

Tauranga Taupo River Flood Protection Scheme

Annual Works Programme 2020/2021

Resource Consents 125772 and 125773

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1. Annual Works Programme

1.1 Introduction

Waikato Regional Council maintains a flood protection scheme on the Tauranga Taupo River. This scheme is designed to protect the communities of Te Rangīta and Oruatua from flooding up to a 1 in 50 year event. Continued monitoring and maintenance of assets, floodway and main channels is required to ensure the scheme operates to design standards.

1.2 Consents and Consultation

In 2013, Comprehensive resource consents were granted to the Waikato Regional Council's Integrated Catchment Management Directorate (ICM) for the management of the river floodway and flood protection scheme.

RC #	Activity authorised
125773	Divert water temporarily or permanently associated with erosion control/flood protection works
125772	Erosion control/flood protection works: extraction of up to 20,000 cubic metres per year of river bed material including debris, erosion control works and vegetation and obstructions removal.

Consent conditions require the distribution of a proposed Annual Works Programme (AWP) to allow consultation and input from the following parties,

- Department of Conservation;
- Taupo District Council;
- Tauranga-Taupo River Association;
- Tongariro and Lake Taupo Anglers Club;
- New Zealand Forest Managers;
- Lake Taupo Forest Trust;
- Te Kanawa Pitiroi (Trustee representative) and,
- Resource Use Directorate (RUD)-Waikato Regional Council (WRC).

The purpose of this AWP is to:

- Highlight works,
- Outline how they will be managed in accordance with best practice and within the conditions of the consent,
- Allow parties to consider whether the proposed works will impact on sites of importance and/or species of significance, and
- Encourage discussions around appropriate solutions to concerns.

1.3 Scheme Overview

The Tauranga Taupo flood protection scheme is comprised of:

- **Flood protection assets:** The management focus is to maintain structural integrity and design freeboard height.
- **River channel and floodway:** The management focus is to maintain channel stability, flood scheme capacity and river health.

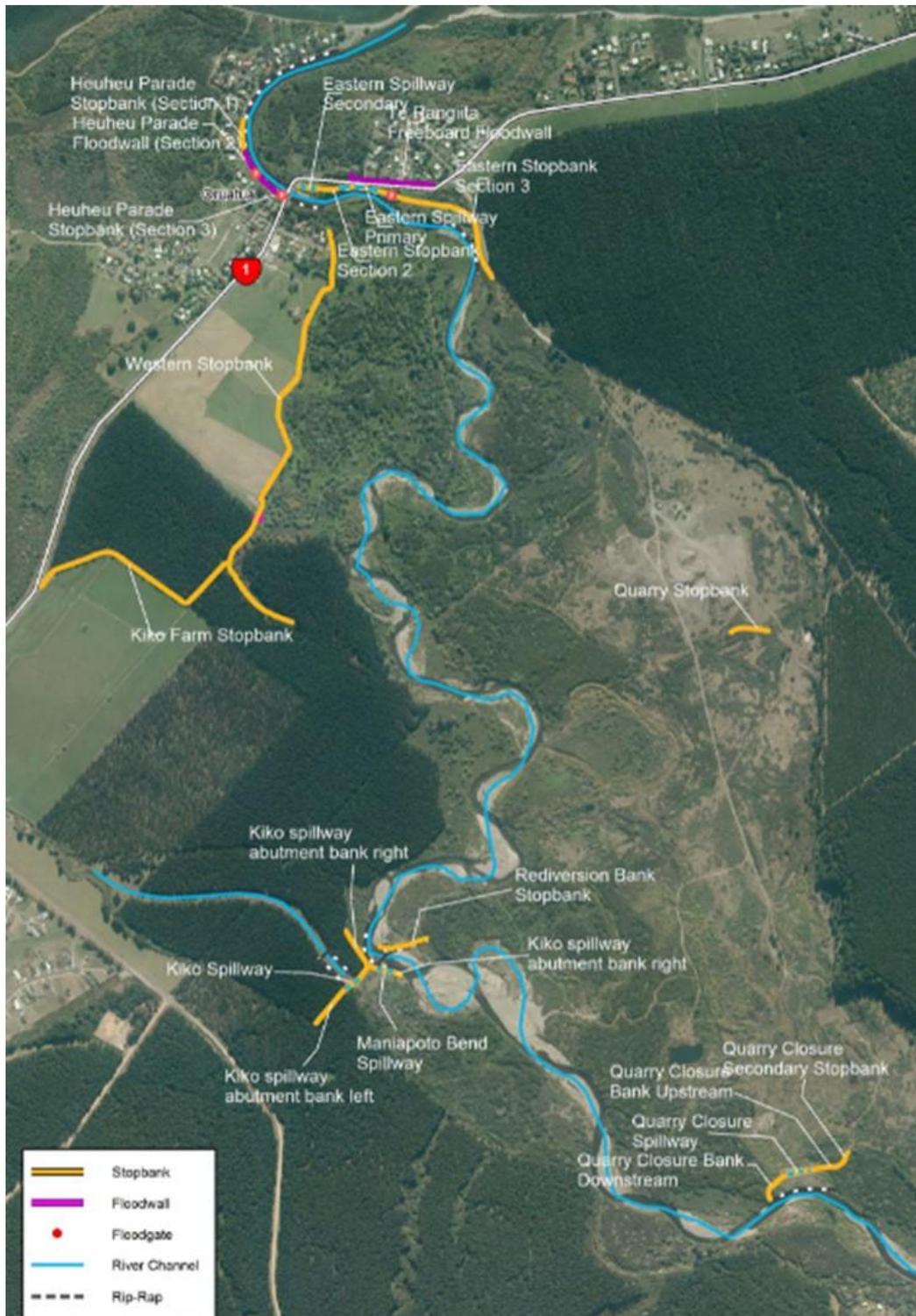


Figure 1: Tauranga-Taupo Scheme Overview.

2. Scheme Assessment

The inspections and assessment that informs this works programme were undertaken by the Taupo Zone River Management Officer, the Taupo Zone Manager and ICM's Principal Technical Advisor - Ghassan Basheer.

Scheme Rock Walls:

- Woody vegetation growing in rock walls are a threat to the assets structural integrity. Woody Vegetation needs to be annually removed.

Western Stop Bank:

- Requires a 200mm top up along the 400-500m farm reach to return to design height.

Eastern Stop bank

- Mature vegetation growing on the river side is a threat to the structure and needs to be removed from the floodway. Invasive vegetation growing on the roadside needs to be cleared to improve the ability to inspect the asset.

Kiko Spillway Area

- Modelling suggests recent maintenance works have allowed the spillway to function as designed. However, this river reach is dynamic and can change after high flow events. Gravel management and asset maintenance may be required to ensure the scheme functions as designed.

Kiko Culverts to lake

- Requires continued willow management to ensure drainage capacity. Other invasive vegetation along the edge needs to be mulched to improve access for future maintenance and condition inspections.

River Channel and Floodway

- Invasive woody vegetation management has proven successful over the last two works seasons. Continued vegetation management of gravel point bars and islands is required to increase channel capacity and reduce the risk of channel breakthroughs.

Assets not addressed in this section have been inspected and are deemed to be in good condition.

3. Proposed Works

Proposed works include the recommendations outlines in section 2.

Potential breakthrough sites that threaten assets will be strengthened by supportive plantings.

In-stream blockages can become a significant erosion risk and threat to channel stability. At times in-stream debris may need to be removed or thinned to reduce this risk.

Routine asset maintenance and repair to existing structures will be completed as required.

Part of the routine asset maintenance is to control unwanted vegetation. Ideally, rock walls are free of vegetation and stop banks are maintained to only have a cover of low growing grass. In

cases where stop banks are not grazed, maintenance will require chemical and manual control of woody plant species.

Invasive woody vegetation (Crack and Grey Willow, Buddleia, Lupin, Broom, Wildling Pine, Poplars) continue to establish along the river margins, assets and within the river channel itself. A collaborative multi agency strategy will be sought to target these species. Particular focus will be placed on any target plant that is contributing to erosion and threatens the structural integrity of an asset.

4. Environmental Management

The following mitigation methods will be applied at each work site. Applicable consent conditions referenced in brackets

- Site notices will be erected five days prior to works (c 7)
- Public access will not be unduly restricted (c 8)
- Hours of operation are restricted to Mon-Sat, 8am-6pm max. (c 11)
- Machinery will be cleaned prior to entering work sites (c 14)
- Machinery will be operated in accordance with best environmental practice (c 17)
- A spill prevention plan will be identified and addressed (c 18-20)
- Best practice for sediment control will be applied (c 22-30)
- Notification and work plans will be circulated (c 37-39)

Other mitigation strategies include:

- Threatened species and archaeological remains discovery processes will be discussed before each job site commences work.
- Mitigation and enhancement measures for fish habitat will be discussed and implemented where possible.

4.1 Primary Consideration of Timing of Works

The Tauranga Taupo River hosts a range of indigenous fish species and is a nationally significant Trout fishery. The timing of in-stream works are limited to the months outside of May to October inclusive. This ensures work falls outside of the main trout and indigenous fish spawning season.

Although Trout fishing is popular all year, fishing activity generally falls over the warmer summer months. For this reason, most of the works will be scheduled for mid 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.

Routine maintenance to assets out of the wet river channel and emergency maintenance may be performed at any time throughout the year.

4.2 Consent Compliance Monitoring

Dedicated compliance monitoring takes on two forms; on-site health and safety audits which contain an element of environmental compliance auditing, and detailed environmental compliance site audits carried out through a specific auditing tool and template. Generally all

sites are subject to the first form, and sites of higher environmental risk, complexity and scale are subject to the detailed self-auditing process.

In addition, all sites are monitored by ICM staff for adherence to the use of environmental best practice as set out in the ICM Best Practice Guidelines. This includes protocols designed to avoid and mitigate adverse effects on the environment, i.e. aquatic life recovery protocols, accidental archaeological discovery protocols, and hydrocarbon spill response protocols.

4.3 Dust

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 slowing or minimising vehicle movement. the use of water carts or irrigation on the exposed areas.

4.4 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 waterway.

In addition, a contingency plan will be submitted to ensure:

- Equipment on site can deal with a containment spill,
- Procedures are in place in the event of a containment spill,
- Interested and affected parties are notifiable,
- Refuelling locations and fuel storage areas are clearly identified.
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4.5 Riparian Planting

Native low growing species such as *Carex sp.* and Toi Toi will be encouraged to establish throughout the scheme. These are largely self-sown.

4.6 Threatened species discovery process

In the event that a species listed as “threatened” is discovered at a works site, the following process shall occur:

- All works at the site shall cease immediately.
- Notify the ICM Environmental Compliance team (Senior Environmental Officer or Environmental Officer – in their absence notify the Team Leader Regional Hazards and Environmental Compliance or Manager Business and Technical Services) as soon as practicable following the discovery.
- Within 24 hours of the discovery, the ICM Environmental Officer (or delegate) shall inform the RUD and the Department of Conservation.
- Works shall only re-commence once approval has been obtained by RUD following their consultation with the Department of Conservation.

4.7 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 area where work is being carried out to ensure public safety.

4.8 Archaeological remains discovery process

In the event that archaeological remains are discovered at the works site, the following process shall occur (in accordance with condition 40) and the ICM Accidental Archaeological Discovery Protocol.

The following procedure **must** be followed by the person responsible for the site (e.g. the ICM Works Supervisor/Project Manager/Contractor):

- Immediately cease all earth moving work and shut down earth disturbing machinery within 10 metres of any part of the discovery. Stay away from the area to avoid any further disturbance.
- Secure the immediate vicinity of the discovery to restrict access and ensure remains are left undisturbed (e.g. by installing a temporary mesh fence).
- As soon as practicable, and within six hours of the discovery, inform:
 - The Director and/or a Section Manager of the ICM Directorate;
 - The ICM Environmental Compliance team.

Provide them with as much information as possible about the site and what has been uncovered or found on the site.

- As soon as practicable, and within 24 hours of the discovery, ICM shall inform:
 - The appropriate Mana Whenua representative;
 - The Director and/or a Section Manager of RUD;
 - Heritage New Zealand – infonorthern@heritage.org.nz, 09 307 9920;
 - The relevant Territorial Authority;
 - NZ Police if the discovery is of potential human remains.
- ICM shall assist with any investigation as required, and proffer a site inspection for initial assessment and response with RUD and all other parties that have expressed an interest in attending.
- If the accidental discovery is of potential human remains the remainder of the process does not apply until the NZ Police confirm they have no further interest.
- Following the site inspection and consultation between all parties, RUD and Heritage NZ will determine the statutory requirements and Mana Whenua will determine cultural requirements.
- Works may only recommence within the area of the discovery upon the written approval of the Resource Use Directorate, after considering the following matters:
 - Mana Whenua interests and values;
 - Protocols agreed upon by Mana Whenua and ICM;
 - ICM's interests;
 - Any Heritage New Zealand authorisations;
 - Any archaeological or scientific evidence; and
 - The assessment of the discovery by a registered archaeologist.

5. 125772 & 125773 Consent Conditions

General

1. The activities authorised by this consent shall be undertaken in general accordance with the documents titled: *'Waikato Regional Council River & Catchment Services Group Resource Consent Application to: Undertake River Management Activities within the Bed of the Tauranga-Taupo River'*, Bloxam Burnett & Olliver, November 2012, WRC document no. 2311070; and, ['Best Practice Guidelines for Vegetation Management and In Stream Works'](#), Technical Report 2007/41, WRC document no. 1232780; 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 RUG-WRC.
3. The Consent Holder shall notify the RUG-WRC in writing of the commencement of activities authorised by this consent, at least 5 days prior to work commencing in any year that this consent is exercised.
4. The Consent Holder shall appoint a representative(s) prior to the exercise of this resource consent, who shall be the RUG-WRC's principal contact person(s) in regard to matters relating to this resource consent. The Consent Holder shall inform the RUG-WRC 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 RUG-WRC and shall also give written notice to the RUG-WRC of the new representative's name and contact details.
5. 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 ensure compliance with those conditions.

Notices

6. The Consent Holder shall erect notices upstream and downstream of each section of the works not less than 2 working days prior to the commencement of the works. These notices shall provide appropriate warning of:
 - the construction activities;
 - any relevant safety advice;
 - the period over which these activities will be occurring.

Access to Tauranga-Taupo River

7. 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.

Timing of works

8. 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:
 - flood flows have resulted in stopbank freeboard loss and the remaining freeboard in the reach upstream of the bridge is less than 150mm; or,
 - erosion control works are required.
9. The Consent Holder shall provide survey information to the RUG-WRC confirming the requirements of 8a) have been met prior to undertaking works provided by condition 8.
10. 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.
11. The Consent Holder shall notify the Department of Conservation of the commencement of activities authorised by this consent at least 24 hours prior to work commencing during the months of May to October in any year that this consent is exercised. Notification shall include the location and the extent of the works.
12. The Consent Holder shall check daily and weekly weather forecasts so that, in the event of a rain forecast which could result in flood flows, construction works authorised by this consent shall be postponed, or cease if already commenced, and all machinery shall be removed from the river bed and flood way until the identified flood risk has passed.

Machinery maintenance and hazardous substances spill prevention and response

13. 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.
14. The Consent Holder shall ensure that all machinery shall be operated in a manner which ensures that spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any water body such that any spillage can be contained so it does not enter the Tauranga-Taupo River.
15. The Consent Holder shall ensure the onsite contractor has and complies with a “Spill Prevention and Response Plan” The aim of the Plan shall be to minimise the possibility of contamination of water and the Spill Prevention and Response Plan shall address, but not necessarily be limited to, the following matters:
 - a list of the hazardous materials and their quantities kept on site and their storage details;
 - the prevention measures that will be undertaken on site in order to avoid a spill of hazardous materials;
 - the equipment available to contain and/or remove spills of hazardous materials;
 - 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;

- the training staff will receive in the use of hazardous materials spill prevention, containment and clean up measures and associated equipment;
- how the disposal of any contaminated materials arising from spills or leakages of hazardous materials will be undertaken; and,
- the procedures involved in reporting of any such incidents to the RUG-WRC.

16. The Consent Holder shall notify the RUG-WRC 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 RUG-WRC, identifying the following:

- the possible causes;
- steps undertaken to remedy the effects of the incident; and,
- any additional measures that will be undertaken to avoid future spills.

Responsibility for erosion control works

17. 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

18. 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.

19. Gravel shall only be removed below the adjacent River water level when the excavation site is bunded from direct surface connection with the River.

20. Debris collected during gravel extraction shall be removed from the river bed and the flood way of the river.

21. The consent holder shall ensure that sediment losses to natural water arising from the exercise of this consent are minimised during the term of this consent. To this end the works authorised by this resource consent shall be undertaken in a manner that is consistent with the document "*Best Practise Guidelines; Vegetation Management & Instream Works*" - Environment Waikato Technical Report 2007/41, and ensures that;

- The works do not cause the suspended solids concentration in the Tauranga-Taupo River to exceed:
- 25 grams per cubic metre in water ways which have been classified in the Waikato Regional Plan Water Management Class Maps as "*Significant Trout Fisheries and Trout Habitat*";
- for more than 24 consecutive hours at a point downstream of but not exceeding 100 metres from the works after reasonable mixing has occurred.
- If the upstream suspended solids concentration unaffected by the works exceeds the relevant standard then the works shall cause no measurable increase in

suspended solids concentrations for more than 24 consecutive hours at a point downstream of but not exceeding 100 metres from the works after reasonable mixing has occurred.

- Except as constrained by condition 8, the maximum number of days per calendar year that instream works authorised by this consent can be undertaken shall not exceed 20 days.

Flow diversion and re-contouring

22. The Consent Holder shall, immediately after the construction of each temporary diversion bund, salvage any fish stranded in pools in the diverted section of river channel and return them to the main channel of the Tauranga-Taupo River.
23. Except as provided for by condition 19, on completion of gravel extraction at any one location, the Consent Holder shall re-contour the surface of the extraction area to fit with the natural character of the river.

Erosion control structures

24. Structures and flood ways in the immediate vicinity of structures shall be maintained clear of debris.
25. Structures shall not decrease the cross sectional area of the river.
26. All construction materials and equipment shall be removed from the river upon completion of the activity.
27. Where the weight of the structure is insufficient to keep it in place it shall be permanently anchored to the bed of the river.
28. All structures shall be maintained in a structurally sound condition at all times.

Monitoring and management plan

29. The Consent Holder shall provide the RUG-WRC with a Monitoring and Management Plan in conjunction with the proposed Annual Works plan of 31 August 2014. This Plan shall be submitted to the RUG-WRC for their written approval, acting in a technical certification capacity. The aim of the Plan shall be to minimise any reduction in sediment supply to the Lake Taupo shore associated with the extraction of river bed material. The Monitoring and Management Plan shall address, but not necessarily be limited to, the following matters:
 - a survey methodology to assess sediment volumes in the Tauranga-Taupo River; and,
 - a survey methodology to enable monitoring of the Tauranga-Taupo River and lake shore extending from the river mouth at Oruatua, to the eastern end of the lakeshore at Te Rangiita to monitor for changes in bedload sediment and identify areas of fluvial and lake shore erosion; and,
 - trigger points and contingency measures including but not limited to reducing or halting sediment abstraction, restricting abstraction, and beach re-nourishment.

30. The Monitoring and Management Plan shall be approved in writing by the RUG-WRC acting in a technical certification capacity prior to any works authorised by this consent commencing.
31. Any changes proposed to the Monitoring and Management Plan shall be confirmed in writing by the Consent Holder and approved in writing by the RUG-WRC acting in a technical certification capacity, prior to the implementation of any changes proposed.

Proposed annual works programme

32. The Consent Holder shall prepare a Proposed Annual Works Programme including (but not limited to) the following:
 - details of scheduled works and maintenance requirements authorised by this consent that are to be carried out for the proceeding 12 months including a description of the nature, scale and location of the works; and
 - timing of the works; and
 - contingency procedures that may be required for specific activities; and
 - any specific mitigation measures that will be undertaken; and
 - riparian planting proposed using eco-sourced indigenous plants; and
 - advice to the parties listed in condition 33a) - 33h) that if any party wishes to have an on-site meeting, the Consent Holder's representative will comply with this request within 10 working days of the request being received.
33. 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 confirmed in writing by the Consent Holder to the RUG-WRC.
34. The Consent Holder shall distribute the Proposed Annual Works Programme required by condition 32, to the following parties on or before 31 August each year requesting comment(s) on the proposed works (if any) to be provided in writing within 20 working days of receipt:
 - Department of Conservation – Tongariro Taupo Conservancy;
 - Taupo District Council;
 - Tauranga-Taupo River Association;
 - Tongariro and Lake Taupo Anglers Club;
 - New Zealand Forest Managers;
 - Lake Taupo Forest Trust; and,
 - Te Kanawa Pitiroi (Y Block Trustee).
 - Resource Use Directorate RUD-WRC
35. Comments received by the Consent Holder from the above parties regarding the proposed works shall be copied to the RUG-WRC.
36. 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 confirmed in writing to the groups listed in this condition.

37. The Consent Holder shall address any comments from the parties listed in condition 33, 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 RUG-WRC prior to 1 October annually. The Consent Holder shall not commence these works until the Proposed Annual Works Programme has been approved by the RUG-WRC 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, Tangata Whenua, the Historic Places Trust and RUD shall be notified as soon as practicable. Works may recommence with the written approval of RUD-WRC. Such approval shall only be given after RUD-WRC has considered:

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

Review

39. During the April to June period each year for the term of this consent the RUG-WRC 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:

- 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; and/or
- 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; and/or
- 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; and/or
- for the purpose of ensuring that the conditions of this consent are not inconsistent with the requirements of legislation pertaining to Treaty of Waitangi settlement claims, subject to the proviso that any review shall be for a resource management purpose.