

DRAFT Tongariro River Annual Works Plan 2016-2017

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1 Introduction

Waikato Regional Council maintains and operates a flood protection scheme on the Tongariro River to protect the Turangi Community from flooding. The Council holds comprehensive Resource Consents for the maintenance of this flood protection scheme. As part of the consent conditions, an annual work plan for the maintenance of the scheme is required for consultation with affected parties. This document outlines the works proposed for the following year, and follows on from the 'Tongariro River Flood Control Scheme Management plan for floodway maintenance 2012' (Doc # 1972444). This document identifies current issues within the flood scheme and maintenance required for the 2016 -17 river works season.

2 Background

Waikato Regional Council has constructed a flood protection scheme on the Tongariro River within Turangi Township to protect people and property from flooding up to a 100-year flow event (1% Annual Exceedance Probability = 1% AEP) in agreement with the community. The standard of protection is provided by the formed floodway that includes stopbanks, river channel, river banks, berms and flood plain.

In 2011, Resource consents were granted to the Waikato Regional Council's Integrated Catchment Services directorate (ICM) for the management of the river floodway and flood protection scheme.

These consents are summarized as follows:

RC #	Activity authorised
121305	Erosion control/flood protection works: gravel extraction up to 150,000cum/year, erosion control works and vegetation removal, temporary diversion bunds and culvert crossings.
121306	Divert water and temporarily dam and divert water within the Tongariro River.

These consents require that a Proposed Annual Works Plan be prepared and distributed to;

- a) Department Conservation
- b) Tongariro and Lake Taupo Anglers Club Inc
- c) Advocates for the Tongariro River
- d) Taupo Fishery Advisory Committee
- e) Tuwharetoa Maori Trust Board
- f) Ngati Turangitukua
- g) Genesis Energy
- h) Waipapa and Tokaanu Maori Lands Trust.

3 Annual works programme

3.1 Works meeting

In accordance with consent conditions, a pre-works meeting will be scheduled with Works Supervisors, WRC staff, affected parties as listed in section 2, and contractors (if known). The purpose of this meeting is to advise interested parties of the works to be undertaken, the methodologies involved and any mitigation measures, and allow interested parties to raise any concerns with the scope of work so as they can be addressed before work plan is finalised.

With the disestablishment of the former Tongariro River management Forum, it is likely the annual works meeting is combined with a broader meeting to raise any additional concerns with the Tongariro River. This is seen as a good opportunity to get all of the relevant stakeholders together to have an informal discussion about any current or future issues.

3.2 Description and nature of works

Scheduled works during the 2016-2017 year primarily will involve maintenance of existing structures, vegetation control and gravel management through the flood scheme.

With the exception of possible gravel management works, there are no major construction works scheduled for the scheme at time of writing. Some minor stopbank maintenance will be undertaken. Willow and vegetation control will continue. Other work will potentially include gravel extraction.

Emergency works, such as after flood events, may be undertaken on occasion. In this case every effort will be taken to notify representatives from the parties listed in section 2 above.

3.3 Primary consideration of timing of works

The Tongariro River is a nationally significant Trout fishery. As such the timing of consented in stream works are limited to the months outside of May to October inclusive. This ensures work falls outside of the main trout spawning season.

The river is an internationally renowned trout fishing location. Although Trout fishing is popular all year, the least fishing activity on the river generally falls over the warmer summer months. For this reason most of the works will be scheduled for mid to late summer. This will also coincide with seasonal low river levels. Representatives from DOC will be consulted at various stages prior to the works commencing to ensure the best possible outcomes in the event of late spawning runs or other such natural events.

Other recreational activities on the river include whitewater rafting and kayaking. The works planned for this year will have no impact on these activities.

Ngati Turangitukua, as holders of mana whenua of the river and surrounding land, are consulted on all river works. Timing of the works will be discussed with their representatives to ensure the timing of the works are undertaken at appropriate times.

3.4 Monitoring and mitigation

All works will be carried out in accordance with the conditions of these consents. Monitoring and mitigation measures are outlined in the detailed work plan in section 5.

3.4.1 Best practice guidelines

All works will be carried out in accordance with Waikato Regional Council's Best Practice Environmental Guidelines – Vegetation Management & instream Works.

3.4.2 Other mitigation measures

3.4.2.1 Fishing and recreational access

Access to fishing and recreational activities will be retained wherever possible. Access will only be restricted to work sites during hours of operation, and only to the small area where work is being carried out to ensure public safety.

3.4.2.2 Hazardous substance spillages

All machinery will be refuelled, serviced and maintained in manner to ensure spillages of contaminants are prevented; and in a location that should a spill occur it will not enter a water way.

Spill prevention and response activities will be undertaken in accordance with the Waikato Regional Council's Oil Spill Contingency Guidelines – River and Catchment Services Operations.

Detailed spill prevention and response plans for each contract will be undertaken as part of the contract process. This plan will include lists of hazardous materials such as fuels, measures undertaken to prevent spills, work site map showing refuelling locations and fuel storage areas.

Any notifications to affected parties in a spill response plan will include Ngati Turangitukua Environment Committee and DOC.

3.4.2.3 Dust

It is expected that dust emissions from these works will be minimal. However, should dust become an issue which may result in an objectionable or offensive effect beyond the work site boundary, works shall cease until appropriate dust suppression measures are put in place. These measures may include the use of water carts or irrigation on the exposed areas; and slowing or minimising vehicle movement.

3.4.2.4 Riparian Native Planting

Condition 37 (e) of the consent relates to consulting on any proposed riparian planting. Riparian management throughout the scheme includes targeting pest plant species which threaten to invade and dominate in this environment. Native low growing species such as carex sp. and toi toi will be encouraged to establish throughout the scheme. These are largely self sown.

Previous native planting along stopbanks will continue to be maintained, with weed species (particularly broom and gorse) being controlled.

Ngati Turangitukua will be included in the planning of any future native revegetation programmes.

3.4.2.5 Cultural mitigation measures

Ngati Turangitukua will be consulted at all times before and during works to ensure works are not impacting on culturally sensitive sites. In any case where a sensitive site is identified, WRC staff will work with Turangitukua to ensure positive outcomes.

In addition, condition 38 of this consent requires works to cease immediately if any cultural site is identified and further action must be undertaken before any work will resume. These actions will be undertaken with the full engagement of Turangitukua representatives.

3.4.3 Consent compliance monitoring

A resource consent compliance monitoring regime has been developed in consultation with the Waikato Regional Council Resource Use Directorate (RUD). The councils Integrated Catchment Management (ICM) Environmental team will be implementing this process.

All relevant resource consent conditions will be monitored and assessed. A Compliance Audit Report will be drafted, and reviewed by RUD prior to approval. This report will identify any areas of non-compliance and identify any remedial actions undertaken to rectify this non-compliance.

A representative number of sites will be selected for monitoring, based on the scale, location and sensitivity of the proposed sites.

4 Assessment of river condition May 2016

The river channel position through the flood scheme has undergone many changes in the past and this can be expected to continue into the future. These changes will depend on the occurrence of future natural events such as floods, eruptions and major erosion events.

This assessment relates primarily to the flood scheme and lower river, rather than the entire catchment.

- a) Upstream of the SH1 Bridge in Turangi the bed has remained relatively stable over the last 12 months. Hydrologically, there has been limited activity in the river which would shift materials from this area. The channel has not altered to any significant degree through this area during this last year. The stopbanks and associated flood control assets have been inspected and should not require anything other than routine maintenance during this year.

Vegetation management on Taupehi Island has been effective and successful. Regrowth of pest willow has again been targeted and controlled. This management regime will continue into this works season.

Willow growth is becoming significant in parts of the river berms between stopbanks and river channel. Some sections have been targeted in the past work season, and it is planned to continue targeting willow along banks where required and appropriate.

The island above the SH1 Bridge has not altered significantly, however vegetation management is required across some of the gravel shoals, particularly small willows which continue to establish. Wilding pines are also evident. These have had an initial round of control, however follow up will be required in coming season.

Willow invasion continues in the river channel above the flood scheme. As the river has not seen a major flood event for a number of years, the willow and small wilding pines have been able to establish and is now quite dense in places. This will be monitored and potentially targeted, particularly areas that may be resulting in erosion of surrounded river banks or destabilising the river channel. Future projects targeting willow and wilding pines in this section of channel will be discussed among key stakeholders in the coming months.

- b) Downstream of Turangi the river has been relatively stable in the last year. WRC has continued to monitor changes witnessed in channel in recent years.

Large amounts of gravels and fine sediments continue to be transported through the Tongariro catchment and into the main channel. This is a naturally occurring and ongoing process.

At present, gravel and sediment is not posing an unacceptable threat to flood protection scheme, however there are areas where gravel extraction would be desirable from a long term maintenance perspective. This is highlighted in section 5.4. Gravel and sediment accumulation is constantly being assessed, and the situation could quickly change after a significant flood event.

After the willow extraction programme from 2012, the river has continued to pass a significant portion of its flow through a channel on the left above the Bain pool. This channel has significant willow stumps remaining, and as a result the angling

opportunities have been limited through this area. In the previous summer WRC has worked with stakeholders to undertake some minor works above the Bain pool, removing some debris in an attempt to get more water flowing towards the right and into Bain Pool area. Feedback for this was positive and it is hoped that these minor interventions can continue, working with our stakeholders to improve angling opportunities within the constraints of ensuring a stable river and flood scheme.

It is likely that future floods through the middle reaches below the bridge will alter the existing channels regardless of human intervention. As this happens, the river bed will be assessed to ensure flood scheme design specifications are being maintained.

- c) The Te Herekiekie St stopbank erosion protection structure maintenance works has now been completed. The structure had a 3 year maintenance programme to ensure its stability. The previous season's construction was the most difficult, with restricted access and steep face. This was completed with excellent results and the structure is now robust and able to withstand significant flood events.
- d) A willow regrowth control programme continues through the flood scheme. During the 2015/16 season we have a very good control rate with a lot of willow seedlings being targeted and controlled. Willow control is essential to ensure flood flows can pass through the system without being restricted. Desirable species such as carex (native grasses) continue to thrive on the stable shoals, and these are left to enhance and maintain ecological values. The programme of vegetation control will continue into the next works season.
- e) After the 2013 floods and resulting channel change at Delatours bend in 2013, WRC has continued to monitor this area. After engineering assessments, it was determined that any attempt to return the river to its previous course would likely be unsuccessful, owing to the channel shape in this location. The old channel has now started filling with fine sediments, and will continue to do so over successive flood events. The new channel continues to evolve.

This area is constantly changing through successive flood events, and WRC continues to monitor the banks and river channel in this area.

A build-up of gravel on the inside of a bend above Delatours had resulted in significant erosive pressure on the outside of the bend, threatening the stability of the river bank and channel. Some minor gravel removal works were undertaken in April 2016, resulting in a slightly wider channel and reducing erosive pressure during flood flows.

- f) A river stability issue has been developing over many years in the area of Deep Creek. This has been identified previously and is being monitored. The concern is that during a major flood the river could potentially break out through deep creek and follow a new path to the lake. An investigation has been undertaken as to what works could be undertaken to ensure the stability of the river through this area to ensure the river does not alter its course. This is discussed further in section 6.1.
- g) Erosion of river banks through the lower reaches continues to be observed, particularly after high flow events. This is a natural process in the soft, highly erodible sediments that the delta is composed of. This is likely to continue as the river stabilises over time. WRC continues to monitor the river and its banks.

- h) This work plan relates to the issues in the river that impact on the flood control scheme. The annual monitoring program identifies loss of floodway capacity and erosion that may place river assets at risk.

Assessment of the risk and the response in the first instance is managed by the Taupo Zone Works Supervisor in consultation with the Taupo Zone Manager. Waikato Regional Council's in house Technical team and engineers provide support and technical input.

5 Planned maintenance for 2016/17

5.1 Stopbank maintenance

The Tongariro Flood Scheme includes extensive stopbanks along its length. These stopbanks are regularly inspected for damage or irregularities.

In some places, minor maintenance is required. Generally, this is in the form of topping up of the capping material where the surface has been worn down through foot traffic, or where vegetation or animals have exposed parts of the stopbank.

Where a section of stopbank being maintained runs along a track or path, every effort will be made to provide alternative access to enable the track to remain open during the works.

As the works are relatively minor, we do not expect this to cause any significant disruption. Furthermore, the work will be timed outside of the busiest season (school holidays) if possible.

Tongariro River, Turangi. General Stopbank Maintenance.**Various locations between Map Ref NZMS260 T19:535:409 and T19:542:425**

Nature of works	<ul style="list-style-type: none">• Maintenance of small discrete sections of stopbank, primarily consisting of topping up of capping material along walking path.
Scale, timing & duration	<ul style="list-style-type: none">• Discrete sections, generally of 5-10m each.• Scheduled Late January- Late March 2017• 1 week to complete• Utilising small machines and hand operated equipment
Receiving environment	<ul style="list-style-type: none">• Generally along walking tracks on top of stopbanks.• Residential and recreational land use surrounding.• No recorded archaeological sites.
Significant species/habitat	<ul style="list-style-type: none">• Established native vegetation will be preserved. Weed species will probably be removed if possible.
Mitigation measures	<ul style="list-style-type: none">• Time works during periods of less tourist activity (outside school holidays).• Minimise restriction of track access.• Use appropriate erosion and sediment control where required.• Follow ICM Best Practice Guidelines.• Culturally significant site assessment with NTEC
RC Condition assessment	<ul style="list-style-type: none">• c.7- Site notices to be erected 5 days prior to works• c.8- Public access will not be unduly restricted.• c.11- Limited hours of operation (Mon-Sat, 8am-6pm max)• c.14- Machinery will be cleaned prior to entering work site.• c.17- Machinery operated in accordance with best practice.• c.18-20- Spill prevention plan to be identified and addressed.• c.22-28, 29-30- Best practice for sediment will be applied.• c.36- Dust emissions to be monitored and managed.• c.37-39- Notification and work plan to be circulated.



Figure 1 General location of stopbank works

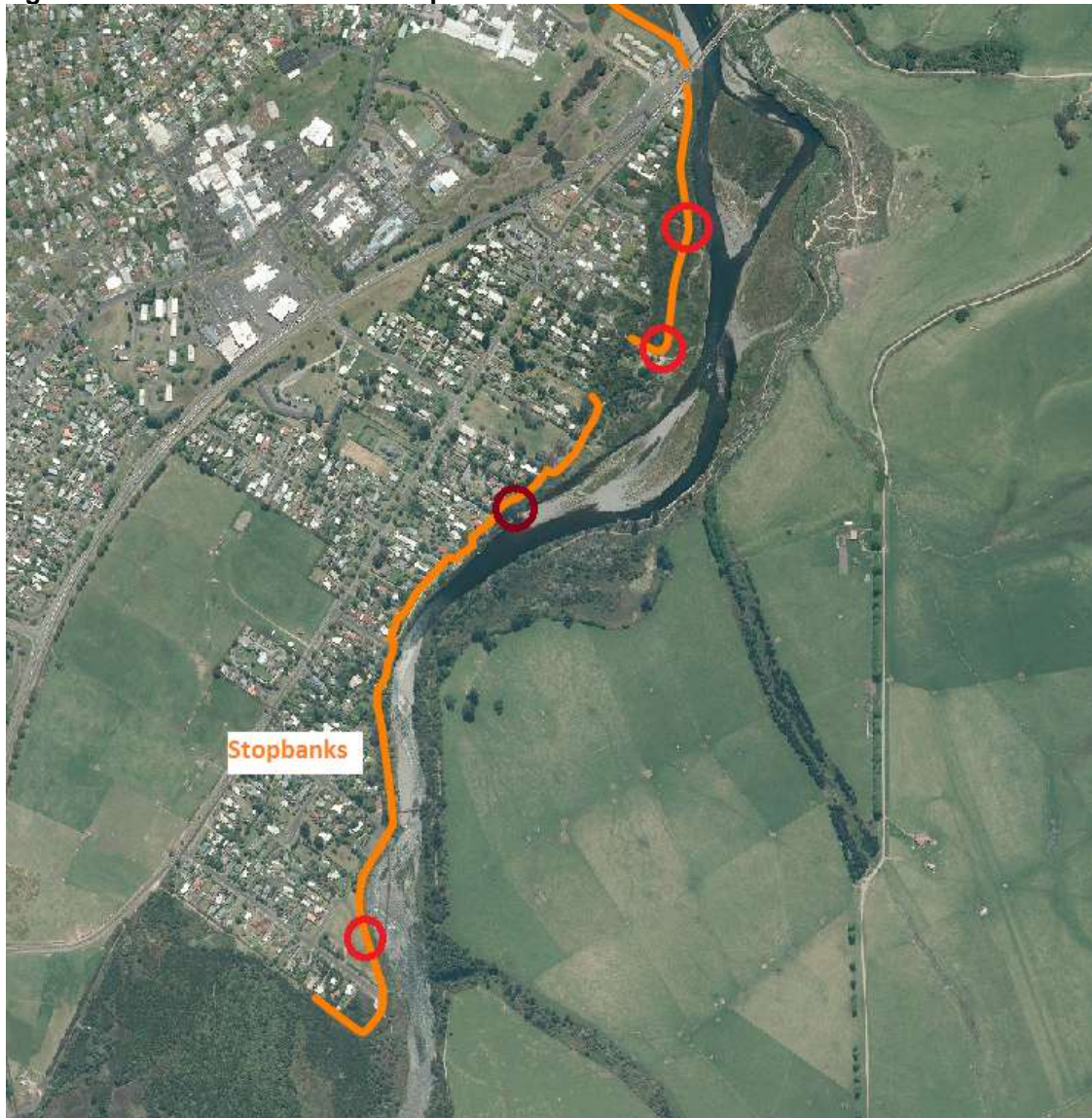


Figure 2 Approximate locations of stopbank maintenance

5.2 Tongariro River vegetation management

Vegetation control throughout the flood scheme is to continue in the 2016/17 works season.

Low growing vegetation or grass varieties are the preferred species for ground cover within the floodway. This vegetation cover requires continued management to control and eliminate woody weed species such as willow, pine and broom. These denser plant varieties can threaten a flood scheme as they can restrict flood flows or block channels.

As stipulated by permitted activity rules, notification for the spray works will be via advertisements placed in local papers advising of the spray programme for Tongariro for the 2016/17 season. In addition, appropriate signage will be in place in the days leading up to spray programme as well as while the spraying is being undertaken. Affected landowners will be directly notified of the program and timing. This includes Tuwharetoa Maori Trust Board, DOC and Ngati Turangitukua through their environment committee.

Chemicals used for each spray programme will be assessed to be appropriate for the site and purpose. All spraying will be undertaken by contractors with Registered Chemical Applicators accreditation.

The maps below provide a general overview of where plant pest control will be focused. Other areas may be targeted as and when they are identified. As this type of vegetation control through the flood scheme is ongoing each summer, the aim will be to target as much of the weed growth through the highlighted areas as possible within the constraints of time, weather and budgets.

It is hoped the control programme will be extended beyond the flood scheme itself. Areas of focus are likely to be the various river mouths in the delta, and the areas in the vicinity of the Stag and Admirals pool. This is to be confirmed after consultation with the relevant stakeholders and assessments of budgets and time.



Figure 3 Vegetation management through lower flood scheme

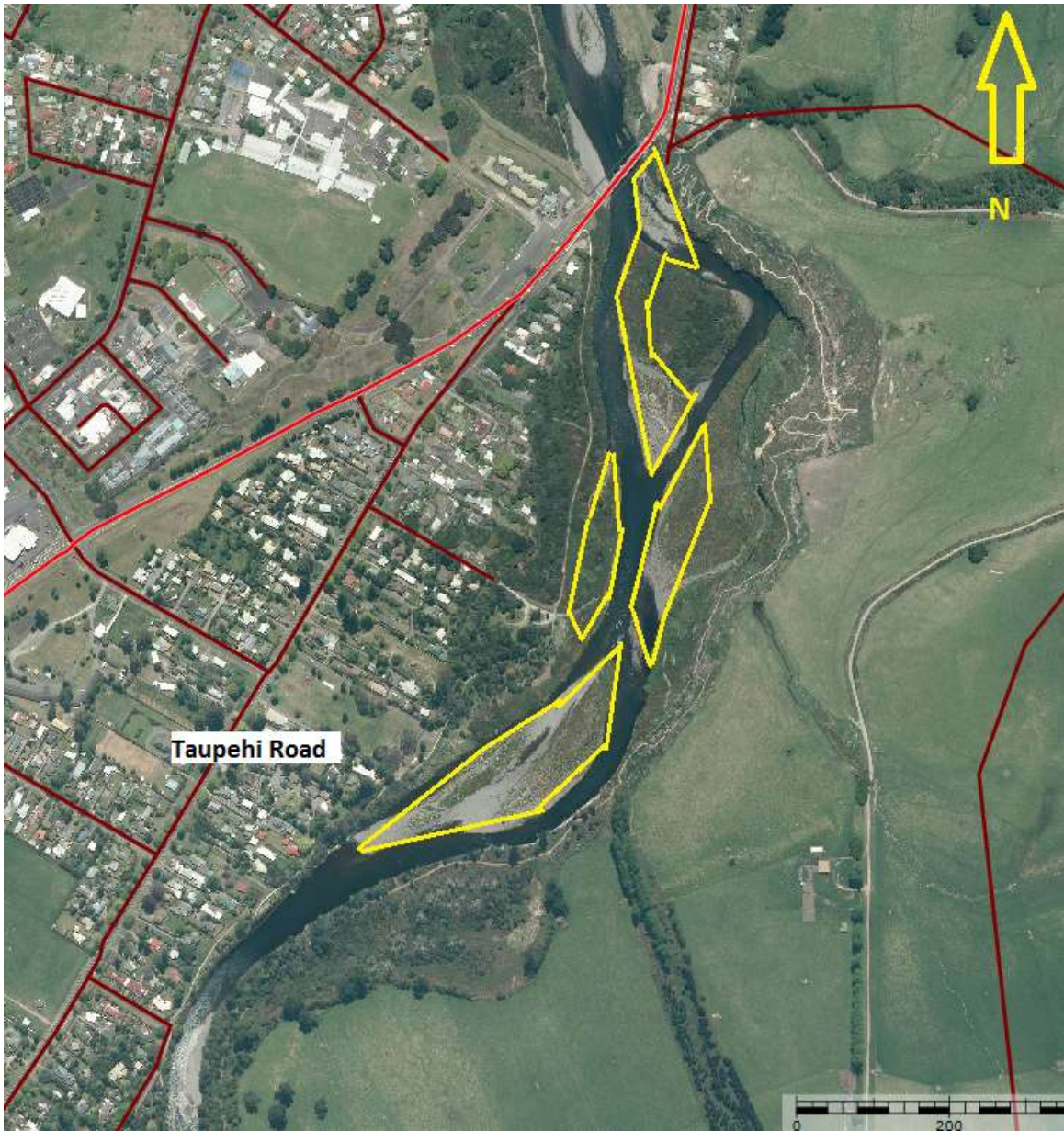


Figure 4 Vegetation management through centre of flood scheme

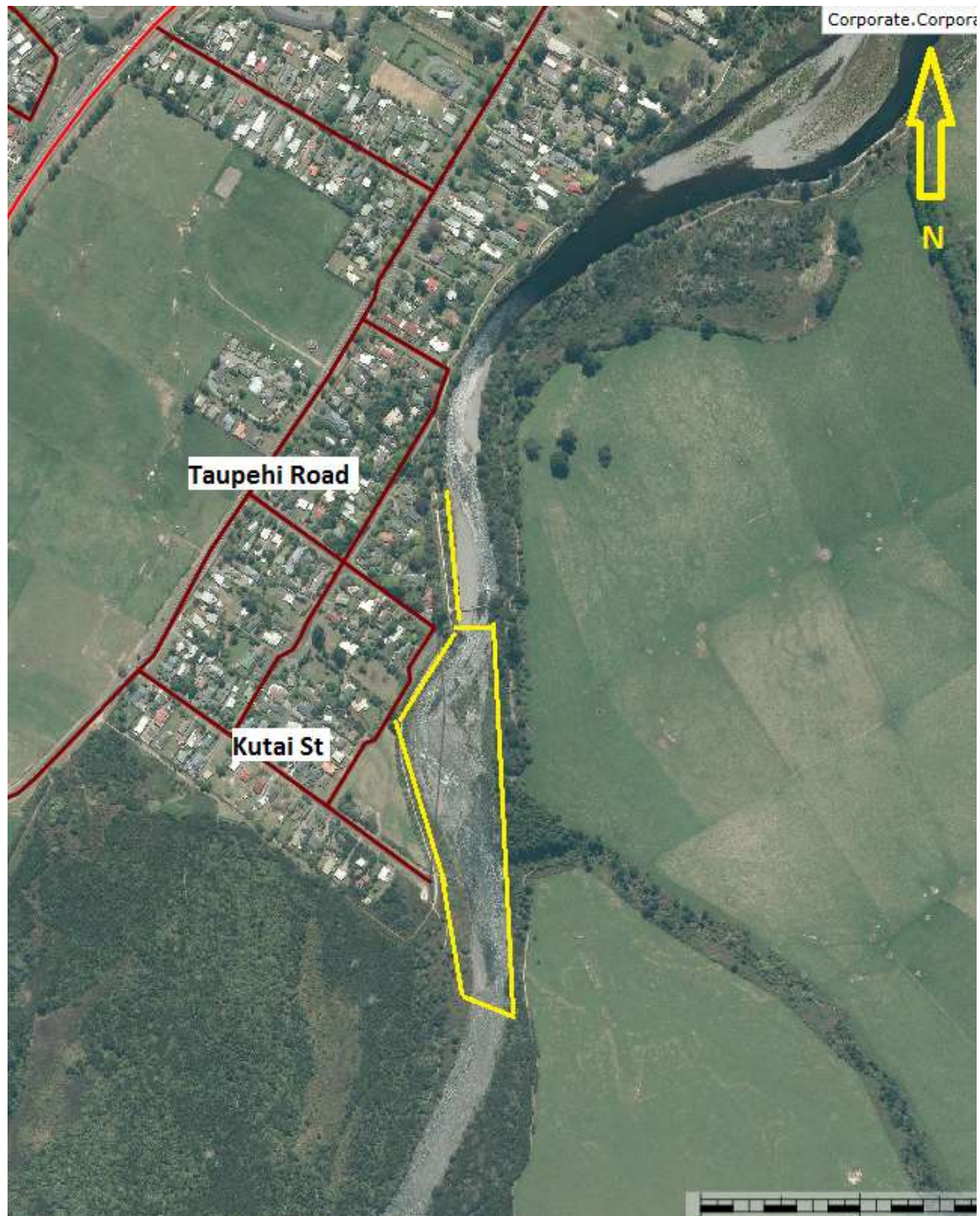


Figure 5 Vegetation management through upper flood scheme

5.3 Wilding pines

The Advocates of the Tongariro River and DoC have highlighted the wilding pines in the river channel as a significant issue. The Advocates have in previous years received funding for wilding pine control; and have contracted out some of the works to have some of the pines poisoned. WRC have concerns around wilding pine, particularly any trees which could pose a threat to the flood scheme lower down the river.

WRC will be targeting any wilding pine appearing within the flood control scheme. These will be poisoned or felled.

It is hoped that WRC will be able to work with other agencies and stakeholders and assist with wilding pine removal outside of the flood scheme also.

5.4 Gravel management

To promote an effective floodway, gravel occasionally needs to be moved within or from the bed of the channel. The objective is to provide a stable and free flowing watercourse to ensure flood flows can pass through the system without obstruction, thereby reducing the risk of flood flows overtopping existing stopbanks. Gravel management is also an effective tool for reducing erosion, where gravel build-ups result in erosive pressure to opposite banks.

At the time of writing, gravel extraction areas have not been confirmed. Investigations and surveys are to be undertaken in the coming months to establish if and where gravel management should occur. Discussion amongst key stakeholders is required, in order to confirm outcomes. Any future gravel extraction will be undertaken in collaboration or with the support from Ngati Turangitukua.

The areas in the map figure 10 highlights areas where it is expected gravel management could be required.

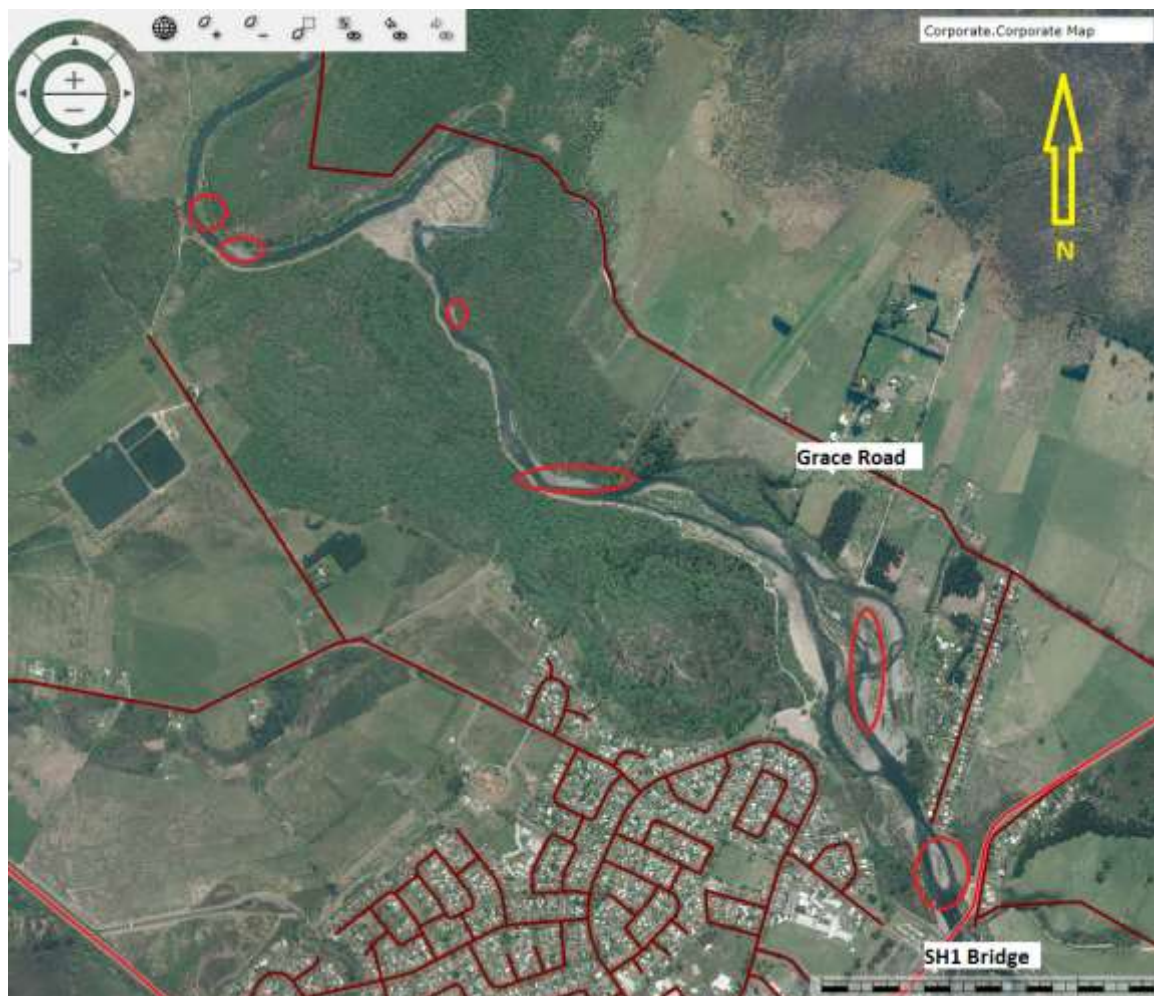


Figure 6 Areas of potential gravel management

5.5 Improved angler opportunities

After recent discussions with DoC fishery staff and various angler interests, WRC could assist with improving angler opportunity in the braids area. In some cases, if WRC has suitable machines in the area, it could attempt to remove small amounts of debris or gravels from the river channel in this area. This will be done under DoC supervision in an attempt to get best bang for buck as far as angler opportunity is concerned.

This will be confirmed over the coming months and after discussions with interested parties. At time of writing it is too early to confirm locations for this type of work, and may change due to floods.

6 Other river issues not within flood scheme

6.1 Potential flood avulsion through Deep Creek

The Tongariro River main channel has undergone many changes in its history. The mouth where it enters Lake Taupo has relocated many times in the past, swinging through various sections of Southern Lake Taupo. This is a natural pattern of river geomorphology, and occurs primarily over successive flood events.

At present a headward eroding arm continues to form from Lake Taupo and is heading towards the main river. This arm is known as Deep Creek. This has been forming for many years, and its slow creep upstream continues today.

There is a possibility that the river could break out through this arm during a significant flood event. This would likely form into a permanent channel and would change the river landscape significantly.

WRC has commissioned an investigation into possible methods for keeping the river stable in this area. This report has been provided to stakeholders in order to seek feedback on what the community would like to see.

Discussions around this issue are ongoing.



Figure 7 Location of Deep Creek

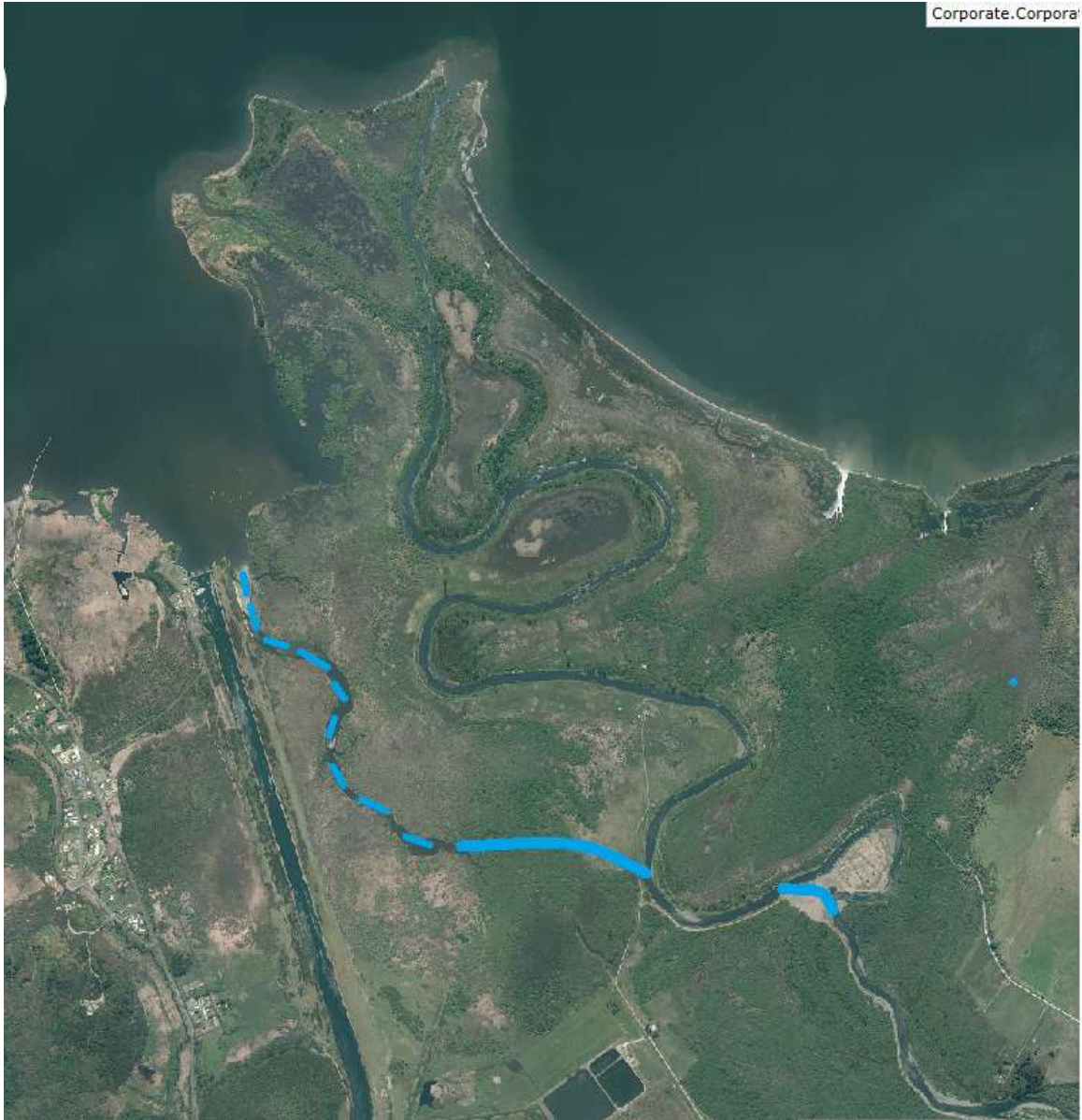


Figure 8 Potential future channel through Deep Creek

7 Other items not maintenance related

7.1 Tongariro River Flood Scheme Review

As part of the Lake Taupo Zone Asset Management Plan, the Tongariro Flood Protection Scheme is to be reviewed every five years. The purpose of the review is to confirm that the scheme is able to provide the level of service requested by the community.

The scheme review looks at all new available data, and includes cross section surveys, stopbank surveys, hydrology review and updating the scheme flood model.

The scheme review is aimed to be completed by March 2017 and included at the March 2017 Lake Taupo Subcommittee meeting.

Appendix 1 Resource consent conditions

General conditions for Resource consent numbers 121305 and 121306

1. The activities authorised by this consent shall be undertaken in general accordance with the documents titled “*Land Use & Water Resource Consent Application and Assessment of Environmental Effects for the Tongariro River Gravel Management - Revised October 2010*”, Sherie McHardy, Taupo Planning Consultant & Design Services except as otherwise identified in the following resource consent conditions.
2. A copy of this resource consent shall be kept onsite at all times that physical works authorised by this consent are being undertaken, and shall be produced without unreasonable delay upon request from a servant or agent of the Waikato Regional Council.
3. The Consent Holder shall notify the Waikato Regional Council in writing of the commencement of activities authorised by this consent, at least 5 days prior to discrete sections of work authorised by this consent commencing.
4. The Consent Holder shall appoint a representative(s) prior to the exercise of this resource consent, who shall be the Waikato Regional Council’s principal contact person(s) in regard to matters relating to this resource consent. The Consent Holder shall inform the Waikato Regional Council of the representative’s name and how they can be contacted at least 1 working day prior to the commencement of the works authorised by this resource consent. Should the representative(s) change during the term of this resource consent, the Consent Holder shall immediately inform the Waikato Regional Council and shall also give written notice to the Waikato Regional Council of the new representative’s name and contact details.
5. The Consent Holder shall arrange and conduct a pre-works site meeting each year that works are proposed and invite, with a minimum of 10 working days notice, the parties listed in condition 38, the Waikato Regional Council Resource Use Group, the site representative(s) appointed under condition 4 of this consent, the contractor if known, and any other party representing the consent holder, prior to commencing the consultative phase of each Proposed Annual Works Programme detailed in condition 37 below.

Advice Note: *In the case that any of the invited parties, other than the site representative does not attend this meeting, the consent holder will have complied with this condition, provided the invitation requirement is met.*

6. The Consent Holder shall be responsible for all contracted operations related to the exercise of this resource consent, and shall ensure contractors are made aware of the conditions of this resource consent relevant to their work area, and comply with those conditions.

Notices

7. The Consent Holder shall erect and maintain notices upstream and downstream of each section of the works not less than 5 working days prior to the commencement of the works. These notices shall provide appropriate warning of:

- a) the proposed works;
- b) any relevant safety advice;
- c) the period over which these works will be occurring.

Access to Tongariro River

8. The Consent Holder shall, in respect of the works authorised by this resource consent, maintain any existing public access at any location where works authorised by this consent are carried out except where the public are required to be excluded for safety purposes. In the latter situation, every effort must be made to ensure that through or by-pass access to up or down river locations is either available or provided.

Timing of works

9. Works authorised by this consent shall not be undertaken in the wet river channel during the months May to October inclusive each year, except where:
 - a) flood flows have resulted in stopbank freeboard loss and the remaining freeboard in the reach upstream of the bridge being less than 150mm and/or the remaining freeboard in the reach downstream of the bridge being less than 400mm; or,
 - b) there is a reduction in a cross sectional area which is more than the product of 0.30 times the design width at the design flood level, or
 - c) erosion control works to maintain the integrity of the Tongariro River Flood Control Scheme are required.
10. The Consent Holder shall provide survey information to the Waikato Regional Council confirming the trigger levels set in 9a or 9b above have been met prior to undertaking works provided by condition 9.
11. Works may be undertaken up to a maximum of 10 hours per day during the period 8am to 6pm; and, up to six days per week Monday to Saturday. No works shall be undertaken on a Sunday or a Public Holiday.
12. The Department of Conservation shall be notified prior to any works occurring during the months of May to October.
13. The Consent Holder shall check daily and weekly weather forecasts. In the event of a rain forecast which could result in flood flows which may, in conjunction with undertaking the works authorised by this consent, adversely affect the Tongariro River environment, the works shall be postponed, or be suspended if already commenced, and all machinery shall be removed from the river bed and flood plain until the identified flood risk has passed.

Machinery maintenance and hazardous substances spill prevention and response plan

14. The Consent Holder shall ensure that all machinery used in the exercising of this consent is cleaned prior to being transported to the construction site to ensure that all seed and/or plant matter has been removed.
15. All machinery, including bulldozers, loaders, diggers and trucks, shall be operated in a manner so as to minimise time spent in flowing water.
16. No river-bed material extraction shall be undertaken in flowing water.
17. The Consent Holder shall ensure that all machinery shall be maintained and operated in a manner which ensures that spillages of fuel, oil and similar

contaminants are prevented. Particular care shall be taken during refuelling and machinery servicing and maintenance. Such activities shall be carried out away from any water body and in such a manner that any spillage can be contained so it does not enter the Tongariro River.

18. The Consent Holder shall provide the Waikato Regional Council with a “Spill Prevention and Response Plan” at least 20 working days prior to the commencement of activities authorised by this consent. This Plan shall be submitted to the Waikato Regional Council for their written approval, acting in a technical certification capacity. The aim of the Plan shall be to minimise the possibility of contamination of water. This Plan shall address, but not necessarily be limited to, the following matters:
- a) a list of the hazardous materials and their quantities kept on site and their storage details;
 - b) the prevention measures that will be undertaken on site in order to avoid a spill of hazardous materials;
 - c) the equipment available to contain and/or remove spills of hazardous materials;
 - d) specific procedures and measures that will be undertaken when machinery is operating within close proximity to water bodies that are designed to minimise the risk of any spillages or significant leakages of hazardous materials entering the water body;
 - e) the training staff will receive in the use of hazardous materials spill prevention, containment and clean up measures and associated equipment;
 - f) how the disposal of any contaminated materials arising from spills or leakages of hazardous materials will be undertaken; and,
 - g) the procedures involved in reporting of any such incidents to the Waikato Regional Council.
19. The Consent Holder shall in exercising this consent comply with the approved “Spill Prevention and Response Plan”. Any subsequent changes to the “Spill Prevention and Response Plan” shall only be made with the prior written approval of the Waikato Regional Council, acting in a technical certification capacity.
20. The Consent Holder shall notify the Waikato Regional Council and the Department of Conservation as soon as is practicable, and as a minimum requirement within 12 hours, of the Consent Holder becoming aware of a spill of hazardous materials, fuel, oil, hydraulic fluid or other similar contaminants. The Consent Holder shall, within 7 days of the incident occurring, provide a written report to the Waikato Regional Council, identifying the following:
- a) the possible causes;
 - b) steps undertaken to remedy the effects of the incident; and,
 - c) any additional measures that will be undertaken to avoid future spills.

Responsibility for erosion control works

21. The Consent Holder shall be responsible for the provision and maintenance of any erosion control works that may be necessary as a result of the exercise of this resource consent.

Sediment control and debris removal

22. The Consent Holder shall ensure that sediment losses to natural water arising from the exercise of this resource consent are minimised for the duration of the works and during the term of this consent.

23. Stormwater runoff from the river-bed material extraction area access road shall be controlled to such an extent that it is discharged into the ground and not discharged directly into the Tongariro River.
24. River-bed material shall only be removed below the adjacent River water level when the excavation site is bunded from direct surface connection with the River.
25. Excavations below water level shall be backfilled to a level not deeper than 1m below the adjacent river channel water level using river bed material from within the site. Inlet and outlet channels shall be provided to a depth similar to that of the completed backfilled area to maximise continuous river flows through the site. A minimum buffer of 10m from the undisturbed river channels shall be left intact.
26. Debris collected during river-bed material extraction shall be removed from the river bed and the floodplain of the river.
27. Should the works authorised by this consent cause a conspicuous change in the visual clarity of the river after a mixing distance of 100 metres downstream from the activity, then the consent holder or its delegate shall measure the concentration of suspended solids in the river at this location and upstream from the activity and provide those measurements to the Waikato Regional Council within 10 working days.
28. The activities authorised by this consent shall not result in any of the following standards in the Tongariro River being breached after reasonable mixing and at a point 100m downstream of the works:
 - a) black disc horizontal visibility less than 1.6 metres;
 - b) a conspicuous change in the visual clarity of the river;
 - c) An increase in the concentration of suspended solids above 25g/m³ after a mixing distance of 100 metres downstream from the activity except when the concentration of suspended solids in the Tongariro River above the work site is greater than 25g/m³. Then there shall not be any increase in the Tongariro River suspended solids concentration as a result of the activity.

Flow diversion and re-contouring

29. The Consent Holder shall, immediately after the construction of each temporary diversion bund either maintain fish passage past the bund or, in conjunction with the Department of Conservation, salvage any fish stranded in pools in the diverted section of river channel and return them to the main channel of the Tongariro River.
30. Except as provided for by conditions 24-25, on completion of river-bed material extraction at any one location, the Consent Holder shall re-contour the surface of the extraction area back to its original form, to the satisfaction of an officer of the Waikato Regional Council's Resource Use Group.

Erosion control structures

31. Structures and floodways in the immediate vicinity of structures shall be maintained clear of debris.
32. Structures shall not decrease the cross sectional area of the river.
33. All construction materials and equipment shall be removed from the river upon completion of the activity.

34. Where the weight of the structure is insufficient to keep it in place it shall be permanently anchored to the bed of the river.

35. All structures shall be maintained in a structurally sound condition at all times.

Dust emissions

36. All activities undertaken on site shall be conducted and managed in a manner that ensures that all dust emissions are kept to a practicable minimum. To this end there shall be no discharge of dust as a result of the activities authorised by this consent that causes an objectionable or offensive effect beyond the boundary of the property on which works are authorised by this consent.

Proposed annual works programme

37. The Consent Holder shall prepare a Proposed Annual Works Programme including (but not limited to) the following:

- a) details of scheduled works and maintenance requirements authorised by this consent that are to be carried out for the 12 months commencing 1 November including a description of the nature, scale and location of the works; and
- b) the proposed timing of the works; and
- c) any contingency procedures that may be required for specific activities; and
- d) any specific mitigation measures that will be undertaken; and
- e) riparian planting proposed using eco-sourced indigenous plants;

Any changes to the Proposed Annual Works Programme (with the exception of works required to be undertaken without delay, for example, unscheduled works in response to flood events) shall be advised in writing by the Consent Holder to the Waikato Regional Council within 10 working days of the work commencing.

38. The Consent Holder shall distribute the Proposed Annual Works Programme required by condition 37, to the following parties on or before 30 June each year requesting comment(s) on the proposed works (if any) to be provided in writing within 20 working days of receipt:

- a) Department of Conservation;
- b) Tongariro and Lake Taupo Anglers Club Inc.;
- c) Advocates for the Tongariro River;
- d) Taupo Fishery Advisory Committee via DOC;
- e) Tuwharetoa Maori Trust Board; and
- f) Ngati Turangitukua,
- g) Genesis Energy; and,
- h) Waipapa and Tokaanu Maori Lands Trust.

Comments received by the Consent Holder from the above parties regarding the proposed works shall be copied to the Waikato Regional Council.

Any changes to the Proposed Annual Works Programme (with the exception of works required to be undertaken without delay, for example, unscheduled works in response to flood events) shall be advised in writing to the groups listed in this condition.

39. The Consent Holder shall address any comments from the parties listed in condition 38, and upon completion of any related changes to the Proposed Annual Works Programme, advise these parties in writing of any changes. The Consent Holder shall submit the Proposed Annual Works Programme to the Waikato Regional Council prior to 1 October annually. The Consent Holder shall not commence these works until the Proposed Annual Works Programme has been approved by the Waikato Regional Council acting in a technical certification capacity.

Tangata whenua values

38. In the event that any archaeological remains are discovered, the works shall cease immediately in the vicinity of the discovery, and Tangata Whenua, the Historic Places Trust and the Waikato Regional Council shall be notified as soon as practicable and within 48 hours of a discovery. Works may recommence with the written approval of the Waikato Regional Council. Such approval shall only be given after the Waikato Regional Council has considered:

- a) Tangata Whenua interests and values,
- b) the Consent Holder's interests,
- c) Historic Places Trust advice, and
- d) any archaeological or scientific evidence.

Review

39. During the April to June period each year for the term of this consent Waikato Regional Council Resource Use Group may, following service of notice on the Consent Holder, commence a review of this consent under section 128(1) of the Resource Management Act 1991, for the following purposes:

- a) To review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the exercise of this resource consent and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; or
- b) To review the adequacy of and the necessity for monitoring undertaken by the Consent Holder and specifically to review the method and frequency of record collection for the purposes of determining the most appropriate method and frequency; or
- c) If necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the environment.

Administration

40. The Consent Holder shall pay to the Waikato Regional Council any administrative charge fixed in accordance with section 36 of the Resource Management Act 1991, or any charge prescribed in accordance with regulations made under section 360 of the Resource Management Act.