGN070242 [26054]

Discharge permit WGN070242 [26054] is to temporarily discharge natural stream sediment into the Waitohu Stream in association with undertaking stream operations and maintenance activities.

Section 15 of the Act restricts the discharge of contaminants into the environment. Section 15(1)(a) of the Act states:

(1) No person may discharge any –

(a) Contaminant or water into water; ...

... unless the discharge is expressly allowed by a rule in a regional plan and in any relevant proposed regional plan, a resource consent, or regulations.

The applicant's activity is not expressly allowed by a rule in a regional plan and therefore requires resource consent under Section 15 of the Act.

The proposed discharge of natural stream sediments into water is not specifically provided for within Rules of the RFP and, as such, defaults to Rule 5 of the RFP, which provides for all remaining discharges to freshwater, as a **discretionary activity**.

9. Assessment of effects

9.1 Existing Environment

9.1.1 Catchment

The Waitohu Stream flows from the Tararua foothills to the Tasman Sea north of Otaki, with a catchment of 5400 hectares. The reach of the Waitohu Stream

relevant to this application, from the Ringawhati Road Bridge (upper limit), to the Cow Race Bridge on Wakapua Farm (lower limit), is shown in Figure 1, section 2.3.

From the Ringawhati Road bridge the stream flows across one side of a relatively steep plain of old alluvial deposits, and consists of a defined channel within a terrace system. This terrace system finishes upstream of the SH 1 Bridge, and from this point to downstream of the NIMT Railway Bridge there is a natural deposition area. Below the NIMT Railway Bridge the stream flows across a much flatter alluvial plain. The stream has a single well defined and meandering channel while still retaining a gravel bed with minor beaches (Figure 1).

The reach within the terrace system, between the Ringawhati Road and SH 1 bridges, is very dynamic, with the low flow channel and overall channel form changing from flood to flood. The channel has a overall form of a single low flow channel within an extensive gravel area, but this low flow channel is continually moving and splitting around gravel islands, as the channel migrates through the erosion and deposition process of flood events.

Frequent freshets and floods result in frequent movement of the gravel substrate and terrestrial vegetation, which sometimes establishes itself unaided. This vegetation comprises mainly of fast growing grasses, weeds and woody pioneering species, particularly lupin. Bank vegetation comprises primarily of willow plantings, established over the past 10-11 years, acting as a buffer zone between the stream and pastoral and intensive horticultural uses.

9.1.2 Gravel supply

Gravel is naturally deposited in the reach between the SH 1 Bridge and NIMT Railway Bridge due to the grade of the stream flattening out. Approximately 1500m³/year of gravel is estimated to be supplied into this reach and without intervention; a depositional fan would form in this area (Williams, 2004)[5].

9.1.3 Bank erosion

Between the Ringawhati Road and SH 1 Bridges, the stream is entrenched in a terrace system and has an on-going degradation trend. Bank erosion occurs through channel migration along this steeply graded reach within the small floodplain area between the lower terraces (Williams, 2004)[6].

9.1.4 Recognition

The Waitohu Stream is identified in Appendix 3 of the RFP for having nationally threatened indigenous fish recorded in the catchment (Brown Mudfish recorded).

[5] Waitohu Stream Flood Hazard Assessment – River Characteristics and Sedimentation, 2004, report prepared by G & E Williams Consultants Limited for Wellington Regional Council

[6] Waitohu Stream Flood Hazard Assessment – River Characteristics and Sedimentation, 2004, report prepared by G & E Williams Consultants Limited for Wellington Regional Council

The Waitohu Stream and its tributaries upstream of the Kapiti Coast District Council intake are listed in Appendix 6 of the RFP as a water body with water quality to be managed for water supply purposes. The proposed area of works is downstream from this intake, and as such, will have no effect on public water supply.

GW's *Streams alive* programme provides landowners with native plants, planting and maintenance to protect and improve selected streams ecological health. The Waitohu Stream is part of *Streams alive* because nearly half of its catchment is in native vegetation, more than one third of the catchment is protected by covenants or in DoC ownership and the nature of the stream provides habitat to a wide variety of native fish. The proposal will not affect areas in which planting is undertaken.

9.2 Actual and potential effects assessment

9.2.1 Effects of erosion and scour

Any structure placed in the bed of a stream has the potential to cause erosion and/or scour of the stream bed and banks. As discussed in Section 4.1.1 of this report, the applicant proposes to place the gabion baskets at least 0.5 metres below the stream bed. Given this, I consider that the effects of erosion and scour to be no more than minor. I also consider that the proposal will stabilise the banks in the area of works, thus limiting the potential for erosion and scour to occur.

The cross-blading and stream re-alignment activities will be implemented to remediate and prevent erosion and scour of the stream banks. These activities will result in the active channel being positioned in the area of the preferred design channel. Cumulative effects of cross-blading works will be minimised over time by the action of natural "re-setting" by flood events, such that cumulative effects are not anticipated to extend beyond a 2-3 year time horizon.

Review following the five yearly bed profile survey will capture any cumulative effects and allow mitigation should it be necessary. Similarly the cumulative effects of further construction of impermeable structures will be assessed during review in order to minimise any adverse effects.

9.2.2 Effects on the Aquatic Ecosystem

The NIWA Freshwater Fishery Database (1997) records a number of species as being present including Short and Longfin eel, Giant Kokopu, Inanga, Upland bully, Common bully, Redfin bully, Common smelt, and Brown trout. The proposed stream operations and maintenance works may have adverse effects on the existing habitat of fish, and aquatic organisms.

Stream works have the potential to create a uniform habitat through the straightening of the active channel. These works can reduce the number of pools, sheltered sites and riffles while increasing run lengths.

The Waitohu Stream is a dynamic system, particularly in the upper reaches, which suggests that the stream form changes often. Natural processes will affect the positioning and number of pools, riffles and runs through the system. The applicant states that attempts will be made to limit the reduction of fish habitat, where possible, by undertaking works in only those areas where there is significant potential for damage to banks and buffer vegetation areas. In addition, the applicant proposes to re-establish pools and riffles in sections where works are undertaken.

Efforts will also be made by the applicant to reduce activities in the active channel during the major period of native fish migration – mid August to mid-November, except for contingency or urgent works.

Works involving bank edge disturbance such as concrete block and slab lining placement may permanently remove valuable ecological habitat. However, aquatic habitat will have the chance to recolonise within the small gaps between blocks and slabs. Grade control structures will remove areas of bed that were aquatic habitat. However, flowing water over these structures will allow for recolonisation also. Grade control structures may also provide shelter on the downstream side for small fish and invertebrates.

I have recommended conditions 10, 13, 14, 15 and 16 of WGN070242 [26052] to ensure that:

- Fish passage is maintained during works;
- Any fish entrapped as a result of the works are relocated upstream;
- Fish habitat in the form of riffles and pools will be restored after operations as much as possible; and
- Works will not be carried out during the major period of native fish migration.

I consider that given that the applicant proposes a small quantum of works with the effects to be mitigated by the above measures, the effects of the proposed works on the aquatic ecosystem will be no more than minor.

9.2.3 Effects on flooding

A large volume (approx. 1500 m^3 per annum) of the coarse material carried by the stream during flood events is deposited, mainly, in the area between the SH1 Bridge and the NIMT Bridge where the grade flattens out. This material results in further braiding of the active channel and over time may result in raising of the stream bed, increased stream meandering and/or inundating riparian land.

The gravel extraction is proposed to be undertaken to reduce the severity and frequency of the effects of flooding. In addition to long term gravel extraction certain activities may be undertaken at short notice as repairs following flood events.

Overall the proposed activities will confer greater security and lower risk to significant assets such as the SH1 and NIMT bridges and neighbouring

farmland and properties. The greater stability of the active channel within the preferred channel will also reduce long-term risk to assets and land beyond the immediate boundaries of the stream.

9.2.4 Effects of increased sedimentation and turbidity

Sediment will be released into the stream during the proposed construction and maintenance works. Where gravel extraction is undertaken in the wetted channel or cross-blading occurs, the release of sediment will be unavoidable. The release of sediment during these activities is temporary in nature as it will only occur during the period of works. To minimise the adverse effects of increased sedimentation and turbidity the following precautions will be taken:

- During the construction and maintenance of impermeable structures, the stream will be temporarily diverted around the area of works;
- Gravel extraction will be undertaken in the dry, where possible;
- All works will be completed in the minimum time practicable;
- Disturbance to the bed will be limited to that necessary for the extraction of gravel;
- Machinery will be kept out of the wetted channel unless there is no suitable alternative;
- Works will be undertaken during times of low flow; and
- The number of vehicle crossings of the stream wall be limited to a minimum.

The visual effects of sedimentation and turbid water may be seen for some distance downstream but will only be for a short duration. Night time cessation of the works will allow a rapid return to ambient water clarity each evening. The applicant has advised that the turbidity concentration is expected to fall within a similar range to that produced by a natural fresh.

I have recommended conditions of consent to ensure that steps are taken to minimise sediment loading and turbidity. I consider that the stream works will result in a discharge of suspended solids and therefore a reduction in water quality. However, as the discharge is likely to be over a short period of time for each activity undertaken, I consider that the overall effects are likely to be no more than minor.

9.2.5 Summary of effects

Although the proposed works will have adverse effects upon the water quality and aquatic ecosystem in the Waitohu Stream, these effects will be of a temporary and minor nature. The proposed methodology and mitigation measures will ensure that no more than minor adverse effects upon the life supporting capacity or ecosystems of the stream occur as a result of the works.

10. Statutory evaluation

10.1 Resource Management Act 1991

10.1.1 Part 2 – Purpose and Principles

Part II of the Act encompasses sections 5, 6, 7 and 8. Section 5 sets out the purpose of the Act; section 6 sets out matters of national importance to be recognised and provided for; section 7 sets out other matters to be given particular regard to; and section 8 embeds the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) into the Act.

Section 5 – Purpose

Section 5 of the Act defines the Act's purpose as the promotion of the sustainable management of natural and physical resources. The considerations of Section 104 are all subject to Part II of the Act. "Subject to" gives primacy to Part II and is an indication that this provision shall prevail.

I consider that the applicant's proposal to undertake stream operations and maintenance activities in the Waitohu Stream, will enable the people and communities that surround the Waitohu Stream to provide for their social, economic and cultural well-being, and for their health and safety. I have considered how the proposal may impact on the potential for the Waitohu Stream, as an ecological and physical resource, to meet the reasonably foreseeable needs of future generations and I consider that the proposal also satisfies the provisions of clauses (a), (b) and (c) of section 5(2), and overall it is consistent with Section 5 of the Act.

Section 6 – Matters of National Importance

In exercising its powers and functions under the Act, the consent authority is required to recognise and provide for the matters set out in Section 6, which are considered to be of national importance.

Section 6(a) recognises the importance of preserving the natural character of rivers and their margins and protecting them from inappropriate use. The effects of the proposed works, the water diversions and the possible discharge of natural sediments in the Waitohu Stream have been outlined in Section 9 of this report, and I have concluded that they will have no more than minor effects on the receiving environment. The effects of the works will be adequately minimised by mitigation proposed by the applicant and the recommended conditions of consent. I consider that the proposal will assist with preservation of the natural character of the stream and margins, and is an appropriate use in terms of Section 6 of the Act.

With respect to Section 6(e) of the Act, GW recognises the tangata whenua who have relationships with the Waitohu Stream. The applicant has consulted with Iwi as part of the application process. Te Runanga o Raukawa stated that they have no objection to the application, provided that they receive notification prior to certain works as noted in condition 5.

Section 7 – Other Matters

Section 7(a) provides opportunities for tangata whenua, through the practical expression of kaitiakitanga (the exercise of guardianship) to be involved in managing the use, development and protection of their ancestral taonga (resources). This highlights the importance of ongoing consultation with tangata whenua as the proposed works proceed.

Other matters under section 7 which I consider are of particular relevance to this application are:

(a) kaitiakitanga;

(c) the maintenance and enhancement of amenity values;

(d) intrinsic value of ecosystems; and

(f) the maintenance and enhancement of the quality of the environment.

In relation to these specific matters, and the matters set out in Section 7 overall, the effects of the proposed works have been discussed in depth, and it is considered that, subject to the suggested conditions, the intentions of the Section 7 provisions will be satisfied.

Section 8 – Treaty of Waitangi

In considering the application, GW is required to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi). The Waitangi Tribunal and Courts continue to establish the principles of the Treaty of Waitangi and it is recognised that the principles are continuing to evolve.

The general requirements of consultation have been well established by the judiciary and Courts both within and outside the Act.

In accordance with the agreement between GW and local iwi, the application was sent to Te Runanga O Ruakawa. The issues raised by this iwi have been addressed.

10.1.2 Sections 104 and 108

The matters to which GW (as consent authority) shall have regard to when considering applications for resource consents (of a nature such as the proposed) and submissions are set out in sections 104, 105, 107 and 108 of the Act. The circumstances in which GW can make a decision to grant resource consent for a discretionary activity are set out in section 104B of the Act.

In summary, subject to Part II of the Act, the following matters in Section 104(1) are relevant to this application:

(a) Any actual and potential effects on the environment of allowing the activity; and

(b) Any relevant provisions of –

(iii) a regional policy statement or proposed regional policy statement

(iv) a plan or proposed plan; and

(c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

Section 108 of the Act outlines the types of conditions that may be included in resource consents.

10.1.3 Section 105

Section 105(1) of the Act states that when considering an application for a resource consent which would contravene section 15 or section 15B, a consent authority must, in addition to the matters in section 104(1), have regard to –

(a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and

(b) the applicant's reasons for the proposed choice; and

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

The nature of the discharge and the sensitivity of the receiving environment have been assessed in section 9 of this report. Given that the discharges into the stream will occur as a result of instream works, there is no alternative environment to which the applicant can discharge.

10.1.4 Section 107

Section 107 of the Act places restrictions on the grant of certain discharge permits. Section 107(1)(a) states that, except as provided in subsection (2), a consent authority shall not grant a discharge permit allowing the discharge of a contaminant or water into water, if, after reasonable mixing, the contaminant or water discharged is likely to give rise to all or any of the following effects in the receiving waters:

(c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;

(d) any conspicuous change in colour or visual clarity;

(e) any emission of objectionable odour;

(f) the rendering of the water unsuitable for consumption by farm animals; and

(g) any adverse effects on aquatic life.

Section 107(2) of the Act states that a consent authority may grant a discharge permit to do something that would otherwise contravene section 15 that may allow any of the effects described in subsection (1) if it is satisfied –

(a) That exceptional circumstances justify the granting of the permit; or

(b) That the discharge is of a temporary nature; or

(c) That the discharge is associated with necessary maintenance work – and that it is consistent with the purpose of this Act to do so.

The discharge resulting from the stream operations and maintenance activities may not always meet Section 107(1). However, these discharges will be infrequent and can be considered to be of a temporary nature in accordance with Section 107(2) of the Act.

I note Section 107(2) states that a consent authority may grant a discharge permit to do something that may allow any of the effects described in subsection (1) if it is satisfied that, amongst other things, the discharge is of a temporary nature, and that it is consistent with the purpose of the Act to do so. I consider that the activity is covered by section 107(2) of the Act during the times where discharges do not meet section 107(1)(a).

10.2 Regional Policy Statement for the Wellington Region (RPS)

I have reviewed the RPS in relation to this application to undertake stream operations and maintenance activities within the Waitohu Stream for flood mitigation and erosion protection purposes. There are a number of chapters which contain objectives and policies that are relevant to this application. I have summarised these chapters below:

Chapter 4 – The iwi management system

Chapter 4 states the broad issues of resource management significance to tangata whenua of the region. In general, it states that: there are increased opportunities for the cultural aspirations and tikanga of tangata whenua with regard to resources; and the principles of the Treaty of Waitangi need to be taken into account in resource management.

Chapter 5 – Freshwater

Chapter 5 contains objectives, policies and methods that address activities in the beds of rivers and streams and water quality issues in terms of both the character of the water, encompassing the health and other values of ecosystems, and the sediments or contaminants that may be carried in or deposited by that water.

Chapter 9 – Ecosystems

Chapter 9 contains the objectives, policies and methods, which address ecosystems (any system of interacting terrestrial or aquatic organisms within

their natural and physical environment) and generally addresses the sustainable management of ecosystems.

Chapter 11 – Natural Hazards

Chapter 11 contains the objectives, policies and methods that address it is not practicable to eliminate risks of natural hazards (including flooding) entirely; therefore, the aim should be to ensure the level of risk is understood and acceptable.

I consider that the adoption of the mitigation measures outlined in the application together with the recommended consent conditions will contribute to the long-term enhancement of the stream, and will ensure that any adverse effects of the stream operations and maintenance activities in the short and long term, are mitigated. Therefore, I consider the application is consistent with the policies in Chapter 4, 5, 9, and 11 of the RPS.

10.3 Regional Freshwater Plan (RFP)

The RFP is the relevant regional plan to this application. It contains a number of objectives and policies that are relevant to this application. Below I have outlined some of the key policies.

Section 4 – General objectives and policies

Policy 4.2.1 seeks to manage sites of special value to the tangata whenua in water bodies so that the cultural values of those sites are not adversely affected and Policy 4.2.2 encourages the applicant to consult directly with affected tangata whenua when making an application for resource consent. The applicant forwarded a copy of the draft application to the iwi prior to lodging the consent (see application section 6), and in the past has talked directly to Iwi to reach consensus on their concerns and recognise their views to ensure the proposal has had regard the values of the tangata whenua.

Policy 4.2.9 outlines the specific characteristics of a river and its margins that GW has to have regard to when considering the protection of their natural character from the adverse effects of use. I have had regard to these matters and consider the proposal to be consistent with this policy.

Policy 4.2.13 outlines methods to protect nationally threatened freshwater fauna in water bodies identified in Part A of Appendix 3 (such as the Waitohu Stream) including maintaining migratory and dispersal pathways for fish and avoiding adverse effects on habitats that are important to the life cycle and survival (including spawning areas) of fish. The proposal is consistent with this policy as the mitigation measures should provide adequate protection for the ecosystem components.

Policy 4.2.18 promotes the avoidance or mitigation of the potential adverse effects associated with flooding. I consider that the works as proposed by the applicant contribute significantly to both flood avoidance and mitigation in the Waitohu Stream catchment.

Policy 4.2.23 states that benefits arising from any proposal for the use and development of a water body should be taken into account when assessing the proposal. In terms of flood protection, the proposed activities provide a positive benefit to the surrounding community and help to avoid an increase in flooding levels to adjacent national assets, residential and rural properties, thereby promoting the social and economic wellbeing of the community.

Section 5 – Water quality

Policy 5.2.6 seeks to manage the water quality of all surface water bodies in the Region for aquatic ecosystem purposes. The proposal is consistent with this policy as the mitigation measures should provide adequate protection for the ecosystem components.

Policy 5.2.11 seeks to ensure that mixing zones allowed on a discharge permit are determined once GW has had regard to the receiving environment. In forming an appropriate mixing zone I have had regard to the receiving environment.

Section 7 – Use of the beds of rivers and lakes and development of the floodplain

Policy 7.2.1 allows activities for flood mitigation or erosion protection purposes if any adverse effects are avoided, remedied or mitigated and that the significant adverse effects identified in Policy 7.2.2 are avoided. I consider that the proposed activities are consistent with Policy 7.2.1 as the stream operations and maintenance activities in the stream are appropriate activities in rivers for flood protection and river enhancement purposes. I also consider that any adverse effects will be avoided, remedied or mitigated.

Policy 7.2.6 seeks to ensure that GW will have regard to any relevant Floodplain Management Plan, flood hazard assessment, or River Management Scheme, when considering use within any river bed or floodplain. I consider that the proposed activities are consistent with Policy 7.2.6 as the management activities have been developed with specific reference to and are guided by the Otaki River Floodplain Management Plan, the Waitohu Stream Study and Waitohu Stream Gravel Analysis Update Report (2008)[7].

Policy 7.2.8 allows re-contouring of the beds of rivers provided that the activity is necessary to avoid or mitigate the effects of flood hazard and is consistent with Part II of the Act. I consider that the proposed activities are consistent with Policy 7.2.8 as the management activities have been developed to achieve these goals.

Policy 7.2.13 seeks to ensure that the removal of gravel from any river bed is located and carried out in such a way that flood or erosion hazards are reduced or there is, at least, no increase to these hazards. I consider that the proposed activities are consistent with Policy 7.2.13 as the gravel extraction is designed to reduce flood and erosion hazards.

[7] Wellington Regional Council, 2008, Waitohu Stream Gravel Analysis Update

Summary

Overall, I consider that the applicant's proposal to undertake stream operations and maintenance activities is consistent with the objectives and policies of the RFP, provided it is carried out in accordance with the recommended consent conditions.

11. Conclusions

Overall, in making my recommendation I have considered the potential effects on the environment of the activity, matters raised by parties through the notification process, and noted the submissions received. I have also considered the matters of Part II and Sections, 104, 105, 107 and 108 of the Act, and the relevant objectives and policies of the RPS and RFP.

I consider that the adverse effects of the proposed activities are generally minor and that there are significant positive effects of the activity. I am satisfied that the adverse effects on the environment can be sufficiently avoided, remedied or mitigated by imposing appropriate consent conditions.

The applicant has acknowledged the adverse and positive effects of the works, and they have incorporated appreciate mitigation measures to avoid, remedy or mitigate adverse effects from the proposed works. I acknowledge the positive effects of the works, in terms of reducing the effects to the Otaki community from flooding.

I consider that the proposed works will not have a long-term effect on water quality, fish spawning or aquatic ecosystems. I consider that the proposed mitigation measures, methodologies to be adopted and suggested conditions of consent will mitigate any short-term effects on the stream ecosystem and water quality.

12. Recommendation and decision

I recommend that, pursuant to sections 104B, 105, 107 and 108 of the Resource Management Act 1991, the following resource consents be **granted** to Flood Protection Department, Wellington Regional Council, subject to the conditions listed:

[26052]: Discretionary Activity

Land use consent to undertake the following stream operations and maintenance activities within the Waitohu Stream, including the associated disturbance of the bed of the stream:

- placement of impermeable erosion protection structures,
- maintenance of existing structures;
- cross-blading and stream re-alignments; and
- gravel extraction.

[26053]: Discretionary Activity

Water permit to temporarily and permanently divert the flow of the Waitohu Stream in association with undertaking stream operations and maintenance activities.

[26054]: Discretionary Activity

Discharge permit to temporarily discharge natural stream sediment into the Waitohu Stream in association with undertaking stream operations and maintenance activities.

13. Duration of consents

The applicant has requested the maximum consent duration of 35 years for the land use consent, water permit and discharge permit. I have considered this against sections 123(c) and (d) of the Act and I consider a duration of 35 years is appropriate, given the history of this particular catchment and the stream operation and maintenance activities, especially since the Waitohu Stream Study has investigated this catchment in some detail.

The activities proposed by the applicant are not significantly different from the activities since 1990. In addition the five-yearly stream bed profiles and associated reviews will allow for correction of any deviation from the desired objectives as set out in the study, and will enable the applicant to reassess the appropriateness of the activity in a timely manner. This duration will also provide certainty for the consent holder to optimise the need for a balanced expenditure, and flood security, as well as limit the potential cumulative effects on the Waitohu Stream environment.

Due to continuous hydrological fluctuations the effects of the cross-blading are not expected to be cumulative. The time between works should also allow sufficient recovery time for the natural re-establishment of habitat.

The review condition will cater for monitoring and assessing the permanent and/or cumulative effects of the impermeable structures. Although the applicant has applied for a maximum of 130 metres of additional impervious structures per year, the applicant has advised that new structural works are a minor element of the stream management and are unlikely to be undertaken extensively throughout the duration of the consent. Extension of the impermeable structures will have only a minor effect per year, although the cumulative effect may have a significant effect over the consent period – the effects will be closely monitored and subject to review. At present there are only two areas where impermeable works are contemplated, subject to financial constraints, i.e. re-instatement of the concrete blocks in the vicinity of the Taylor's Road Bridge and channel transition strengthening in the area between Ringawhati Road Bridge and Waitohu Road Bridge.

14. Suggested conditions

Conditions for land use consent: WGN070242 [26052]

That, under sections 104, 104B and 108 of the Resource Management Act 1991, Wellington Regional Council Flood Protection Department, be granted the following land use consent for a duration of 35 years:

Land use consent [26052] to construct impermeable erosion protection structures and to undertake disturbance of the Waitohu Stream bed in association with undertaking the following stream operations and maintenance activities:

- Construction of impermeable erosion protection structures;
- Maintenance of existing structures;
- Channel shaping; and
- Gravel extraction.

General conditions

1. The location, design, construction, implementation and operation of all works shall be carried out in accordance with:

   - the application and associated documents and plans, lodged with the Wellington Regional Council on 10 May 2007; and
   - the Waitohu Stream Study, published June 2006, and subsequent reviews;
   - further amended plans received on 23 July 2007.

   All subsequent reviews of the Waitohu Stream Study shall be to a standard to meet the requirements of the conditions of this consent.

2. The consent holder shall provide a copy of this consent, including any relevant site plans and attachments, to any contractors or operators undertaking works authorised by this consent, prior to the works commencing. The consent holder shall verbally brief the contractors or operators regarding the conditions of consent, prior to works commencing.

3. The consent holder shall ensure that a copy of this consent is kept on site at all times and presented to any Wellington Regional Council officer on request.

Notification

4. Except for emergency works, as provided for under Condition 6 of this consent, the Manager, Environmental Regulation, Wellington Regional Council, shall be given least 48 hours notice prior to operations and maintenance activities commencing.

5. Except for emergency works, as provided for under Condition 6 of this consent, the consent holder shall notify Te Runanga o Raukawa at least five working days prior to commencing any works in the area between the NIMT Railway Bridge and Taylors Road Bridge.

6. The consent holder shall provide a report detailing any emergency works undertaken to the Manager, Environmental Regulation, Wellington Regional Council, within five working days of undertaking those works. The report shall include the following:

   a) details of the works that were undertaken;

   b) reasons why the works were undertaken; and

   c) any additional remedial or preventative measures required.

   Note: For the purposes of this consent the term "emergency works" is deemed to have the same meaning as section 330(1) of the Resource Management Act 1991.

Complaints

7. The consent holder shall notify the Manager, Environmental Regulation, Wellington Regional Council in writing of any complaints received alleging adverse effects from or relating to the exercise of this consent, within 24 hours, or the next working day of being received by the consent holder. The consent holder must include the following details:

   - name and address of the complainant;
   - the date and time that the complaint was received;
   - details of the alleged event;
   - weather conditions at the time of the complaint; and
   - any measures taken to mitigate/remedy the cause of the compliant.

Discovery of artefacts

8. If koiwi, taonga or other artefact material is discovered in any area during the works, the consent holder shall contact the Manager, Environmental Regulation, Wellington Regional Council and Te Runanga o Raukawa immediately, and works in that area shall cease to allow a site inspection by the Manager and the representatives of the runanga and their advisors. The consent holder shall then consult with Te Runanga O Raukawa on appropriate steps to recover the artefacts in order that works can resume. If skeletal remains are discovered, works shall also cease and the consent holder shall contact the New Zealand Police.

Operational time restrictions

9. Except for emergency works, as provided for under Condition 6 of this consent, the hours of work shall be as follows:

    a) On week days (Monday to Friday) works shall only be undertaken between 7:00 am and 7:00 pm.

    b) On Saturday works shall only be undertaken between 7:00 am and 3:00 pm.

    c) No works shall be conducted on Sundays or public holidays.

10. Except for emergency works, as provided for under Condition 6 of this consent, no works shall be carried out in the actively flowing channel of the stream from 15 August to 30 November (inclusive), to avoid the migration period of native fish.

Works standard conditions

11. The consent holder shall take all practicable steps to minimise sedimentation and increased turbidity of the stream during the construction, implementation and maintenance of the works, including:

    a) completing all works in the minimum time practicable;

    b) limiting disturbance of the stream bed to that necessary for the extraction of gravel;

    c) avoiding placement of excavated material in the flowing channel;

    d) keeping works in the wetted channel to a minimum and machinery out of the wetted channel unless there is no other suitable alternative;

    e) undertaking works during times of low flow;

    f) constructing a gravel bund to separate the area of works from the flowing channel, where practicable, during the construction and maintenance of erosion protection structures; and

    g) minimising the number of vehicle crossings of the stream.

12. All excavated material shall be removed from the stream bed and floodway at the end of each working day and disposed of away from water bodies.

13. The consent holder shall take all practicable steps to re-establish habitat diversity (pools and riffles) in sections of the Waitohu Stream where works are undertaken.

14. The consent holder shall make a record of the number of pools and riffles within the area of works prior to works being undertaken, and the number established on completion of works.

    Note: This record is to be submitted to the Manager, Environmental Regulation, Wellington Regional Council, as part of the annual report detailed under condition 23 of this consent.

15. The consent holder shall ensure that the works are undertaken in a manner that does not impede fish passage and that fish passage is maintained at all times during and on completion of the construction works along the stretches of stream affected by the exercise of this consent.

16. The consent holder shall undertake routine inspections of grade control structures to ensure that fish passage is provided for.

Gravel extraction condition

17. From the date of commencement of consent until:

    a) 30 June 2009, up to 4500m³ of gravel shall be permitted to be extracted.

    b) From 1 July 2009, the annual extraction volume (1 July – 30 June) for up to a maximum period of five years shall be no more than the total projected gravel supply of the stream during that period, as estimated by bed level surveys provided for under Condition 25 of this consent.

18. From the date of commencement of consent until:

    a) 30 June 2009, the consent holder shall extract to approximate 1992 river bed levels (as shown in Figure 1 in Appendix 1 attached), between Taylors Road Bridge and the NIMT Railway Bridge.

    b) From 1 July 2009, the bed level between Taylors Road Bridge and the NIMT Railway Bridge will be determined by the results of bed level surveys provided for under condition 25 of this consent.

Impermeable erosion protection structures conditions

19. No more than the following length of the specified impermeable erosion protection structure may be constructed annually (1 July-30 June):

- concrete block linings or gabion baskets – 50 lineal metres;
- mass concrete slab linings – 80 lineal metres.

20. No more than two grade control structures may be constructed over the duration of the consent.

Cross-blading and stream re-alignment

21. No more than the following quantum of the specified cross-blading and stream re-alignment activities may be undertaken annually (1 July-30 June):

- bed recontouring – 200 metres;
- channel diversions – two in total.

Reporting

22. The volume of gravel, sand or other material extracted/excavated shall be measured to within an accuracy of 10% and recorded in a log kept for that purpose.

Note: This log is to be submitted to the Manager, Environmental Regulation, Wellington Regional Council, as part of the annual report detailed under condition 23 of this consent.

23. The consent holder shall produce an annual monitoring report to the Manager, Environmental Regulation, Wellington Regional Council, on or before the 1 September each year. Each report shall cover the year from 1 July to 30 June. The format of the report shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council and shall include:

a) The quantum of construction of all erosion protection structures, and cross-blading and stream re-alignment activities undertaken in the preceding year, as defined in Condition 19, 20 and 21 of this consent;

b) The volume of gravel, sand or other material extracted/excavated in the preceding year, in accordance with Conditions 17 and 18 of this consent;

c) A record of the number of pools and riffles, prior to and on completion of works, completed in accordance with Condition 14 of this consent.

24. The consent holder shall produce a quarterly report giving details of the work to be completed in the next quarter and shall forward the report to the Manager, Environmental Regulation, Wellington Regional Council at least one week prior to the start of that quarter. The format of the report shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council. The report shall include:

    a) details of the works that are to be undertaken;

    b) the location of the works that are to be undertaken;

    c) the approximate timing of the works that are to be undertaken.

25. From 1 July 2009 onwards, the consent holder shall undertake bed level surveys of the Waitohu Stream, at a minimum of once every five years, to provide the total extraction volume required annually to retain flood carrying capacities, for that period (being a maximum of five years) until the following bed level survey is undertaken, as provided for under Conditions 17 and 18 of this consent. A report detailing the results of the bed level survey shall be submitted to the Manager, Environmental Regulation, Wellington Regional Council within one month of the surveys completion.

    The first bed level survey of the Waitohu Stream, under this consent, shall be undertaken by 1 July 2009.

    Note: The intention of condition 25 is that the bed level target is the c1998 level [as recommended in the report Waitohu Stream Gravel Analysis (Greater Wellington, 2007)], for the entire extraction reach. The proposed five yearly survey will provide evidence to support both the volumes to be extracted and the extraction locations so as to maintain the 1998 bed levels through the entire extraction reach. The five yearly bed surveys will also provide another, more complete and up-to-date, baseline against which to define and measure the future target bed levels.

Machinery conditions

26. The consent holder shall take all practicable steps to ensure that machinery that has been used in another catchment is clean prior to entry into the stream bed to prevent the introduction of unwanted organisms, including, but not limited to:

    - cleaning shall be undertaken in an area where the wash water does not enter the river or any other waterways; and
    - undertaking a visual inspection to locate and remove weeds.

27. The consent holder shall prepare a Machinery Maintenance Manual for any machinery used to undertake works in the Waitohu Stream to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

The manual shall be implemented and forwarded to the Manager, Environmental Regulation, Wellington Regional Council within six months of the date of commencement of this consent.

The manual shall include:

- steps that will be undertaken to prevent the introduction of unwanted organisms in the Waitohu Stream.

All works shall be implemented in accordance with this manual.

Note: The consent holder may wish to consult with the Department of Conservation during the preparation of this manual.

28. There shall be no cleaning, storing or refuelling of machinery within 10 metres of any water body.

29. All machinery shall be well maintained at all times to prevent leakage of fuel, oil, hydraulic fluid or spill of other chemicals into the river. In the event of any such leakage or spill, such machinery shall be removed immediately from the margins of the stream.

30. All storage areas for fuels and lubricants shall be located at least 10 metres away from the river bed and must be bunded or contained in such a manner so as to prevent the discharge or spillages of such contaminants.

Post work conditions

31. The works shall remain the responsibility of the consent holder and shall be maintained to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council. This shall include the repair of any erosion of the bed and/or banks of the stream that is attributable to the works and completing any reshaping of the river bed channel should it be deemed necessary by the Manager, Environment Regulation, Wellington Regional Council.

32. All works affecting the river, including tidy up on completion of the works, shall be to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Review of conditions

33. The Environmental Regulation Department, Wellington Regional Council, may review any or all of the conditions of this consent by

giving notice of its intention to do so pursuant to Section 128 of the Resource Management Act 1991, at any time within six months of the first anniversary of the date of commencement of this consent, and subsequently within six months of each fifth anniversary thereafter, for any of the following purposes:

a) To deal with any adverse effects on the environment which may arise from the exercise of this consent, and which it is appropriate to deal with at a later stage;

b) To review the adequacy of the monitoring requirements so as to incorporate into the consent any modification that may become necessary to deal with any adverse effects on the environment arising from the exercise of this consent;

c) To alter the monitoring requirements in light of the results obtained from any previous monitoring; and

d) To enable consistency with relevant plan(s).

Conditions for water permit: WGN070242 [26053]

That, under sections 104, 104B and 108 of the Resource Management Act 1991, Wellington Regional Council Flood Protection Department, be granted the following water permit for a duration of 35 years:

Water permit [26053] to temporarily and permanently divert the flow of the Waitohu Stream in association with undertaking stream operations and maintenance activities, for a duration of 35 years, subject to the following consent conditions:

General conditions

1. The location, design, construction, implementation and operation of all works shall be carried out in accordance with the application and associated documents and plans, lodged with the Wellington Regional Council on 10 May 2007, and further amended plans received on 23 July 2007.

Notification

2. Except for emergency works, the Manager, Environmental Regulation, Wellington Regional Council, shall be given least 48 hours notice prior to commencement of operations or maintenance activities involving the diversion of the stream flow.

   Note: For the purposes of this consent the term “emergency works” is deemed to have the same meaning as section 330(1) of the Resource Management Act 1991.

Environmental conditions

3. All diversions shall be implemented in a manner that will provide for uninterrupted fish passage. Any fish entrapped during diversion shall be relocated upstream in clear water as soon as possible.

General conditions on completion of the diversion works

4. The diversions shall remain the responsibility of the permit holder and shall be maintained to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council. Any erosion of the stream bed or banks that is attributable to the diversion of the Waitohu Stream shall be repaired by the permit holder to the satisfaction of the Manager, Environmental Regulation, Wellington Regional Council.

Review of conditions

5. The Environmental Regulation Department, Wellington Regional Council, may review any or all of the conditions of this permit by giving notice of its intention to do so pursuant to Section 128 of the Resource Management Act 1991, at any time within six months of the anniversary of the date of commencement of this permit, for any of the following purposes:

    a) To deal with any adverse effects on the environment which may arise from the exercise of this permit, and which it is appropriate to deal with at a later stage; and

    b) To enable consistency with relevant plan(s).

Conditions for discharge permit: WGN070242 [26054]

That, under sections 104, 104B and 108 of the Resource Management Act 1991, Wellington Regional Council Flood Protection Department, be granted the following limited notified discharge permit for a duration of 35 years:

Discharge permit [26054] to temporarily discharge silt and natural stream sediments into the Waitohu Stream in association with undertaking stream operations and maintenance activities, for a duration of 35 years, subject to the following consent conditions:

General conditions

1. The location, design, construction, implementation and operation of all works shall be carried out in accordance with the application and associated documents and plans, lodged with the Wellington Regional Council on 10 May 2007, and further amended plans received on 23 July 2007.

2. The permit holder shall provide a copy of this permit, including any relevant site plans and attachments, to any contractors or operators undertaking works authorised by this permit, prior to the works commencing. The permit holder shall verbally brief the contractors or operators regarding the conditions of permit, prior to works commencing.

3. The permit holder shall ensure that a copy of this permit is kept on site at all times and presented to any Wellington Regional Council officer on request.

Complaints

4. The permit holder shall notify the Manager, Environmental Regulation, Wellington Regional Council in writing of any complaints received alleging adverse effects from or relating to the exercise of this permit, within 24 hours, or the next working day of being received by the permit holder. The permit holder must include the following details:

- name and address of the complainant;
- the date and time that the complaint was received;
- details of the alleged event;
- weather conditions at the time of the complaint; and
- any measures taken to mitigate/remedy the cause of the compliant.

Sedimentation

5. The discharge shall not cause any of the following effects in the Waitohu Stream after reasonable mixing:

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

Note: For the purpose of this permit, the mixing zone will be no greater than 200 metres downstream of the edge of the works area.

15. Reason for conditions

Adherence to the recommended conditions for the land use consent, water permit and discharge permit associated with the resource consent application WGN070242 should ensure that any adverse environmental effects associated with the activities and works involved in the proposed works will be avoided, remedied or mitigated.

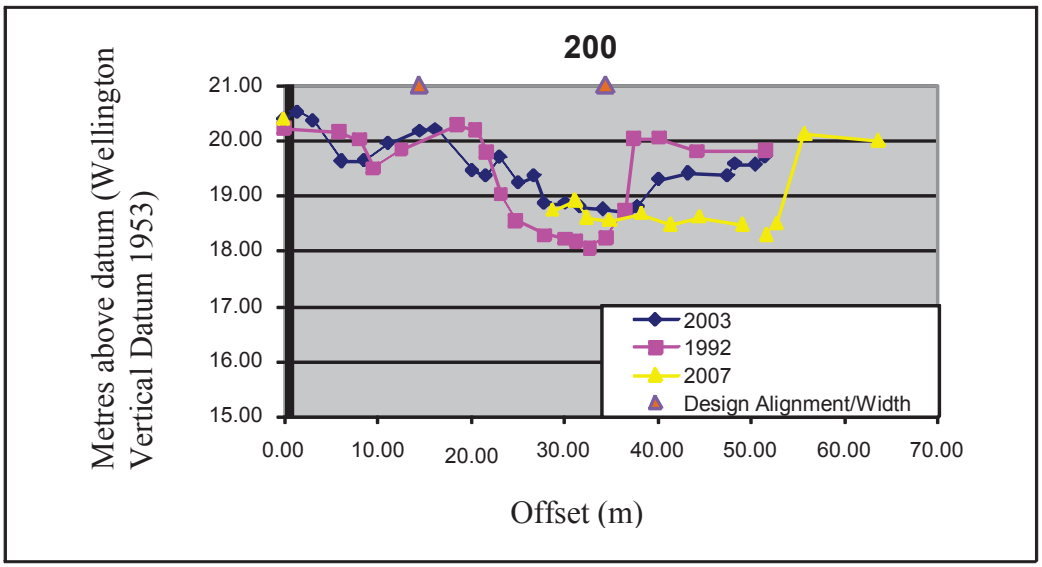
Report prepared by:

HUGH DIXON-PAVER
Senior Resource Advisor
Environmental Regulation

Recommendation approved by:

AL CROSS
Manager
Environmental Regulation

Appendix 1



Example of cross-section of Waitohu Stream showing levels for gravel extraction according to the bed profiles performed during surveys.