BEFORE THE ENVIRONMENT COURT

Decision No. [2011] NZEnvC 150

IN THE MATTER of appeals under Section 120 of the Resource Management Act 1991

BETWEEN DIRECTOR-GENERAL OF CONSERVATION (NELSON-MARLBOROUGH CONSERVANCY) (ENV-2007-CHC-000162)

NEW ZEALAND AND NELSON MARLBOROUGH FISH & GAME COUNCILS (ENV-2007-CHC-000166)

ORMOND AQUACULTURE LIMITED & NEW ZEALAND CLEARWATER CRAYFISH (KOURA) LIMITED (ENV-2007-CHC-000167)

TRUSTPOWER LIMITED (ENV-2008-CHC-000217)

DIRECTOR GENERAL OF CONSERVATION (NELSON-MARLBOROUGH CONSERVANCY) (ENV-2008-CHC-000218)

JET BOATING NEW ZEALAND INCORPORATED (ENV-2008-CHC-000223)

Appellants

AND MARLBOROUGH DISTRICT COUNCIL

Respondent

Hearing: On the papers pursuant to section 279 of the Act

Court: Environment Judge R G Whiting
Environment Commissioner A J Sutherland
Environment Commissioner J R Mills
Environment Commissioner H B Beaumont

FINAL DECISION OF THE ENVIRONMENT COURT

A. The conditions of consent attached to this decision are confirmed.

B. Costs are reserved. Any application is to be filed within 15 working days of this decision.

REASONS FOR DECISION

[1] The Court issued decision, [2010] NZEnvC 403 with regard to this matter. Due to the size and complexity of the conditions, the Council were allowed within 30 working days from the date of the decision to file any corrections to the conditions of the consents.

[2] The Council has since filed with the Court a memorandum seeking corrections to the conditions. I have read and considered these corrections and subsequently confirm the amended set of conditions attached to this decision.

[3] It has also been brought to my attention that in decision [2010] NZEnvC 403 at [292] the reference to Counsel for Meridian should be Counsel for TrustPower and similarly at [663] Mr Berryman an earthquake geologist for Meridian should be a geologist for TrustPower. I make these changes accordingly.

[4] Costs are reserved. Any applications are to be filed within 15 working days from the date of this decision.

DATED at Auckland the 8th day of June 2011

For the Court:

R G Whiting
Environment Judge

CONDITIONS ATTACHING TO GRANT OF CONSENTS TO TRUSTPOWER LIMITED TO CONSTRUCT THE WAIRAU HYDRO POWER ELECTRICITY SCHEME

(U050729 & U060284)

GENERAL

Interpretation

1. Where any consent is required of the Consent Authority for the doing of any act by the consent holder, such consent shall not be unreasonably or arbitrarily withheld.

2. Nothing in these conditions shall prevent the consent holder from reaching an agreement with affected persons to undertake measures to avoid, remedy or mitigate effects in place of measures specified in any condition. Prior to implementing any such measure, the consent holder shall first obtain the approval of the Consent Authority.

3. No scheme construction shall commence until all obligations emanating from the pre-construction conditions have been met to the satisfaction of the Consent Authority.

Consent Lapse

4. That the consent lapsing period for this consent shall be ten years from the commencement of the consent.

5. Pursuant to section 116 of the Resource Management Act 1991 these consents shall commence upon the date all appeals on consents UO50729 and UO60284 are determined.

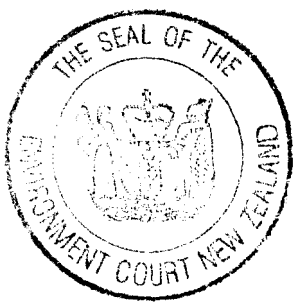
Non-derogation

6. The scheme shall be operated at all times such that it will not derogate from the rights of those consented irrigation takes from the Wairau River and its tributaries within the reach of the river affected by the scheme that existed at the date of granting this consent, but excluding those consents that were notified after the date of notification of the applications for which this consent was granted. Where a consent holder renews on the same terms or for a lesser rate and volume of water, this non derogation obligation shall continue to apply.

Management Plans

7. The consent holder shall prepare for the approval of the Consent Authority such management plans as are required to give effect to the purposes and objectives specified in this consent.

8. The consent holder may, without changing the purpose or objectives of a management plan referred to in condition 7, seek the approval of the Consent Authority for any necessary amendment to such plan.



9. The consent holder may review and revise any management plan at any time on the following terms:

(a) The review shall be undertaken in consultation with and be approved by the Consent Authority;

(b) The Consent Holder shall, in relation to any change to any management plan, consult with the same parties it is required to consult in relation to the preparation of the original management plan under these conditions of consent;

(c) Such review shall be necessary to give effect to the purpose or objectives of the management plan.

10. All Management Plans shall state the objective or objectives sought to be achieved by such Plans.

11. The following management plans shall be prepared and submitted to the Consent Authority for approval. The likely timing of the delivery of these management plans shall be identified by the consent holder within three months of the issue of this consent. The consent holder shall work collaboratively with the Consent Authority to ensure that ample notice of the delivery date for each plan is provided to assist the Consent Authority with planning the allocation of resources to assess each of the plans. The Aquatic Ecology Management Plan shall be submitted for approval at least 6 months before commencement of instream construction works.

(a) The Construction Management Plan.

(b) The Traffic Management Plan.

(c) The Landscaping Plan.

(d) The Health and Safety Plan.

(e) The Groundwater Management Plan.

(f) The Aquatic Ecology Management Plan.

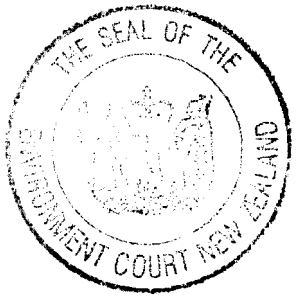
(g) The Pre-Scheme Black-Fronted Tern and Black-billed Gull Research Monitoring-Plan.

(h) The Black-Fronted Tern and Black-Billed Gull Work Plan and Programme.

(i) The Vegetation Management Plan.

12. The consent holder shall pay all actual and reasonable costs of the Consent Authority in connection with the review of all management plans, design statements and design specifications prior to their approval.

Advice Note:
Consent Authority approval to be within 90 working days of receipt of each plan or plans.



Review

Advice Note:

These conditions apply where specific review conditions have not otherwise been imposed.

13. The Consent Authority may during the month of June in the fifth year after the commencement of this consent, and every five years thereafter, serve notice on the consent holder of its intention to review the conditions of the consent pursuant to section 128(1) of the Resource Management Act 1991 for the purpose of avoiding, remedying or mitigating any adverse effect on the environment that may arise from the exercise of these consents and that was not anticipated at the time of commencement of this consent.

14. In accordance with section 127 of the Resource Management Act 1991 the consent holder may, no earlier than twelve months after the approval of the management plans required by condition 11 of this consent, apply to change or cancel any of the conditions of this consent.

Sequence of Compliance

15. Except with the prior written consent of the Consent Authority the consent holder shall not proceed from the pre-construction to construction phase unless and until all pre-construction conditions have been fully complied with.

PRE-CONSTRUCTION

Construction Management Plan

16. (a) A Construction Management Plan shall be prepared and submitted to the Consent Authority for approval in accordance with Condition 11. The objectives of the management plan shall be to provide guidance on environmental management for the construction of the Scheme, and to impose measures to avoid, remedy or mitigate any adverse environmental effects associated with construction activities. The purpose of the Construction Management Plan shall be to:

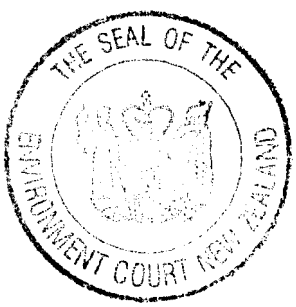
(i) describe the methods proposed for the construction of the scheme and the programme for construction of each element;

(ii) describe what actions will be taken to manage the actual or potential effects of construction activities (including effects relating to traffic movements, dust, noise, stormwater discharges, sediment runoff, earthworks) associated with the scheme and to satisfy conditions 83 and 84;

(iii) provide a list of key personnel and points of contact during scheme construction; and

(iv) describe how stakeholders will be kept informed during construction and how complaints will be managed.

(b) The Construction Management Plan shall include the following details:



(i) The staging plan, identifying the works and proposed duration of each stage;

(ii) The detailed design responsibilities and method of construction, including methods of conducting earthworks, disposal of excavation material, in - river works management, surface water and erosion management;

(iii) Methods to avoid the spread of Didymo. The Plan shall ensure that no equipment is used in the exercise of this consent that has been used previously to undertake activities in any water body known to contain Didymo, unless that equipment has been thoroughly cleaned in accordance with the Biosecurity New Zealand document titled *Cleaning Methods for Freshwater Activities;*

(iv) The methods for management of hazardous substances, dust management and noise management, and fire prevention;

(v) The name and contact details of key positions and points of contact, including appropriately qualified staff members, to manage environmental issues and any community complaints on site, to have responsibility for managing and responding to environmental issues and any community complaints, and to ensure management plans and consent conditions are adhered to throughout construction;

(vi) The name and contact details of the geotechnical engineer to be engaged by the consent holder throughout earthworks construction, and an outline of the role and responsibilities of the geotechnical engineer during construction;

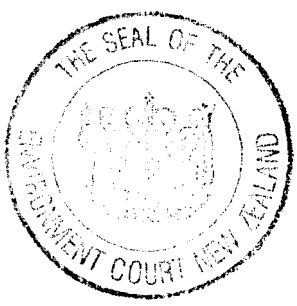
(vii) An outline of the critical elements of the scheme where geotechnical involvement is required for the construction;

(viii) An outline of the critical elements of the scheme where groundwater engineering involvement is required for the construction;

(ix) Details of the minimum requirements for investigations, inspections and monitoring throughout construction to ensure that construction is being undertaken in accordance with the requirements of this consent;

(x) The consent holder shall engage an expert peer reviewer to review the Construction Management Plan prior to it being submitted to the Consent Authority for approval. The peer reviewer shall be nominated and appointed by agreement between the consent holder and the Consent Authority; and

(xi) The steps which the consent holder shall take to ensure that the effects of construction minimise loss of public access to the Wairau River during the construction period.



Dust Management (Construction Management)

17. Prior to the commencement of construction the consent holder shall undertake background air quality monitoring, including total suspended particulate (TSP) monitoring for a period of 12 months. The consent holder shall submit this data to the Consent Authority prior to the commencement of construction of the scheme.

18. As part of the Construction Management Plan described in condition 16, the consent holder shall include provisions which set out the methods for dust management and shall include the following details:

    (a) Limiting vehicle speed to 60km/h on haul roads when they are not within 300m of any residence and 20km/h when the haul roads are within 300m of residences;

    (b) Ensuring a high level of maintenance on the haul roads; in accordance with, as applicable, the Marlborough Roads document Operational Performance Measure, General Maintenance Marlborough South Area;

    (c) The implementation of wind breaks should affected residents choose not to be relocated as specified in condition 93; and

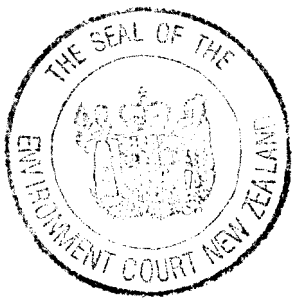
    (d) The use of crusting agent additives to water used to control dust where necessary.

Cultural and Archaeological Protocols (Construction Management)

19. Prior to the commencement of construction:

    (a) The consent holder shall appoint a project archaeologist. This person shall be a suitably qualified and experienced contract archaeologist whose qualifications and experience would allow the New Zealand Historic Places Trust to authorise them to carry out any work specified by an Authority under the Historic Places Act 1993. The project archaeologist shall be engaged for the duration of the construction activities and may nominate a suitable representative. Overall responsibility for archaeological matters shall remain with the Project Archaeologist.

    (b) The project archaeologist as appointed in condition 19(a) (or their nominated representative) shall undertake an archaeological survey of the canal route and the areas likely to be affected by earthworks associated with the construction of the scheme. The purpose of the survey shall be to identify any potential archaeological sites prior to the commencement of construction. The survey and reporting results shall be submitted as part of the Construction Management Plan required by condition 16. The report shall include a map of the canal route and areas potentially affected by earthworks activities associated with the construction of the scheme with all items of archaeological significance plotted.



(c) Prior to the start of earthworks, the consent holder shall implement a training programme for construction staff under the direction of the project archaeologist regarding methods of identifying, reporting and managing features of archaeological significance. The training programme shall be repeated as necessary to accommodate any new staff who may be engaged for earthworks construction.

Fish Screening and fish bypasses

20. Prior to the commencement of construction of the scheme, the consent holder shall prepare design specifications for:

(a) A fish screen to be installed at the downstream end of the sediment retention basin in Reach 1.

(b) A fish bypass channel to return fish excluded by the screen safely back to a permanently flowing channel connected to the main stem of the Wairau River.

(c) The performance objectives for design of the fish screen and fish bypass channel shall be:

(i) to exclude all adult Eels and Salmonids and where practicable juvenile Eels and Salmonids from passing through the fish screening device and to return them safely back to the Wairau River downstream of the scheme intake;

(ii) ensure a sustainable population of dwarf galaxias (Galaxias divergens) remains in the diversion reach of the Wairau River;

(iii) to establish a method for ensuring that the fish screen is kept substantially clean and free from debris excluding Didymo; and

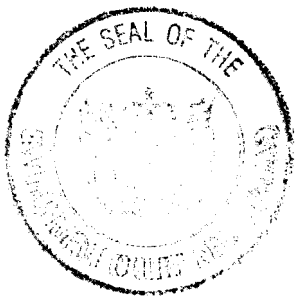
(iv) to exclude elvers and other fish from entering the downstream entrance of the fish bypass channel.

(d) Fish barriers to be installed at the downstream end of the outfall of PS5 and to the enlarged Wairau Power Station tailrace.

(e) Fish bypass channels to return fish excluded by the barriers of (d) above safely back to a permanently flowing channel connected to the main stem of the Wairau River.

(f) The performance objectives for design of the barrier shall be to exclude all adult Eels, and Salmonids and, where practicable, juvenile Eels and Salmonids from passing through the fish barrier and return them safely back to the Wairau River upstream of the outfall.

21. To ensure the effectiveness of the fish screen in achieving its objectives in condition 20(c) above the consent holder shall undertake a trial prior to the commissioning of the scheme. The trial will consist of monitoring if small fish (trout and salmon fry) in the Wairau River to determine whether the small fish are moving past the intake location in such numbers as to warrant fish screening. Based on the results obtained from this monitoring the consent holder shall derive a screen size or an alternative appropriate method to avoid, remedy or mitigate the effects of the scheme intake on fish passage in this location of the river. Using this information, the consent holder shall implement a trial of the fish screen to guide design



specifications in condition 20. The fish screen and bypass specification shall be submitted to and approved by the Consent Authority and shall incorporate but not be limited to the following features:

(a) A report detailing the outcome of fish monitoring and the fish screen trial and the design considerations that emerge from that trial;
(b) The standards for maintenance and operation of the fish screen including operation during flood events up to 200m^3/s ;
(c) A monitoring programme to ensure the ongoing efficiency of the fish screen.

Sediment Retention Basin

22. Prior to the commencement of construction the consent holder shall prepare design specifications for the sediment retention basin and shall submit the specifications to the Consent Authority for approval. The performance objectives for the sediment retention basin shall include provision for the implementation of the best practicable option for mitigating the adverse effects of sediment flushing on the water quality of the Wairau River including options for managing visual clarity and turbidity.

Scheme Design Standards

23. The design of the scheme shall generally accord with the plans submitted as part of the resource consent application and hearing for the applications for consent. Prior to the commencement of construction of any structures authorised by this consent, accurate site plans and detailed structural plans including the dimensions and elevations of all structures shall be submitted to and approved by the Consent Authority.

24. Structures authorised by this consent shall be designed, constructed and maintained for the life of the scheme in accordance with the NZSOLD Dam Safety Guidelines, November 2000 (and any subsequent amendments).

25. Prior to the commencement of construction of the structures authorised by this consent, a geotechnical design statement shall be prepared by an experienced chartered geotechnical engineer and shall be submitted to and approved by the Consent Authority.

26. Prior to the commencement of construction of the scheme the consent holder shall ensure that a recognised engineer as defined by section 149 of the Building Act 2004 is engaged to review the proposed scheme design. The peer reviewer shall be nominated and appointed by agreement between the consent holder and the Consent Authority. The sole function of the reviewer shall be to review the proposed scheme design and advise the Consent Authority whether it is in accordance with accepted industry standards.

Traffic Management

27. The consent holder shall ensure that all accessways to State Highway 63 necessary for construction activities are designed in accordance with the New Zealand Transport Agency's Planning Policy Manual. The consent holder shall complete these accessways to the satisfaction of the NZ Transport Agency and the Consent Authority prior to commencement of

construction for that stage of the scheme necessitating the access in question.

28. The consent holder shall prepare detailed design plans for the widening of Centre Valley Road to at least 6m over the section between State Highway 63 and the canal alignment (a distance of approximately 130m). Those plans shall be submitted to and approved by the New Zealand Transport Agency and the Consent Authority. The widening of Centre Valley Road shall be completed by the consent holder to the satisfaction of Marlborough Roads and the Consent Authority prior to the commencement of construction of the scheme.

29. The consent holder shall ensure that a Traffic Management Plan is prepared and submitted to the Consent Authority in accordance with Condition 11. The objectives of the Traffic Management Plan shall be to identify and detail the traffic management measures that will be put in place during construction and to manage any adverse actual or potential traffic effects arising from construction activities. The Traffic Management Plan shall be prepared in consultation with the New Zealand Transport Agency and the Consent Authority. It shall detail the traffic management measures to be put in place during construction including details of the following:

(a) The safety of all road users including pedestrians;

(b) The temporary traffic management locations and methods to be put in place during the construction period;

(c) The locations where works will occur within the road reserve and the general method of traffic management and control that will be utilised;

(d) Routes for haulage of materials on any public road, and measures for ensuring the local road network is maintained in a satisfactory condition;

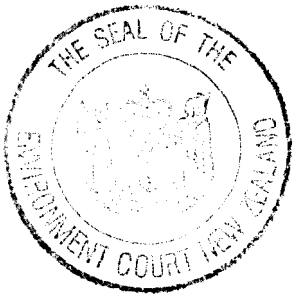
(e) How provision will be made for property access to affected properties during construction;

(f) All necessary temporary site access requirements, design and traffic management; and

(g) Procedures for liaison between the community, the consent holder and the contractor with regard to traffic related matters.

Landscape and Visual Amenity

30. The consent holder shall ensure that a Landscaping Plan is prepared and submitted to the Consent Authority for approval in accordance with Condition 11. This plan shall be prepared by a suitably qualified and independent landscape architect. Where landscaping works are located on land owned by parties other than the consent holder, the consent holder shall be required to consult with that landowner about the proposed works and the results of that consultation shall be reflected in the Plan. The purpose of the plan shall be to provide for the following matters:



(a) All cuts, fills and embankments shall be graded and formed so that they appear as natural extensions of the adjacent landforms and landscape patterns;

(b) All disturbed areas shall be grassed and managed to appear as an integral part of the wider rural landscape;

(c) Where shelter belts are removed in whole or in part, replanting or, as an alternative, the construction of an artificial screen to meet the shelter requirements of directly affected landowners shall be undertaken in consultation with the respective landowners;

(d) Where screen planting is necessary to mitigate any adverse effects of the scheme on adjacent landowners, the consent holder shall provide landscaping mitigation in consultation with land owners as appropriate;

(e) Disposal areas for surplus excavation material shall be placed in locations agreed with landowners and contoured so they visually integrate with their rural setting;

(f) Power stations shall be designed and finished in materials and colours that are in keeping with the rural Wairau landscape;

(g) The steel penstocks and other built elements shall be finished and maintained in a colour that integrates with the landscape;

(h) The design plans for the recreational areas at the regulation pond and outfall shall be generally consistent with the plans attached as Figures A and B. The design plans shall be submitted to the Consent Authority for approval prior to commencement of construction of the scheme;

(i) With respect to planting, the plan shall include proposed details of species location and selection, plant density, maintenance and pest control; and

(j) This Plan may allow for staged implementation. If it does then an overall plan showing the various stages and their inter-relationships shall be included in the Landscaping Plan.

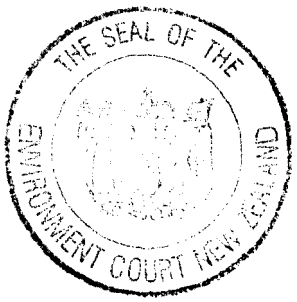
Health and Safety

31. The consent holder shall ensure that a Health and Safety Plan is prepared and submitted to the Consent Authority for approval in accordance with Condition 11.

32. Prior to the commencement of construction the consent holder shall, in order to minimise the risk of persons undertaking recreational activities in the vicinity of the scheme:

(a) Erect signs at appropriate locations to be determined in consultation with the Nelson Marlborough Fish and Game Council, the applicable kayaking and jet boating clubs, and the Consent Authority to warn users of dangers in that area both during and after construction;

(b) Include appropriate information in the public newspaper prior to the undertaking of the construction works and weekly during the construction period;



(c) Liaise with known user and interest groups advising of programmed works; and

(d) There shall also be two signs erected on State Highway 63 - one at each end of the works site. On each sign shall be clearly displayed the details of the construction manager, contact person and a free phone number.

Advice note:
Other health and safety issues are dealt with at: 16 – 18, 91 – 99, 107 – 108, 110 - 111.

Community Liaison Group

33. Prior to the commencement of construction of the scheme, the consent holder shall undertake an open public process to offer local residents and interested people, including representatives from the consent holder, the Consent Authority and the contractors for the scheme the opportunity to be involved in a Community Liaison Group. In the event it is possible to establish such a group the Community Liaison Group, shall be chaired by an independent facilitator appointed by the consent holder in consultation with the Consent Authority.

34. In the event that it is not possible to establish such a group through no fault of the consent holder then such failure to do so shall not be a breach of these conditions.

35. The objectives of the Community Liaison Group shall be to:

(a) Build effective working relationships and mutual trust between the local community and the consent holder (including its contractors), especially during construction;

(b) Promote the free flow of information in all directions between the local community, the consent holder, the contractors and the Consent Authority, in order to try to anticipate and resolve any potential issues before they arise;

(c) Evaluate the results of monitoring activities on a periodic basis;

(d) Oversee a Community Complaints Procedure, ensuring appropriate responses from the consent holder are forthcoming; and

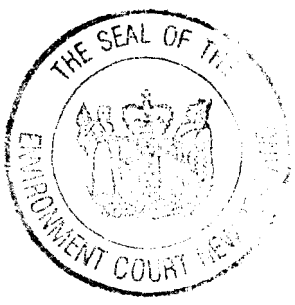
(e) Recommend any changes to proposed mitigation measures that might be appropriate in light of the monitoring.

Complaints Procedure

36. Prior to the commencement of construction of the scheme and at all times during construction of the scheme, the consent holder shall establish and operate a Community Complaints Procedure as follows:

(a) The consent holder shall have a clearly nominated and publicly communicated contact person within its own organisation or within one of its local agents for receipt of and attendance to complaints during construction;

(b) The consent holder shall establish a 24 hour free phone number for the local community to call if they have any concerns or complaints



regarding construction. The free phone number shall be advised to all residents within that part of Wairau Valley affected by scheme construction via post and shall be advertised in the local newspaper prior to the commencement of construction of the scheme and at regular periods during construction;

(c) The consent holder shall maintain a log of any complaint received including the following: the date, time, complainant name and contact details, nature of the complaint including the cause and effect if known, record of action taken to address or mitigate the complaint;

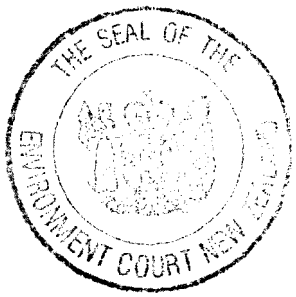
(d) The consent holder shall respond to complaints as soon as is practicable but not later than 24 hours and shall log the action that it intends to take in response to the complaint;

(e) The consent holder shall communicate with the complainant about actions taken;

(f) The consent holder shall document any other longer term actions to be taken;

(g) The consent holder shall present an incident summary (ie (c) to (e) above) to the meetings of the Community Liaison Group (in the event it is established) for review; and

(h) The consent holder shall make the complaints and response log available to the Consent Authority on request.



Southern Tributaries

General

37. The consent holder shall give Ormond Aquaculture Ltd (OAL) at least six months notice in writing of its intention to give effect to the resource consents for the proposed scheme.

Monitoring Mill Stream / Walkers Stream Flow

38. Prior to the commencement of construction of the scheme, the consent holder shall, at its own cost, monitor the flows in Walkers Stream and Mill Stream to determine the existing flow regimes. Monitoring locations will be as close as practical to immediately upstream and downstream of the canal structure, and be established to the satisfaction of the Consent Authority as follows:

(a) Walkers Stream

(i) water level / flow site to be established at Parsons Road Bridge (approx. Map ref. O28: 521584);

(ii) water level / flow site to be established upstream of the canal alignment on Walkers Stream at side road (approx. Map ref. O28: 511578 – naming to be determined);

(iii) monthly visits to include concurrent gaugings at both recorder sites plus twice for tributary inflows within 0.5km upstream of Parsons Road site.

(b) Mill Stream

(i) Mill Stream at the Ormond Aquaculture site – Marlborough District Council permanent site (60130) to be continued;

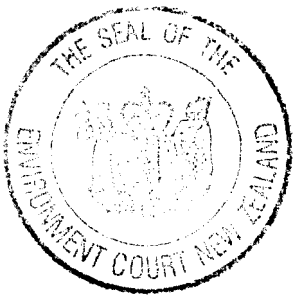
(ii) water level / flow site to be established at Mill Road near Ford (approx. Map ref. O28: 515596);

(iii) water level / flow site to be established in Mill Stream between Andersons Floodway and Canal 8A crossing (location to be determined);

(iv) monthly visits to include concurrent gaugings at all recorder sites plus minor tributary adjacent to upstream recorder site (as required).

39. (a) Data from at least two years records shall be used to determine the existing flow regime for Walkers Stream and Mill Stream. After the first 12 months the monitoring undertaken in accordance with condition 38(a) and (b) shall be reviewed by the consent holder.

(b) The flow relationships shall be established with concurrent gauging data up to median flow as determined by at least two years of record at each site. Flow relationships between the streams shall be derived. Should the flow relationships between the upstream and downstream sites on each stream not be deemed to be statistically significant by the Consent Authority, the consent holder may submit flow relationships based on other data for consideration. All data used in deriving any flow relationship is to be provided to the Consent Authority.



40. The consent holder shall supply Ormond Aquaculture Limited and the Consent Authority with a copy of its Construction Management Plan required under condition 16 where it relates to the proposed construction work within the Mill Stream Catchment, one month prior to that work commencing.

41. The Construction Management Plan shall include the following provisions:

(a) A summary of the consultation undertaken by the consent holder with Ormond Aquaculture Limited in relation to the construction programme in the Mill Stream Catchment;

(b) An appropriate and agreed protocol for ongoing consultation by the consent holder with Ormond Aquaculture Limited during both the construction and operational phases of the scheme;

(c) An appropriate and agreed methodology for managing water quality within Mill Stream and its catchment during construction to ensure that Ormond Aquaculture Limited is able to continue to extract water from Mill Stream for the purposes of its fish farming operations; and

(d) The procedures to be followed in the event that sediment discolours the receiving waterway and does not disperse after a period of reasonable mixing occurs in Mill Stream.

42. Prior to the commencement of construction of the scheme within the Mill Stream and Walkers Stream catchments, the consent holder shall investigate construction dewatering options including the pumping of groundwater from dewatering wells around the edge of the excavation or the utilisation of other methods such as drainage or pumping from within the construction area. These options shall first be identified in the Construction Management Plan required by condition 16. The de-watering method that will be adopted shall be determined from a consideration of the feasibility of achieving the required de-watering and a consideration of the environmental outcome in terms of discharge flows and discharge quality effects on the receiving environment. The selected method shall be advised to the Consent Authority.

43. In the event that low flows at the downstream monitoring sites are lower than the flows predicted by the derived relationships the consent holder shall release sufficient water from the canal to Mill Stream as required to maintain the existing low flow regime as determined under condition 39. Such release of water shall be via a vegetated swale, or concrete channel, sufficient to ensure no decrease in water quality or clarity in the receiving stream.

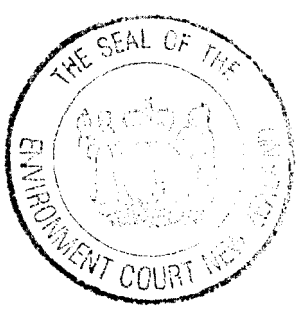
Walkers Stream Canal Crossing

44. During the detailed design for the scheme the consent holder shall investigate options for the Walkers Stream canal crossing point. This investigation shall include assessment of the use of:

(a) An option to capture the flow of Walkers Stream into the canal and release the flow via a controlled gate back to the stream; or

(b) a culvert; or

(c) a flume.



45. Prior to construction of the canal between the Wye River and Lansdowne Road, the consent holder shall submit to the Consent Authority for approval full design details of the selected option for the canal crossing, together with a management plan for managing flows in Walkers Stream. The management plan shall include provision for retention of suitable low flows as outlined in conditions 38 and 39 in order to provide for in stream ecological values, as well as an assessment of the requirement for provision for suitable periodic flushing flows. These flow regimes shall be set having received advice provided by independent hydrological and ecological experts.

Advice Note:
This condition notes that the consent holder's preferred option at the time of issuing this consent is to capture the stream flow and release an equivalent flow back to Walkers Stream downstream of the canal via an automatically controlled release gate. The required release flow would be calculated in real-time based on the flow at the upstream gauge (condition 38) and the flow relationship derived in condition 39. The design capacity of the controlled release gate shall account for the range of flows observed during the pre-scheme monitoring (condition 38) excluding flood flows. The release of flow back to Walkers Stream shall be via a vegetated swale, sufficient to ensure no decrease in water quality or clarity in the receiving stream.

Monitoring of Water Quality in Mill Stream/Walkers Stream

46. The consent holder shall determine an appropriate methodology for monitoring water quality in Mill Stream and Walkers Stream post construction of the scheme. The methodology shall include a protocol for establishing any significant change in baseline water quality caused by the operation of the scheme. The methodology for conducting this monitoring shall be developed in consultation with Ormond Aquaculture Limited and submitted to the consent authority for approval, prior to the commencement of construction of Canal 8A.

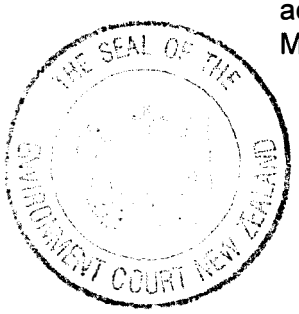
Spill Ways

47. The consent holder shall ensure that all operational and emergency spillways are designed to have a stabilised path to a receiving stream. This can be via either an existing channel with erosion protection as necessary or a new designed overland flow path.

48. At no time shall emergency and operational discharges exceed the permitted maximum flows under U050729 & U060284 – Operational Discharge Permits.

Groundwater Management

49. The consent holder shall ensure that a Groundwater Management Plan is prepared and submitted to the Consent Authority for approval in accordance with Condition 11. The objectives of the Groundwater Management Plan are to:



(a) Ensure the adverse effects on groundwater resources as a result of the construction and operation of the scheme are appropriately avoided, remedied or mitigated.

(b) Determine the approach to be adopted to adaptively manage construction activities and the subsequent operation of the scheme in order to manage effects on the existing groundwater resource within the area defined within the plan referred to in condition 51.

(c) The Groundwater Management Plan shall include the following details:

(i) The approach to monitoring, assessment and mitigation that will be implemented by the consent holder to address the effects related to the interception, abstraction and/or discharge of groundwater where these are caused by the construction and subsequent operation of the scheme;

(ii) The trigger levels to determine when action is necessary on the part of the consent holder and shall include provision for appropriate methods to be assessed and applied to successfully mitigate any adverse effects on existing groundwater abstractions or the groundwater resource more generally;

(iii) The pre-construction/baseline investigations and monitoring of existing groundwater usage and quality;

(iv) The monitoring and mitigation measures required during the preconstruction, construction and operational phase;

(v) The level of reporting required at each phase; preconstruction, construction and operational phase;

(vi) How the Groundwater Management Plan shall assist in giving effect to the obligations inherent in conditions 124 to 135, and 201 - 204; and

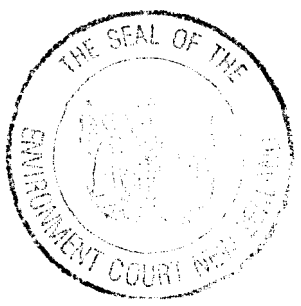
(vii) The procedures for resolving complaints/disputes.

50. The consent holder shall engage an expert groundwater peer reviewer to review the Groundwater Management Plan prior to it being submitted to the Consent Authority for approval. The peer reviewer shall be nominated and appointed by agreement between the consent holder and the Consent Authority. The peer reviewer's report shall be part of the documentation submitted to the Consent Authority.

51. The Groundwater Management Plan shall encompass a defined area as shown on the Figure C attached to these conditions.

52. Prior to the commencement of construction of the scheme the consent holder shall submit to the Consent Authority the following details for groundwater benchmarking purposes:

(a) The number and location of appropriate control sites (being bores and spring fed streams) within the Wairau Valley that will be utilised for the purpose of monitoring groundwater levels and spring flows; and



(b) Confirmation of the location of all groundwater abstractions existing at the time of granting this consent within the Groundwater Management Plan area defined in condition 51. The following details are to be recorded for each groundwater abstraction point:

(i) name of well owner

(ii) well depth and screen position

(iii) type of pumping system

(iv) pump operating level

(v) well use

(vi) depth to water

(vii) well yield and drawdown characteristics;

(viii) Field measurements of electrical conductivity, pH and temperature

(ix) maximum permitted take under any water permit.

(c) Identification of any feasible alternative water supply system for those existing groundwater abstractors identified in Condition 52(b).

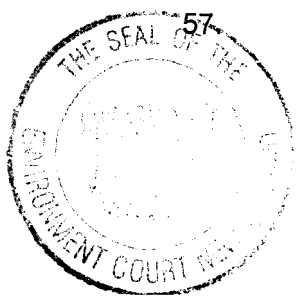
53. For 12 months prior to the commencement of construction of the scheme the consent holder shall carry out monthly groundwater level monitoring at the locations and /or abstraction points specified in accordance with condition 52(a).

54. At least six months prior to the commencement of construction of the scheme the consent holder shall conduct monitoring of groundwater quality at representative points within the area defined by condition 51. Groundwater quality samples will be analysed for pH, electrical conductivity, alkalinity, E.Coli, Chloride, Nitrate-N, Nitrite-N, Ammonia-N, Total-N, Dissolved Reactive Phosphorus, Total Phosphorus and Arsenic. This monitoring shall occur at least twice during this six month period.

55. Prior to the commencement of construction of the scheme the consent holder shall conduct detailed geotechnical investigations. This shall include in-situ testing to assist with determining the permeability parameters of the ground materials in areas likely to be affected by construction of the scheme. It shall also include further analysis to determine the quantity of water expected from dewatering areas, and more detailed design of the temporary support/groundwater cut-off mechanisms.

56. Prior to the commencement of construction of the scheme the consent holder shall install trial de-watering bores to adequately determine optimal pumping rates and de-watering methods for construction purposes. These trial bores shall be used to test the quality of the de-watering discharge and to check the drawdown extent that the pumping creates in the surrounding strata.

57. Prior to the commencement of construction of the scheme, the consent holder shall supply the results of all monitoring (Conditions 53 and 54) and the additional groundwater investigations in accordance with conditions 55



and 56 to the Consent Authority in writing. This information shall be coupled with a report which shall detail the following:

(a) The information gathered from the work described in conditions 52 - 56 above;

(b) An estimation of the natural seasonal range of groundwater level, stream flow, wetland condition and groundwater quality fluctuations, based on a review of all groundwater data and an assessment of the longer term range of climatic fluctuations;

(c) The identification of trigger levels that will represent abnormal conditions that could be caused by scheme activities. These trigger levels will take into account natural fluctuations and comparison with monitoring bores located outside the area of influence from the scheme. They will be determined on a location by location basis and may include absolute water levels and/or rate of change of water levels and/or the potential lateral extent of effect;

(d) An identification of specific wells, wetlands or streams likely to be adversely affected, based on the de-watering trials;

(e) Definition of targeted mitigation measures for each location where the potential for adverse effects has been defined;

(f) A programme of works prepared for the approval of the Consent Authority for the implementation of mitigation measures prior to the occurrence of any adverse effects that are more than minor; and

(g) Establishment of a forward monitoring programme prepared to the approval of the Consent Authority, appropriate for each identified location, such that trigger levels can be effectively measured.

Aquatic Ecology - Main Stem

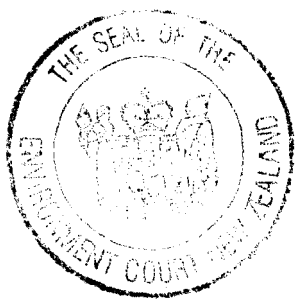
Aquatic Ecology Management Plan

58. The consent holder shall ensure that an Aquatic Ecology Management Plan is prepared and submitted to the Consent Authority for approval in accordance with Condition 11. The formulation of this management plan shall be carried out in consultation with the Department of Conservation, Nelson Marlborough Fish and Game Council and the Royal Forest and Bird Protection Society. The Aquatic Ecology Management Plan shall set out the approach to monitoring and adaptive management that will be implemented by the consent holder to mitigate any actual and/or potential adverse effects on aquatic ecology related to the construction and operation of the scheme. The objectives of the Aquatic Ecology Management Plan shall be to:

(a) Protect the overall health and vitality of the existing aquatic ecosystem of the Wairau River and those tributaries that lie within the affected reach of the River;

(b) Ensure that the activities associated with the construction and operation of the scheme do not give rise to adverse effects on the existing aquatic ecosystem in the Wairau River or exacerbate any pre-existing adverse effect;

(c) Maintain the habitat of trout and salmon within the affected reach of the Wairau River.



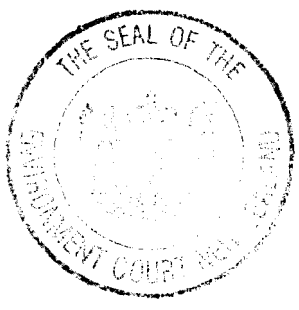
59. The Aquatic Ecology Management Plan shall establish environmental triggers to provide an indication of ecosystem stress and a process which directs consent holder action upon a trigger threshold being exceeded. The Aquatic Ecology Management Plan shall include the following triggers:

(i) A 30% reduction in the average density of mayfly and caddis fly larvae within the scheme diversion reach of the Wairau River relative to pre-operational levels and/or the control sites.
(ii) Within the Scheme diversion reach, the instantaneous (hourly) water temperature exceeds 23.0°C and temperatures exceed 20.0°C for more than four hours in a 24 hour cycle, and for more than three consecutive days.
(iii) Immediately downstream of the Power Station 5 tailrace after full mixing, instantaneous (hourly) water temperatures exceed 24.0°C and temperatures exceed 20.0°C for more than six hours in a 24 hour cycle, and for more than three consecutive days.
(iv) A sustained decrease in dissolved oxygen throughout the scheme diversion reach to below 80% saturation.
(v) A sustained decrease in water clarity throughout the scheme diversion reach by greater than 33% relative to the upstream control sites.
(vi) A 25% increase in the embeddedness of riffle habitats within the scheme diversion reach over two consecutive monitoring occasions through the diversion reach relative to pre operational levels and upstream control sites.
(vii) During sediment flushing a sustained decrease in water clarity downstream of the scheme diversion reach greater than 50% relative to upstream control sites.

60. Without limiting conditions 63–69 below, the Aquatic Ecology Management Plan shall set out the methods by which the consent holder conducts:

(a) Pre construction/baseline investigation and monitoring of existing aquatic ecosystem composition and abundance, and water quality characteristics;
(b) Monitoring and identification of mitigation / management measures during the construction and operational phases; and
(c) Reporting obligations at each phase (preconstruction, construction and operation of the scheme), and identification of appropriate and robust contingency plans should any adverse effects be detected.

61. The consent holder shall engage an expert aquatic ecology peer reviewer to review the Aquatic Ecology Management Plan prior to it being submitted to the Consent Authority for approval. The peer reviewer shall be nominated and appointed by agreement between the consent holder and the Consent Authority. It is envisaged that this peer reviewer will later be appointed to the Ecological Advisory Group (EAG) required by



condition 207. The report of the peer reviewer shall form part of the documentation submitted to the Consent Authority.

62. The consent holder shall be responsible for the implementation of the Aquatic Ecology Management Plan throughout the pre construction, in-river construction and operation of the scheme, and its regular review as appropriate. Any review of the Aquatic Ecology Management Plan shall be completed to the satisfaction of the Consent Authority to ensure that it meets the objectives set out in condition 58.

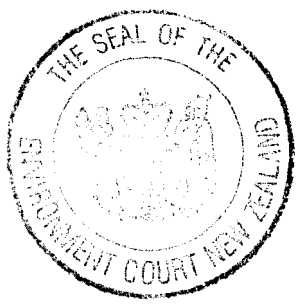
63. Prior to the commencement of any in-river construction activities the consent holder shall conduct the following monitoring. This monitoring shall be undertaken for at least two years prior to any in-river construction activities associated with the implementation of the scheme.

(a) Abundance and distribution of benthic macroinvertebrates, periphyton and fish;
(b) Water quality, including water clarity, electrical conductivity, dissolved oxygen, pH, Nitrate/Nitrite-Nitrogen, Ammoniacal-Nitrogen, Total-Nitrogen, Dissolved Reactive Phosphorous, Total Phosphorous, Total Suspended Solids and temperature;
(c) Any other monitoring deemed necessary by the consent holder to properly characterise existing aquatic ecological values.

Advice note:
For the purpose of satisfying this condition, research and monitoring data collected prior to the grant of consent may be utilised to establish baseline conditions.

64. The consent holder shall ensure that the monitoring outlined in condition 63(a) and (b) is undertaken:
(a) In November, February, and May of each year or as close as possible to these months should high flow prevent effective sampling over these months for benthic macroinvertebrates, periphyton and fish.
(b) In November, February, May and August of each year or as close as possible to these months should high flow prevent effective sampling over these months for water quality.

65. The consent holder shall ensure that the monitoring outlined in condition 63(a) and (b) is undertaken at the following sites within the Wairau River, or such other sites as determined and described in the approved Aquatic Ecology Management Plan:
(a) A site known as 'Six Mile' located approximately 12km upstream of the bund associated with the intake for the scheme, to be used as a control site;
(b) A site known as 'Airstrip' located approximately 1 – 2 km upstream of the bund associated with the intake for the scheme, to be used as a control site;



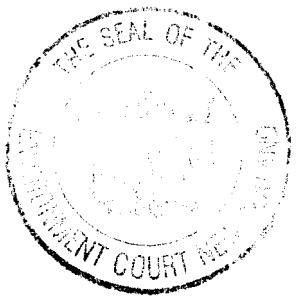
(c) A site known as 'Argyle' located approximately 3.5km downstream of the sediment retention basin sluice tailrace confluence with the Wairau river;
(d) A site known as 'Wairau Valley' located approximately midway between the intake for the scheme and the Power Station 5 tailrace confluence with the Wairau river;
(e) A site known as 'Marchburn' located just upstream of the Power Station 5 tailrace confluence with the Wairau River;
(f) A site approximately 1km downstream of Power Station 5 tailrace confluence with the Wairau river;
(g) A site known as 'Renwick' located approximately 500 metres upstream of the Renwick Bridge (SH6).

66. Prior to the commencement of any in-river construction activities and for at least two years, the consent holder shall undertake an annual drift dive survey of the salmonid population at the following sites within the Wairau River, or such other sites as determined and described in the approved Aquatic Ecology Management Plan:
(a) Dip Flat
(b) Intake site
(c) Below the Branch River confluence
(d) Top Valley
(e) Marchburn
(f) The Narrows
(g) Tuamarina.

67. Prior to the commencement of any in-river construction activities and for at least two years, the consent holder shall undertake two annual helicopter counts of salmonids (one prior to and the other during peak spawning (March to May)) in the Wairau River between the Power Station 5 tailrace confluence with the Wairau River and The Wash bridge.

68. Prior to the commencement of in-river construction activities and for at least two years, the consent holder shall undertake continuous water temperature monitoring at the following sites along the Wairau River, or such other sites as determined and described in the approved Aquatic Ecology Management Plan:
(a) Either at The Wash bridge or at the Scheme intake site;
(b) A site known as 'Marchburn' located just upstream of the Power Station 5 tailrace confluence with the Wairau River;
(c) A site approximately 1000 metres downstream of the Power Station 5 tailrace confluence with the Wairau River.

69. The consent holder shall ensure that the results from the monitoring undertaken in accordance with conditions 60-68 are reported and a copy of this report submitted to the Consent Authority as part of the Aquatic Ecology Management Plan prior to the commencement of construction.



River Birds

70. Prior to the commencement of construction the consent holder shall prepare, and implement a Pre-Scheme Black-Fronted Tern and Black-Billed Gull Research and Monitoring Plan. This plan shall be prepared and submitted to the Consent Authority for approval in accordance with Condition 11. This Plan shall be prepared in consultation with the Department of Conservation, Royal Forest and Bird Protection Society and the Ornithological Society of New Zealand and with input from a biostatistical expert.

71. The purpose of the Pre-Scheme Black Fronted Tern and Black-Billed Gull Research and Monitoring Plan shall be to build on current knowledge of the ecology of Black-fronted Terns and Black-billed Gulls on the Wairau River to ensure that there is a sound statistical base to enable the implementation of adaptive management to mitigate any adverse effects arising from the construction and/or operation of the scheme. The plan shall incorporate but not be limited to the following requirements whereby the consent holder shall be required to:

(a) Collect data on Black-Fronted Tern and Black-Billed Gulls and other river birds on the Wairau River during the nesting season (October to January inclusive);

(b) Investigate the relationship between breeding success (including number of chicks fledged) and river flows;

(c) Determine the breeding success of Black-Fronted Tern and Black-Billed Gulls colonies and predation rates throughout the nesting season;

(d) Select monitoring sites including nesting sites within the diversion reach and outside of it and in sufficient numbers to ensure that monitoring is statistically valid and scientifically robust;

(e) Collect data for Black-Fronted Terns and Black-Billed Gulls at sufficiently regular intervals to effectively monitor egg and chick survival and fledging success during the nesting season (October to January inclusive) but in a manner that minimises disturbance to the birds;.

(f) Collect data including but not limited to:

(i) number of nests with eggs

(ii) number of eggs per nest

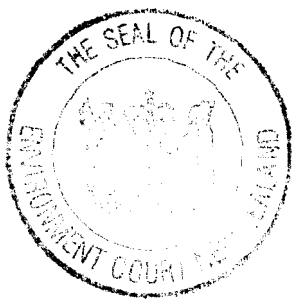
(iii) number of eggs hatched

(iv) number of failed eggs

(v) number of fledged chicks

(vi) details of the cause of death of eggs, chicks and adults, as far as practical.

(g) Collect data on other species of river birds if determined to be appropriate in the preparation of the Black-Fronted Tern and Black-Billed Gull Research and Monitoring Plan. Undertake surveys of the number and distribution of Black-Fronted Terns and Black-Billed



Gulls and other river birds on the Wairau River for at least two years prior to the commencement of operation of the Scheme.

Advice note:

For the purpose of this condition, research and monitoring data may include data obtained prior to the grant of consent.

72. The consent holder shall submit the Pre-Scheme Black-Fronted Tern and Black-Billed Gull Research and Monitoring Plan to an expert peer review panel consisting of two appropriately qualified experts, one nominated on behalf of the consent holder and the second nominated by Department of Conservation. The expert panel shall review the plan having regard to, but not limited by, the purpose of the plan and criteria (a) to (g) set out in condition 71.

73. Prior to the commencement of construction of the scheme, the consent holder shall submit the Pre-Scheme Black-Fronted Tern and Black-Billed Gull Research and Monitoring Plan to the Consent Authority for approval. The report of the expert panel shall form part of the documentation submitted to the Consent Authority.

74. In the event that the expert panel cannot agree as to the appropriate research and-monitoring and measures required, each expert shall submit their preference to the Consent Authority and the Consent Authority who shall then make the final decision as to the contents of the Pre-Scheme Black-Fronted Tern and Black-Billed Gull Research and Monitoring Plan. The Consent Authority may seek such independent expert advice as it thinks fits in its decision making.

75. Immediately following approval of the Pre-Scheme Black-Fronted Tern and Black-Billed Gull Research and Monitoring Plan the consent holder shall implement the Plan. The consent holder shall continue to implement the Plan so as to ensure that it obtains at least two years of research and baseline monitoring data prior to the commencement of operation of the scheme.

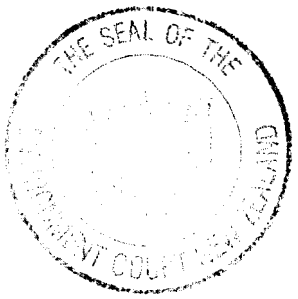
Advice note:

For the purpose of this condition, research and monitoring data may include data obtained prior to the grant of consent.

76. By the 15th of May each year, the consent holder shall submit to the Consent Authority a report prepared by an appropriately qualified expert detailing the results of the annual research and monitoring required under condition 71. The consent holder shall provide a copy of this report to the Department of Conservation, Royal Forest and Bird Protection Society and the Ornithological Society of New Zealand.

Terrestrial Vegetation and Wetlands Management

77. The consent holder shall ensure that a Vegetation Management Plan is prepared and submitted to the Consent Authority for approval in accordance with Condition 11. The formulation of this plan shall be carried out in consultation with the Department of Conservation, Nelson



Marlborough Fish and Game Council and the Royal Forest and Bird Protection Society.

(a) In formulating the Vegetation Management Plan the consent holder shall ensure that the following objective is achieved:

(i) That adverse effects on terrestrial vegetation and wetlands are appropriately avoided, remedied or mitigated throughout the construction and operation of the Scheme.

(b) The purpose of the Vegetation Management Plan shall be to determine the approach to monitoring, assessment and mitigation that will be implemented by the consent holder related to the construction and operation of the scheme to address the actual and potential effects of the scheme on terrestrial vegetation and wetlands. The plan shall include the following details:

(i) A description of the vegetation protection and restoration associated with the scheme;

(ii) The proposed monitoring of the existing significant vegetation and wetlands within the scheme footprint to be undertaken, in order to verify predictions; and

(iii) Identification of a range of contingency measures which can be implemented if necessary.

78. In accordance with the Vegetation Management Plan the consent holder shall ensure that the following objectives are achieved:

(a) Protect as much as possible of the presently isolated and fragmented copses of remnant indigenous vegetation within the RAP 15 (as shown on Figure 1: Proposed Protection and Restoration contained in the Vegetation and Wetlands Management Plan) *Argyle Kanuka* complex at Traverse Spur;

(b) Connect the RAP 15 sites by way of protecting stands of exotic forest that provide habitat linkages and also by way of additional plantings of native vegetation. Exotic stands will be managed towards a greater presentation of indigenous vegetation;

(c) Establish an appropriate and functional forest type in the revegetation sites, both at RAP 15 and in the Canal 4 and 5 embayments. These revegetation plantings will need to be dominated by indigenous species which in the past would have characterised the area;

(d) Establish indigenous wetlands within the Regulation Pond, and within Canal 4 and 5 embayments, which will serve as waterfowl and wader habitat;

(e) Assist in the natural regeneration cycle that is presently occurring within some of the existing shrubland and stonefield habitat at RAP 15, and assist in the conversion of the exotic habitat linkages referred to above into native bush corridors;

(f) Restore self sustaining ecosystem processes within the rehabilitated, linked and revegetated areas, including natural regeneration, successional processes, evolving habitat opportunities, soil formation, seed dispersal and nutrient cycling;

(g) Implement ongoing ecological management of the protected and restored sites, including pest, predator and weed control.

79. Subject to condition 80, as part of meeting the obligations inherent in condition 77, the consent holder shall prepare and submit a Vegetation Protection and Restoration Plan (being a sub-set of the wider Vegetation Management Plan) for the approval of the Consent Authority. This Plan shall be required to achieve the following:

(a) The legal protection of 18.7 ha of existing ecologically significant indigenous bush, including 10.7 ha of RAP 15 Argyle Kanuka as identified in the Vegetation Management Plan and an area of manuka shrubland that may be unique within the context of the Hillersden Ecological District;

(b) The legal protection of 15.6 ha of exotic forest (comprising a variety of species) that presently provides functional connections (i.e. ecological corridors) between the otherwise fragmented remnants of RAP 15 Argyle Kanuka as identified in the Vegetation Management Plan;

(c) The gradual replacement of the exotic component of these existing corridors with indigenous forest species, by way of incremental ring-barking and low-level direct efforts such as seed-broadcast by hand or planting within the created light wells;

(d) The passive ecological restoration of 6.7 ha of presently regenerating shrub land and moss-stone field habitat at RAP 15 Argyle Kanuka as identified in the Vegetation Management Plan;

(e) The active revegetation (ie physical planting) of 3.6 ha of native forest at RAP 15 Argyle Kanuka as identified in the Vegetation Management Plan;

(f) The active revegetation (ie physical planting) of 4.3 ha of indigenous wetlands at RAP 15 Argyle Kanuka as identified in the Vegetation Management Plan;

(g) The active revegetation (ie physical planting) of 1.2 ha of native riparian forest around the Canal 4 and Canal 5 embayments;

(h) The active revegetation (ie physical planting) of 1.0 ha of indigenous wetlands at the Canal 4 and Canal 5 embayments;

(i) Control of weeds as well as animal pests and predators in the RAP 15 Argyle Kanuka area as identified in the Vegetation Management Plan and at the Canal 4 and Canal 5 embayment revegetation sites.

80. The consent holder shall use best endeavours to secure the legal protection of the lands and habitats specified in condition 79. In the event that the consent holder is unable to secure such protection in some instances, the consent holder shall in consultation with the Department of Conservation and the Consent Authority, provide equivalent protection elsewhere for alternative indigenous habitat of at least the same

ecological value, or otherwise provide works in lieu of protection up to a similar dollar value that would have been associated with the protection of alternative sites.

81. As part of meeting the objectives inherent in condition 77, the consent holder shall prepare and submit a Vegetation Monitoring Plan (being a sub-set of the wider Vegetation Management Plan) for the approval of the Consent Authority. This Plan shall be required to set out methods necessary to:

(a) Monitor the existing native terrestrial bush and shrub lands within the Wairau River, its margins, and in areas influenced by the canal construction, to determine whether or not there are any adverse effects directly attributable to the lowering or mounding of groundwater levels and the lowering of average river stage height associated with the construction and operation of the scheme;

(b) Monitor the natural wetlands and riparian willow stands within the Wairau River and its margins to determine whether or not there are any adverse effects directly attributable to the lowering or mounding of ground water levels and the lowering of average river stage height.

82. The consent holder shall ensure that the monitoring conducted to give effect to the Vegetation Monitoring Plan includes the following measures:

(a) Establishment of a full set of sites and identification of a sub-set of bush sites suitable to provide sufficient information about the existing ecological health of native terrestrial bush and shrub lands within and adjacent to the margin of the Wairau River.

(b) The completion of a baseline (pre-construction) survey including:

(i) a survey of the vegetation health of up to seven bush sites (all north bank) and two control sites; and

(ii) monthly piezometer readings at all monitoring sites (as required by the Groundwater Management Plan).

CONSTRUCTION

Construction Management Plan

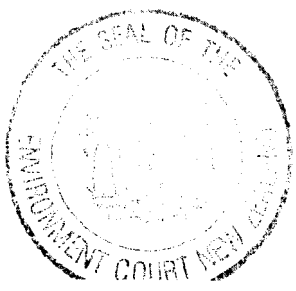
83. The consent holder shall implement and adhere to the requirements of the Construction Management Plan required by condition 16 at all times during construction of the scheme.

84. The consent holder shall ensure that the scheme is constructed in generally accordance with conditions 23 – 26.

In-River Construction Works Management

85. No fuel storage or machinery refuelling shall be undertaken within 50 metres of a surface water body as defined by the Resource Management Act.

Advice note:



Water body (RMA Definition): means fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area.

86. Bunds will be positioned around the perimeter of fuel stores and the bunded area shall be lined with an impermeable layer to capture spills and clean-up equipment shall be maintained in a serviceable manner at each fuel store throughout the duration of the construction period.

87. In carrying out construction works in relation to the intake site, the tailrace and any other in-river works (including the Wairau River main stem and south bank tributary water bodies) the consent holder shall:

(a) Keep the affected working area to a practicable minimum and ensure that all plant and machinery working in the river is cleaned so as to be free of weeds or pest plants or seeds prior to entering the water;

(b) As far as practicable, work outside the flowing water;

(c) Ensure that any reinstatement of works after floods is, as far as practicable, on the recession of the flood, while the river flow is still naturally turbid;

(d) Install velocity barriers to prevent the upstream movement of fish at the end of all operational outfalls;

(e) Ensure that no construction or diversion activities occur within 50 metres of an occupied Black-Fronted Tern or Black-Billed Gull nesting area;

(f) Prior to undertaking any construction or maintenance activities in the months 1 July to 31 January (inclusive), ensure that a river bird nesting survey is undertaken by a suitably qualified expert to determine the location of any nests / nesting areas. A copy of this report shall be provided to the Consent Authority and the Department of Conservation.

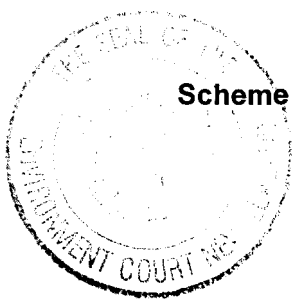
(g) Ensure that any diversion of river braids for the purpose of the intake, facilitation of operational sediment flushing and outfall works does not: prevent an existing water channel from flowing between any Black Fronted Tern nesting colony and the river bank, or impede fish passage; and

(h) Ensure that the installation of culverts adheres to the Fish Passage Guidelines prepared by the Department of Conservation (1999).

(i) Ensure that public access to the Wairau River is maintained as far as practicable throughout the construction period but in a manner consistent with maintaining public safety.

For the avoidance of doubt, this condition applies only during the construction of the Scheme and shall not apply during operation to works in the Wairau River bed necessary after flood events or freshes to reinstate flow diversions or repair bunds.

Scheme Construction Earthworks



88. In carrying out all earthworks (excluding earthworks necessary for the construction of the canal which are addressed in condition 89 below and in-river works undertaken in the bed of the Wairau River and its tributaries being those water courses covered in conditions 87 and 90), the consent holder shall adopt the recommendations of the Environment Canterbury Erosion and Sediment Control Guidelines 2007 for control and treatment of storm water runoff including the following measures:

(a) Divert clean runoff around the construction area;

(b) Contain runoff from a worked site in a pond to settle sediment before discharge to the receiving stream or water;

(c) Where practicable, pass the discharge through a grassed swale to further reduce the sediment load to be discharged to the receiving stream or water;

(d) Provide protection against erosion and entrainment of further sediment at the discharge point;

(e) Reinstate and re-grass any worked areas as soon as practicable following completion of earthworks or where there will not be any works for more than six months, in order to minimise the potential entrainment of sediment in water.

89. In carrying out earthworks relating to the construction of the canals and head ponds, the consent holder shall (without derogating from the guidelines referred to in condition 88):

(a) Divert clean runoff around the construction area;

(b) Capture storm runoff from worked areas and treat in ponds prior to discharge to receiving streams or to clean water drainage channels;

(c) Where practicable, pass the discharge through a grassed swale to further reduce the sediment load to be discharged to the receiving stream or water;

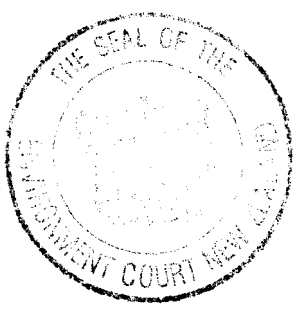
(d) Provide protection against erosion and entrainment of further sediment at the discharge point;

(e) Keep the worked area to a practicable minimum, and reinstate as soon as practical following the completion of any work;

(f) Ensure that those areas of natural vegetation that are to be retained post construction of the scheme are protected by a 10 metre wide buffer from earthworks and that other areas of natural vegetation are not used for staging or turning areas, avoid disturbing the surface of such areas and where such areas are disturbed, reinstate as soon as practical following the completion of such work;

(g) Collect groundwater and "clean" surface runoff and convey it along the invert of the canal to the first convenient discharge point; and keep the catchment area for any discharge point as small as practicable;

(h) Keep machinery and haul roads out of flowing water (except as indicated below in condition 90 relating to stream crossings);



(i) The consent holder shall create a register of names and contact details of the downstream property owners and implement a communication and complaints protocol with these owners.

90. In carrying out earthworks relating to stream crossings, the consent holder shall adopt the following standards:

(a) Keep work areas outside flowing water as far as practicable;

(b) If there is continuous flowing water, install a temporary culvert or other practicable method to convey base flows in the event that a haul road needs to cross the stream;

(c) Construct stream crossings in stages so that there is always a floodway available outside the work area or via completed permanent structures;

(d) Where the method imposed by condition 90(b) is to be implemented, the culvert is to be constructed adjacent to the stream and once finished, the stream is to be diverted through the culvert;

(e) Reinstate worked areas as soon as practicable following completion of the work;

(f) When installing culverts a minimum diameter of 300mm shall be utilised.

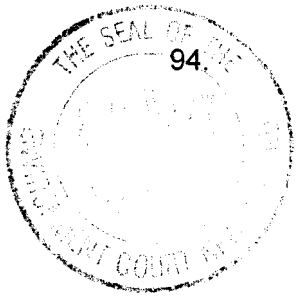
Dust Management

91. In order to mitigate the effects of dust nuisance the consent holder shall undertake the revegetation of any earthworks areas (including stockpile areas) within one month of completion of construction works on a particular site or if earthworks are not planned on the particular site for a period of more than two months.

92. If climatic conditions are such that revegetation of worked areas is not successful then the consent holder shall as soon as practicable undertake necessary additional mitigation measures to ensure that dust nuisance does not occur.

93. Where construction activities are to occur within 100 metres of a residence, the consent holder shall offer to temporarily relocate the affected persons of that residence. The relocation may be to other residences in the Wairau Valley, or other accommodation as agreed individually by the resident and the consent holder. The rights created by this condition shall also extend to any person who is living within the "construction envelope" which is attached as Figure D to these conditions who is able to demonstrate to the satisfaction of the Consent Authority by reference to an objective ambient air quality monitoring standard and on production of a medical certificate from a suitably qualified independent medical practitioner approved by the Consent Authority, that the resident or any person under their care has a respiratory condition which has been or is likely to be adversely affected by any discharges to air caused by the scheme construction works.

94. The dust mitigation measures identified in the Construction Management Plan shall be implemented by the consent holder at all times during the construction process.



95. The consent holder shall install real time particulate monitors adjacent to those properties whose owners choose not to be relocated as provided for in condition 93. Two trigger values will be established in consultation with the Consent Authority. The lower value will be used to warn construction staff and contractors that dust concentrations are increasing and that further mitigation measures as described in condition 18 are required. Where this trigger is exceeded, the mitigation in question shall be employed. The second value will be that at which all work affecting the said dwelling will be required to cease immediately. Where this trigger is exceeded, all work creating dust which affects the said dwelling shall cease until environmental conditions are such that the second value will not be exceeded by construction operations. The consent holder shall maintain a log of the monitoring data and shall make copies of the logs available to the Consent Authority when dust limits exceed the limits in condition 96 and/or upon request by the Consent Authority.

96. The consent holder shall ensure that the concentrations of nuisance dust attributable to construction activities do not exceed the Ministry for the Environment's dust nuisance criteria of 120µg/m³ as a 24 hour average for total suspended particulate, and 4g/m²/30 days above ambient for deposited particulate, at the notional boundary of any residence on another site.

97. Where the construction activities causing dust discharges to air are within 200m of a residence or where construction causing dust discharges to air occurs for more than six months within 300m of a residence the consent holder shall offer to undertake the following:

(a) Internal cleaning services;

(b) External cleaning services;

(c) Provision of alternate arrangements for drying clothes, and

(d) Except where the occupants have been relocated under condition 93, provision of air conditioning for so long as the activity will be in close proximity to the residence.

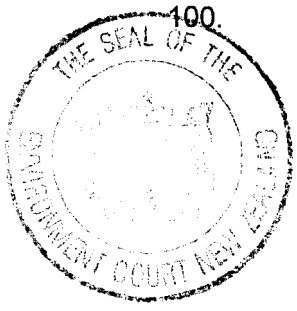
98. The consent holder shall schedule portions of the construction programme that have the potential to generate dust, to avoid work affecting properties within 100m of construction work during the spring, being from 1 September to 30 November inclusive.

Noise Management

99. The noise from construction works shall be measured and assessed in accordance with the requirements of NZS6803:1999 Acoustics – Construction Noise. The consent holder shall ensure that construction noise from the scheme complies at all times with the requirements of NZS6803:1999 Acoustics – Construction Noise.

Contaminated Sites

100. Should the consent holder uncover a contaminated site, it shall notify the Consent Authority and the consent holder shall formulate a method for remediation of the site. This method shall be submitted to the Consent Authority for approval.



The consent holder shall then implement the remedial action to the approval of the Consent Authority.

101. If any offal pits are uncovered during the construction of the scheme the consent holder shall undertake the following actions:

(a) Notify the Consent Authority;

(b) Temporarily cease all construction work within a 50m radius of the offal pit, until remediation as outlined in condition 101 (d) is completed;

(c) Take immediate steps to secure the offal pit against incursion by vermin such as rats and seagulls and cover the offal pit with clean fill to minimise odour until remediation can occur;

(d) Arrange immediately for the Consent Authority to investigate the discovery and provide recommendations for remediation. The consent holder shall follow these recommendations and provide confirmation in writing to the Consent Authority that it has done so, and arrange for a final inspection by the Consent Authority once remediation has been completed.

Cultural and Archaeological Protocols

102. The consent holder shall ensure that the Project Archaeologist or nominated representative appointed in accordance with condition 19 supervises all earthworks activity on sites identified in the survey undertaken in accordance with condition 19.

103. If any artefacts or historical, cultural or archaeological material, is found or uncovered whilst undertaking work authorised by this consent, the following shall be complied with by the consent holder:

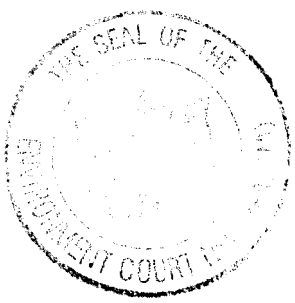
(a) Work shall cease immediately within a 50m radius of the artefact or cultural, historical or archaeological material;

(b) Notice of the discovery shall be given, as soon as possible, to Te Runanga a Rangitane o Wairau, Ngati Toa Ki Wairau, Ngati Rarua Iwi Trust, and Ngati Apa Ki Te Waipounamu;

(c) No work shall recommence until 72 hours after advice has been given to such iwi or agreement reached between the parties regarding appropriate protection measures, whichever is the sooner;

(d) If any activity associated with the above proposal (such as earthworks and planting) is likely to modify, damage or destroy an archaeological site, an authority from the New Zealand Historic Places Trust must be obtained for the work to proceed lawfully. In the event that an archaeological site is encountered during work, all works must cease on the site and the New Zealand Historic Places Trust must be contacted as soon as possible.

Advice Note:
The consent holder is advised to consult with officers of the New Zealand Historic Places Trust regarding the need for any archaeological assessment of the site or archaeological authority prior to any earthworks or construction taking place.



In the event of the accidental discovery of any artefacts or historical, cultural or archaeological material the consent holder shall ensure that the Project Archaeologist or nominated representative is on-site within 48 hours to advise on and supervise the necessary course of action in general accordance with condition 103.

Fish Screen

104. To ensure the effectiveness of the fish screen and fish barriers in achieving the objectives in conditions 20 and 21 the consent holder shall undertake a trial to determine the efficacy of the proposed fish screen and fish barriers. The trial shall require the consent holder to trial the fish screen and fish barrier designs and refine the designs prior to the commissioning of the scheme to ensure the objectives as stated in condition 20 are achieved.

105. (a) The consent holder shall prepare a report detailing the findings of the trial undertaken in accordance with condition 104 in particular the effectiveness of the fish screen and fish barriers and specifying whether any design refinements are required to achieve the objectives as stated in condition 20. This report shall be submitted to the consent authority for approval.

(b) The consent holder shall provide copies of this report to the Department of Conservation and the Nelson Marlborough Fish and Game Council. The consent holder shall consult with the Department of Conservation and the Nelson Marlborough Fish and Game Council on the design of the fish screen and fish barriers.

Sediment Retention Basin

106. The consent holder shall construct the sediment retention basin in accordance with the performance objectives outlined in condition 22.

Traffic Management

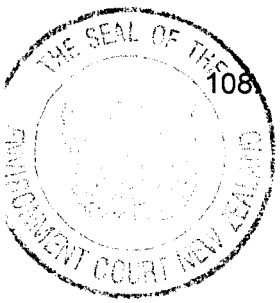
107. All traffic management measures associated with scheme construction shall be implemented in accordance with the Traffic Management Plan required by these conditions and with the New Zealand Transport Agency Code of Practice for Temporary Traffic Management including:

(a) If road closures or deviations are adopted then the effects on local traffic shall be monitored in accordance with the Code of Practice for Temporary Traffic Management and no traffic hazards or excessive disruption created;

(b) The monitoring of the effect of dust on visibility at the haul road crossings;

(c) If traffic signals are installed at construction road/public road intersections, road safety audits and on-going monitoring will be required to ensure road safety is maintained and that excessive delays do not result in disruption to the public road traffic.

108. The consent holder shall ensure that Church Lane is not utilised as a haulage route at any time during construction of the scheme.



Landscape and Visual Amenity

109. The consent holder shall implement the requirements and methods set out in the Landscaping Plan required by condition 30 during, and where necessary post construction of the scheme. All planting obligations shall be completed within six months of the completion of work on the stage for which planting is intended. If any plant or tree should die or become diseased it shall be replaced with either the same or more suitable species, at the consent holder's expense.

Health and Safety

110. Prior to the commencement of operation of the scheme, the consent holder shall ensure that:

(a) Warning signs are placed at the intake and immediately upstream of the rock groyne, warning people that the southern channel is a power station intake, and to keep out;

(b) Signage is erected in locations agreed by the Consent Authority indicating the potential for river flow fluctuations downstream of the intake structure;

(c) These signs shall be maintained by the consent holder for the duration of these consents; and

(d) The consent holder shall erect and maintain warning notices informing people about the variable nature of the discharges from Power Station 5. Such notices shall be placed adjacent to the downstream end of the outfall from Power Station 5 and at Fish and Game access points in the vicinity of the outfall.

111. The consent holder shall implement an early warning system to assist in advising residents in the vicinity and users of affected waterways that are designated spillways that spilling from the canal is about to occur and/or sediment flushing is about to be carried out within the Wairau River.

Recreation

112. Prior to the commencement of operation of the scheme, the consent holder shall ensure that:

(a) A haul-out area for kayaks is provided on the Wairau River upstream of the scheme intake channel;

(b) Play facilities for kayakers are provided below Power Station 5 and within the canal above the scheme outlet;

(c) The design and operation of the intake structure on the Wairau River enables kayaks and jet boats to pass safely and continue along the Wairau River; and

(d) Appropriate pedestrian access is provided to the Wairau River for the public in the vicinity of the existing Fish and Game access at Tapps Road.

113. The consent holder shall ensure that the design of the recreational facilities in condition 112 shall generally accord with the layout plans submitted as part of the consent application.

Dam Safety and Surveillance Management Plan During Operation (Scheme Design)

114. Structures authorised by this consent shall be designed, constructed and maintained for the life of the consent in accordance with the NZSOLD Dam Safety Guidelines, November 2000 (and any subsequent amendments).

115. Prior to the commencement of operation of the scheme, commissioning procedures, operation and maintenance manuals and safety management plans (including an Emergency Action Plan) which meet the recommendations of the NZSOLD Guidelines shall be prepared by the consent holder and submitted to the Consent Authority for approval.

Community Liaison Group and Complaints Procedure

116. Prior to the commencement of construction and at all times during construction of the scheme, the consent holder shall establish and operate a Community Liaison and Complaints Procedure as follows:

(a) The consent holder shall have a clearly nominated and publicly communicated contact person within its own organisation or with one of its local agents for complaints during construction;

(b) The consent holder shall establish a 24 hour complaints freephone number for the local community to call if they have any concerns regarding construction. The freephone number shall be advertised in the local newspaper prior to the commencement of construction and at regular periods during construction;

(c) The consent holder shall maintain a log of any complaint received including the following: the date, time, complainant name and contact details, nature of the complaint including the cause and effect if known, record of action taken to address or mitigate the complaint;

(d) The consent holder shall respond to complaints as soon as is practicable but not later than 24 hours and shall log the action that it intends to take in response to the complaint;

(e) The consent holder shall communicate with the complainant about all actions taken;

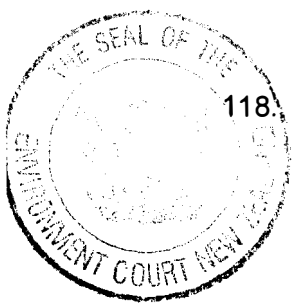
(f) The consent holder shall document any other longer term actions to be taken;

(g) The consent holder shall present an incident summary (ie (b) to (e) above) to the meetings of the Community Liaison Group for review; and

(h) The consent holder shall make the complaints and response log available to the Consent Authority on request.

117. The Community Liaison Group shall meet as decided by members of the Group during both the construction and post construction of the scheme to receive and deal with any feedback or complaints from affected members of the local community.

118. The consent holder shall provide the Community Liaison Group with a copy of all environmental monitoring reports once they have been



completed. The reports shall be submitted to the Community Liaison Group at the same time as they are submitted to the Consent Authority.

119. During construction of the scheme the consent holder shall ensure that independent social monitoring is undertaken. Social monitoring shall include interviews with residents and community members within the vicinity of the scheme. The interviews shall be undertaken once every six months during the construction period and a report shall be prepared. The consent holder shall submit a report outlining the results of the social monitoring to the Consent Authority and Community Liaison Group along with an action plan of how the consent holder intends to mitigate the concerns raised. The report and plan shall be submitted not later than four weeks after it is prepared.

Southern Tributaries

120. The consent holder shall ensure that it does not modify the low flow regime of Walkers Stream, or Mill Stream during construction or operation of the scheme. For the purposes of this condition low flow shall be considered to be any flow below the median flow. The regime shall be monitored during construction by gauging stations immediately upstream and downstream of the canal as specified by condition 38.

121. The consent holder shall use reasonable endeavours to ensure that existing water flows into Mill Stream and Walkers Stream are not disturbed or affected by the construction of the scheme.

122. The consent holder shall continue to monitor all permanent gauging stations used to derive the relationships in accord with conditions 38 and 39 during the construction and operation of the scheme, and supply that information to the Consent Authority in electronic format on a daily basis.

123. The consent holder shall ensure that all construction work affecting Mill Stream and Walkers Stream is conducted and completed between 1 November and 15 April in each year.

Groundwater Management

124. During the construction period the consent holder shall implement the mitigation and monitoring regime as described in condition 49.

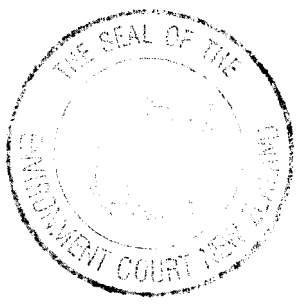
125. Where reporting and/or monitoring (including Complaint Logs in accordance with condition 127) are required to be undertaken by the consent holder then unless specifically stated elsewhere, the consent holder shall supply such information to the Consent Authority on a monthly basis.

126. In addition, for each de-watering discharge point the following records shall be kept:

(a) Daily records of the peak and average discharge flow;

(b) A description of the discharge point; and

(c) A daily field measurement of the discharge water quality to determine the pH, electrical conductivity and turbidity of the discharge.



127. The consent holder shall establish a Groundwater Complaints Log. This log will operate throughout the construction period and record complaints or concerns which are related to changes in groundwater conditions or changes in surface waterways due to groundwater activities and the subsequent response actions taken by the consent holder.

128. The consent holder shall analyse the groundwater monitoring data. The analysis shall be provided to the Consent Authority and should identify:

(a) A comparison with the measurements made before the construction activities commenced;

(b) Comparison with measurements made outside of the areas that could be affected by the scheme activities.

129. The consent holder shall implement mitigation measures as described within the Groundwater Management Plan if the following triggers are breached during the construction period:

(a) A breach of the 'natural' range of fluctuations in the groundwater monitoring network estimated in accord with condition 57(b); or

(b) A discharge of a quality that is likely to cause abnormal exceedance or variances of existing levels of pH, electrical conductivity, alkalinity, E.Coli, Chloride, Nitrate-N, Nitrite-N, Ammonia-N, Total-N, Dissolved Reactive Phosphorous, Total Phosphorous and Arsenic in the receiving environment, as determined by the discharge quality measurements that are undertaken as part of the water quality monitoring detailed in conditions 54 and 126; or

(c) In the event that a complaint related to credible groundwater effects is received.

130. If the consent holder receives a credible complaint related to groundwater effects and the nature of that complaint is such that an existing domestic or stockwater supply has been interrupted, the consent holder shall take all reasonable and necessary steps to immediately restore that supply or provide an alternative suitable supply of a standard that is of similar or better quality and quantity.

131. Following the construction period and prior to commencement of operation of the scheme the consent holder shall prepare a report for the Consent Authority detailing the groundwater monitoring that has been undertaken, the effects created by the construction activities and the mitigation measures that have been implemented. This report shall include all data collected as well as the recommendations as to the following:

(a) The future monitoring requirements;

(b) The trigger levels to be used during the operation of the scheme for determining any adverse effects on the groundwater system, or on those who rely on it;

(c) The mitigation measures to be maintained or implemented during the operational phase of the scheme.

132. The consent holder shall appoint an expert groundwater peer reviewer for the duration of the construction period associated with the scheme. The peer reviewer shall be nominated and appointed by agreement between the consent holder and the Consent Authority (and be the same person engaged under Condition [50]). The groundwater peer reviewer may be called upon for determining any claim that changes to ground water conditions arising from scheme construction have caused a breach of the natural range of groundwater fluctuations whereby that breach removes or dewaters an existing well or groundwater take, or has caused an abnormal exceedance of existing levels of those values referred to in conditions 57 and 129 within the area defined within condition 51.

Process for the Assessment of Claims

133. If the Consent Authority is notified of an adverse effect of the nature specified in condition 127 by the owner of an existing well or groundwater take (claimant) within the area defined by condition 51, or it has been necessary for the consent holder to take remedial action in accordance with condition 130, then:

(a) The Consent Authority (or a suitably qualified nominee) and the consent holder (or a suitably qualified nominee) shall undertake a joint inspection of the affected site;

(b) If the Consent Authority forms the view that there are reasonable grounds for the claim and that the effect may be a result of the exercise of this consent, the Consent Authority shall formally notify the claimant that the consent holder will either remedy the adverse effect if that has not occurred already or invite the claimant to refer the claim to the groundwater peer reviewer;

(c) If following assessment the groundwater peer reviewer concludes that the claimed breach or exceedance was caused by the scheme construction then the consent holder shall take steps to remedy the breach or exceedance at its own cost if it has not done so already;

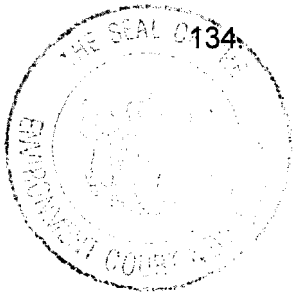
(d) For the purpose of this condition the findings of the groundwater peer reviewer shall be binding on both parties;

(e) The consent holder may, instead of undertaking any remedial work or completing the assessment process, choose to negotiate with the claimant to undertake or pay the cost of those remedial works directly to the claimant, or otherwise reach agreement with the claimant in respect of any damage;

(f) For the purpose of this condition, remedy shall include a water supply of similar, or better quality and quantity as determined by the groundwater quality monitoring in conditions 57 and 129;

(g) If the groundwater peer reviewer concludes that the claimed breach or exceedence was not caused by the scheme construction then the consent holder shall not be required to take remedial action. If remedial action has already been implemented in accordance with condition 130, then all reasonable costs associated with remedy shall be reimbursed to the consent holder by the claimant.

134. The consent holder shall ensure that in the event that there is any discharge required for remediation purposes, the discharge shall be



strictly limited to that needed to remedy any breach or exceedance identified in accordance with conditions 129 or 130.

135. The Groundwater Management Plan shall set out procedures to resolve any disputes that may arise in relation to the remedial actions proposed or undertaken in accordance with conditions 133(e) - (g).

Aquatic Ecology - Main Stem

136. The consent holder shall be responsible for the implementation of the Aquatic Ecology Management Plan throughout the construction and operation of the scheme, and its regular review as appropriate. Any review of the Aquatic Ecology Management Plan shall be completed to the satisfaction of the Consent Authority to ensure that it meets the objectives set out in condition 58.

137. During the in-river construction works the consent holder shall conduct the following monitoring:

(a) Abundance and distribution of benthic macroinvertebrates, periphyton and fish;

(b) Water quality, including clarity, electrical conductivity, dissolved oxygen, pH, Nitrate/Nitrite-Nitrogen, Ammonia-Nitrogen, Total-Nitrogen, Dissolved Reactive Phosphorous, Total Phosphorous and suspended sediment.

138. The consent holder shall ensure that the monitoring required by condition 137 is undertaken:

(a) In November, February, and May of each year or as close as possible to these months should high flows prevent effective sampling over these months, for benthic macroinvertebrates, periphyton and fish.

(b) In November, February, May and August of each year or as close as possible to these months should high flows prevent the effective sampling over these months for water quality.

139. The consent holder shall ensure that the monitoring in condition 137 throughout the construction period is undertaken at the sites listed in condition 65.

140. During the in-river construction works the consent holder shall undertake an annual drift dive survey of the salmonid population at the sites listed in condition 66.

141. During the in-river construction activities the consent holder shall undertake continuous water temperature monitoring at the following sites along the Wairau River:

(a) Either at The Wash bridge or at the Scheme intake site;

(b) A site downstream of the Wairau power station;

(c) A site known as 'Marchburn' located just upstream of the Power Station 5 tailrace confluence;

(d) A site approximately 1km downstream of the Power Station 5 tailrace confluence;

(e) The Scheme canal in the immediate vicinity of Power Station 5.

142. The consent holder shall ensure that the results from the monitoring undertaken in accordance with conditions 137-141 are analysed and reported on and submitted to the Consent Authority.

143. The contingency actions contained in the Aquatic Ecology Management Plan are to be implemented if the analysis of the information gathered from the monitoring undertaken in accordance with conditions 137–141 shows that the triggers set out in Condition 59 have been breached.

River Birds

Management Plan

144. Prior to commencement of operation of the scheme, the consent holder shall prepare a Black-fronted Tern and Black-billed Gull Work Plan and Programme for the first five years of scheme operation. The Black-fronted Tern and Black-billed Gull Work Plan and Programme shall be a rolling five year plan which is revised annually to update research, monitoring and work obligations for the life of the Scheme and it shall include an annual work programme. The need for this work plan and programme shall be reviewed at five yearly intervals. The Black-Fronted Tern and Black-Billed Gull Work Plan and Programme shall incorporate, but not be limited to, the following provisions:

(a) The objectives of the Black-Fronted tern and Black-Billed Gull Work Plan and Programme shall be to:

(i) Monitor and assess the effects of the scheme and associated management actions on river birds, particularly Black-Fronted Terns and Black-Billed Gulls;

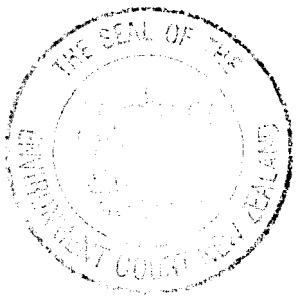
(ii) Ensure that good quality breeding and foraging habitat is retained within the Wairau River environment for Black-Fronted Terns and Black-Billed Gulls;

(iii) Reduce mortality at nests of Black-Fronted Terns and Black-Billed Gulls;

(iv) Improve knowledge and techniques for management of Black-Fronted Terns and Black-Billed Gulls.

(b) The Work Plan and Programme shall contain the methods for estimating Black-Fronted Tern, Black-Billed Gull and other river bird abundance and distribution on the Wairau River during the breeding season using data collected in accordance with condition 71;

(c) An appropriate five year monitoring and work programme outlining methods shall include (but not be limited to):



(i) The type and timing of monitoring of aquatic invertebrates and fish (including Dwarf Galaxias (*Galaxias divergens*)), including monitoring during the October to January (inclusive) bird nesting season, and the means by which data shall be incorporated into the analysis of food supplies and feeding by Black-Fronted Terns and Black-Billed Gulls.

(ii) Methods for identifying any biologically significant difference between pre-scheme and post-scheme breeding success and populations of Black-Fronted Terns and Black-Billed Gulls. These methods shall include assessments of the fledging success of Black-Fronted Terns and Black-Billed Gulls within and outside the diversion reach and shall include the use of a biostatistical expert to determine whether there has been a biologically significant change in fledging success.

(iii) Predator control that is required to be implemented in the scheme diversion reach of the river in order to assist in meeting the objectives of the Black-Fronted Tern and Black-Billed Gull Work Plan and Programme set out in condition 144(a).

(iv) Methods for managing any reduction in the population and/or breeding success (including fledgling success) of the Black-Fronted Tern and Black-Billed Gulls, as a result of the scheme including but not limited to aquatic food availability, flow management, predator control, habitat enhancement including shrub weed removal at known breeding sites, and the means by which the consent holder will implement these methods.

(v) The reporting obligations of the consent holder during operation to detail the monitoring that has been carried out, the effects created by the scheme, the mitigation measures that were implemented and the cost of implementing the monitoring and mitigation measures.

(d) The work plan and programme shall set out the projected costs of implementing the five year monitoring and mitigation measures.

(e) The work plan and programme shall set out the details of the annual work programme to be implemented in the following year including the projected costs of implementing the programme.

(f) The consent holder shall investigate the efficacy of a public awareness and education campaign aimed at raising awareness of the conservation status of Black-Fronted Terns and Black-Billed Gulls in the Wairau River Catchment.

(g) The Black-fronted Tern and Black-billed Gull Work Plan and Programme shall incorporate an obligation on the consent holder to establish and implement predator control for the habitat of the birds within the scheme diversion reach of the Wairau River, from October to January each year.

Advice note:

For the purposes of these conditions:

A biologically significant difference for Black-Fronted Terns is a negative growth rate, as estimated from pre-scheme and post-scheme bird counts. One approach for estimating population growth rate would be to use general linear models. However, the final method will be confirmed with a biostatistician, in consultation with the Department of Conservation and stakeholders.

For Black-Billed Gulls, a biologically significant difference in population size is defined as a negative growth rate which is greater (steeper decline) than the existing (negative) growth rate for Black-Billed Gulls. The rationale for this is that because Black-Billed Gulls are currently declining, monitoring should aim to detect further decline, beyond that which is already occurring.

A biologically significant difference for Black-Fronted Tern and Black-Billed Gull breeding success is defined as a fledgling success rate less than that determined through pre-scheme research and monitoring studies.

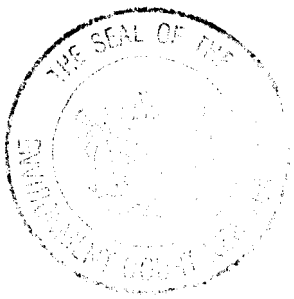
145. Prior to the commencement of the operation of the scheme and annually thereafter the consent holder shall submit the Black-Fronted Tern and Black-Billed Gull Annual Work Plan and Programme to an expert peer review panel. The panel shall consist of two appropriately qualified avifauna experts, one nominated by the consent holder and one nominated by the Department of Conservation. The panel shall be assisted by a mutually agreed biostatistical expert. In undertaking the review the expert panel shall have regard to, but not be limited by, the purposes and objectives of the plan and the provisions set out in condition 144.

146. Prior to the commencement of operation of the scheme the consent holder shall forward the Black-Fronted Tern and Black-Billed Gull Work Plan and Programme to the Consent Authority for approval. A report of the expert panel on the efficacy of the work plan and programme shall form part of the documentation submitted to the Consent Authority.

147. In the event that the expert peer review panel cannot agree as to the appropriate course of monitoring and measures required, each expert shall submit their preference to the Consent Authority who shall then make the final decision as to which programme of works and monitoring will be required during the operation of the scheme. The Consent Authority may seek such independent expert advice as it thinks fit to assist in its decision making.

148. The consent holder shall be responsible for meeting the costs of the approved monitoring and management measures included in the Black-Fronted Tern and Black-Billed Gull Annual Work Plan and Programme and the annual work programme provided that:

(a) The maximum amount payable over the term of the consent shall not exceed $3 million (the amount outstanding at the end of each year shall be adjusted by an amount equivalent to the increase in the Consumer Price Index);



(b) In the event that the $3 million referred to in 148(a) has been fully expended and Black-fronted Tern numbers are in decline as a direct result of the operation of the scheme determined in accordance with condition 217, a further $1 million will be made available (adjusted annually by an amount equivalent to the increase in the Consumer Price Index);

(c) The maximum amount of funding to be made available in any single year shall not exceed $200,000 (adjusted annually by an amount equivalent to the increase in the Consumer Price Index).

Advice Notes:

1. *The purpose of condition 144(c)(i) shall be to evaluate habitat retention for Deleatidium mayfly (Waitaki) and ensure that the desired minimum 80% habitat retention for Deleatidium mayfly (Waitaki) assessed as a monthly median averaged over the diversion reach of the Wairau River from 1 October to 31 January is being achieved.*

2. *As a general principle the amount to be made available annually for implementation of the measures specified in condition 148(c) shall exceed the amount to be used on monitoring and research.*

3. *For the avoidance of doubt, the consent holder's financial liability under condition 148 in terms of funding to be made available for the Black-fronted Tern and Black-billed Gull Annual Work Plan and Programme shall not exceed $4 million over the term of the consent (provided that the amount outstanding at the end of each year shall be adjusted by an amount equivalent to the increase in the Consumer Price Index).*

Terrestrial Vegetation and Wetlands Management

149. The consent holder shall during the construction period implement the requirements of the Vegetation Management Plan. Monitoring conducted to give effect to this management plan shall include the following measures:

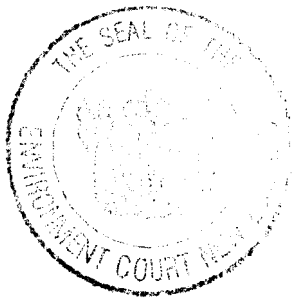
(a) Routine monitoring of the sub-set of three Impact Bush Sites and one Control Site;

(b) Routine monitoring of wetland sites, willows and two of the Control Sites;

(c) Routine monitoring shall be undertaken at six monthly intervals over the course of the construction phase;

(d) Routine monitoring shall also include monthly piezometer readings at all monitoring sites;

(e) Routine monitoring shall include single wetland specific one-off surveys involving a single pre and a single post construction sampling run at the wetland sites when canal excavations occur in their immediate vicinity.



150. (a) In the event that monitoring undertaken in accordance with condition 149 shows a deterioration in the Vegetation Health Indices (as specified in the Vegetation Management Plan) the consent holder shall appoint an expert peer reviewer to determine if the effects are attributable to the construction or operation of the scheme.

(b) If the expert reviewer considers the effects to be attributable to the scheme the consent holder shall, in consultation with the Consent Authority, prepare and implement an appropriate contingency response plan in accordance with the Vegetation Management Plan.

OPERATIONAL

Fish Screen, Barrier and Bypasses

151. The consent holder shall operate, maintain and monitor the fish screen, fish barriers and bypasses to ensure the objectives stated in condition 20 are achieved.

152. In the first year of operation of the Scheme the consent holder shall prepare and submit quarterly monitoring reports as to the effectiveness of all aspects of the fish screening bypasses and barrier systems, including the size of the screen to the Consent Authority. Each monitoring report shall be submitted to the Consent Authority no later than 4 weeks following its completion. The monitoring reports shall include an evaluation by an independent expert of the effectiveness of all aspects of the fish screening bypasses and barrier systems, including the fish screen size.

Dam Safety and Surveillance Management Plan During Operation

153. The consent holder shall ensure that inspections and safety reviews of structures shall be carried out in accordance with the recommendations of the NZSOLD Guidelines.

154. The consent holder shall provide affected residents or landowners with at least one weeks notice prior to carrying out any planned maintenance work associated with the scheme that may affect them.

Community Liaison Group and Complaints Procedure

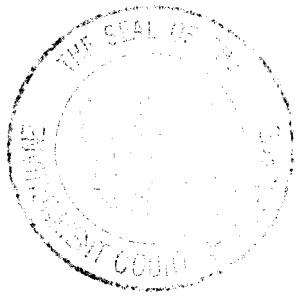
155. The Community Liaison Group referred to in condition 33 shall meet as required by condition 117.

156. The consent holder shall provide the Community Liaison Group with a copy of all environmental monitoring reports once they have been completed. The reports shall be submitted to the Community Liaison Group at the same time as they are submitted to the Consent Authority.

Southern Tributaries

Mill Stream/Walkers Stream

157. The consent holder shall ensure that it does not modify the low flow regime of Walkers Stream or Mill Stream during operation of the scheme. For the purposes of this condition low flow shall be considered to be any flow below the median flow. The regime shall be monitored by gauging stations immediately upstream and downstream of the canal.



158. The consent holder shall use reasonable endeavours to ensure that existing water flows into Mill Stream and Walkers Stream are not disturbed or affected by the operation of the scheme.

159. The consent holder shall continue to monitor all permanent gauging stations used to derive the relationships contained in conditions 38 and 39 during the operation of the scheme, and supply that information to the Consent Authority in electronic format on a daily basis.

160. The consent holder shall compare monitored flow data at Walkers Stream and Mill Stream with the predicted derived relationships on an ongoing basis to determine whether flow regimes have been affected by the scheme operation and report to the Consent Authority on a monthly basis.

161. In the event that low flows at the downstream monitoring sites are lower than the flows predicted by the derived relationships the consent holder shall release sufficient water from the canal to Mill Stream to maintain the natural low flow regime as determined under conditions 38 and 39. Such a release of water shall be via a vegetated swale, sufficient to ensure no decrease in water quality or clarity in the receiving stream.

162. The consent holder shall ensure that any discharge from the canal into Mill Stream is discharged via the vegetated swale at a point as close as practicable to the Canal.

163. The consent holder shall keep records of all recorded and predicted data, and of any releases of water, and make these available to the Consent Authority on an annual basis (following data audit). Daily data will be made available in an electronic format as required by condition 159.

Vegetated Swale

164. In the event that the consent holder is required to convey water from the Canal into Mill Stream in accordance with condition 161, the consent holder shall convey the required water via a vegetated swale constructed by the consent holder at its cost in general accordance with the following:

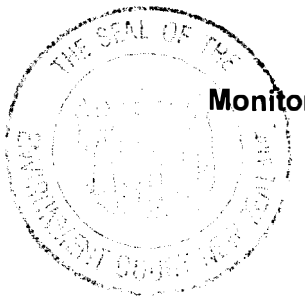
(a) Be fenced with a standard six wire fence along both sides of its length where it traverses through land used for farming;

(b) Be formed and vegetated prior to the commencement of the operation phase of the scheme;

(c) Be maintained (either mechanically or by grazing of sheep only - not cattle) at least once per year to ensure that excessive vegetation does not cause flooding of the adjacent farm land and so that an unimpeded flow of water along the swale can occur at all times.

Use of Emergency Spillways

165. Where practicable, the consent holder shall notify Ormond Aquaculture Limited not less than 24 hours prior to using the Emergency Spillways within the Mill Stream catchment. Where it is not practicable to do so the consent holder shall notify Ormond Aquaculture Limited immediately upon the use of such emergency spillways.



Monitoring of Water Quality in Mill Stream / Walkers Stream

166. For a period of two years following the commencement of the scheme operation, the consent holder shall at its own cost conduct water quality monitoring in Mill Stream and Walkers Stream in accordance with the methodology established under condition 46.

167. The consent holder shall report the results of the monitoring conducted under condition 166 to the Consent Authority, with a copy being made to Ormond Aquaculture Limited and Nelson Marlborough Fish and Game Council to determine whether any observed changes result in an adverse effect on water quality.

168. In the event that the results of the monitoring under condition 166 show the quality of the water has deteriorated the consent holder shall immediately and, at its own cost, appoint an appropriately qualified independent expert:

(a) To identify the cause of the deteriorated water quality; and

(b) In the event the expert concludes that the scheme has caused the deterioration of the water quality, to provide recommendations for remedial action to return the water quality to the baseline standard.

169. In the event that the independent expert's assessment concludes that the scheme has caused the deterioration in water quality in Mill Stream and Walkers Stream the consent holder shall forthwith undertake the recommended remedial action to return the water quality to the baseline water quality standard.

170. The consent holder shall ensure that no herbicide is applied to the water being conveyed in Canal 8A (being the reach of canal that traverses Mill Stream).

171. The consent holder shall monitor fish passage at the Mill Stream culvert within Canal 8A and shall ensure that fish passage is maintained to the satisfaction of the Consent Authority.

Upland Bully Monitoring

172. At five yearly intervals in November the consent holder shall monitor upland bully presence in Saltwater, Hillersden and Walkers tributaries upstream of the flumes which intersect with the canal. In the event that upland bully is not present, and that event coincides with a known period of drought then in the following spring the consent holder shall transfer rocks with upland bully egg masses and adults of both sexes into that tributary reach to assist recolonisation.

Flow Regime

173. The consent holder shall cease abstraction from the Wairau River intake when the flow in the Wairau River exceeds 200m^3/s as measured at The Wash bridge recorder site.

174. The consent holder shall cease abstraction from the Wairau River intake when the flow in the Wairau River measured at the Wash Bridge is below 10m^3/s.

175. The consent holder shall cease abstraction from the Wairau River intake when the flow in the Wairau River measured at the permanent flow monitoring station installed in the Wairau River immediately downstream of Power Station 5 (pursuant to condition 182(c)) is below $14m^3/s$.

176. The consent holder shall ensure that the scheme operation is such that the minimum residual flows in the Wairau River below the scheme intake (as derived by differencing the flows as measured at The Wash bridge recorder site and the take to the scheme) accords with the following:

(a)	January - July	$10m^3/s$
(b)	August	$12m^3/s$
(c)	September	$15m^3/s$
(d)	October - November	$20m^3/s$
(e)	December	$15m^3/s$

Provided that when the natural instantaneous flow immediately upstream of the Wairau intake is less than the flows detailed in condition 176 (a) to (e) above the residual flow shall be equal to the natural instantaneous flow immediately upstream.

Flow Sharing 1st October to 31st January

177. During the period 1st October to 31st January, the consent holder shall adhere to an additional flow sharing regime to that imposed via condition 176. This flow sharing regime shall apply whenever the Wairau River flows at The Wash bridge recorder site exceed the following flows:

(a)	October – November	$25m^3/s$
(b)	December	$20m^3/s$
(c)	January	$15m^3/s$

This flow sharing obligation shall only apply to that portion of the flow that passes The Wash bridge recorder that exceeds the flow (a) – (c) above. When the flows in (a) – (c) above are exceeded the consent holder shall ensure that the minimum total flow in the Wairau River immediately below the Goulter River confluence equals the residual flows in condition 176 plus one third of any of the flow above the limits in (a) to (c) above.

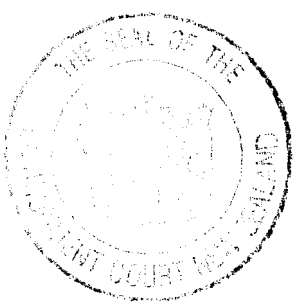
The total Wairau River flow immediately below the Goulter confluence shall be derived by totalling the following:

(i) Wairau River residual flow at the scheme intake (as derived by differencing the flows measured at The Wash bridge recorder site and the take to the scheme)

(ii) Branch River residual/spill flow.

(iii) Wairau Power Station tailrace discharge flow.

(iv) Goulter River flow.



Monitoring

178. The total flow data measured in accordance with condition 177 shall be recorded at hourly (average) intervals and forwarded electronically to Marlborough District Council's website twice daily at 12 hourly intervals. The information provided to the Consent Authority shall include all flows in Condition 177(i) to (iv) above and the total of all flows being the derived total Wairau flow immediately below the Goulter River confluence.

179. The consent holder shall ensure that the scheme operation is such that the minimum residual flows in the Wairau River immediately upstream of the Power Station 5 discharge as derived by differencing the flows as measured at the Wairau River recorder (as described in Condition 182(c)) and the Power Station 5 discharge shall accord with the following:

(a)	January - July	$15m^3/s$
(b)	August	$17m^3/s$
(c)	September	$20m^3/s$
(d)	October - November	$25m^3/s$
(e)	December	$20m^3/s$

Provided that when the natural instantaneous flow immediately upstream of the Wairau River intake is less than the flows detailed in condition 179(a) – (e) above the residual flow shall be equal to the natural instantaneous flow immediately upstream of the Wairau intake plus $5m^3/s$.

Advice Note:
The flows referred to in condition 179 are net of all other consented abstractions in the diversion reach consented prior to the lodgement of TrustPower's application.

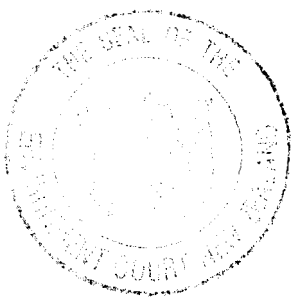
180. In the event that the flows in condition 176 are not realised, a top-up flow will be released from the Wairau Power Station tailrace or via the tailrace from the regulation pond located below the Wairau power stations to achieve the required minimum flow in condition 176. When the Wairau River Intake is closed, however, top up flow shall not be less than the instantaneous flow abstracted by the Branch Hydro Electric Power Scheme (as measured by the Branch River de-silting basin discharge weir).

181. The consent holder shall undertake gauging checks in the diversion reach of the Wairau River once the scheme is operational over a range of flow conditions to confirm that the flows required by conditions 176 and 179 are consistently achieved. These gaugings are to be undertaken quarterly until a stable relationship is derived:

(a) Upstream and downstream of the Wairau River Intake

(b) Upstream of Hillersden

(c) Upstream of Wairau Valley



(d) Immediately upstream of the Power Station 5 discharge.

182. The consent holder shall ensure that the following monitoring equipment is installed, maintained and monitored to the satisfaction of the Consent Authority. The consent holder shall prepare a map showing the location of the equipment and shall install the equipment in the locations shown on the map or within 100m of those locations.

(a) Existing hydrological monitoring at the Branch Hydro Electric Power Scheme shall be continued to enable the accurate calculation of flows from the Branch River intake on a real time basis;

(b) A generation flow versus station generation (cumecs per MW) relationship and its variability under differing headwater and tailwater conditions shall be maintained and established for Power Station 5 such that station flow can be accurately derived in real time;

(c) A permanent flow monitoring station shall be installed in the Wairau River immediately downstream of the Power Station 5 discharge to measure the total flow in the river; ie the sum of the residual flow upstream of Power Station 5 and the Power Station 5 discharges. The consent holder shall ensure that regular gauging of the residual flow (quarterly and following freshes) upstream of the Power Station 5 discharge is carried out to confirm compliance;

(d) Headwater and tailrace level gauges shall be installed to calculate the observed head differential for use in the calculation of generation flow; and

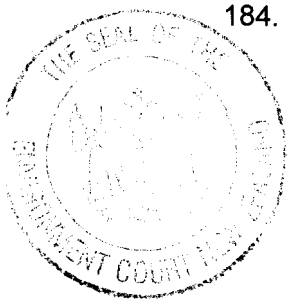
(e) Relocation or reinstatement of the Narrows (site 60119) water gauge currently used for flood warning purposes by the Consent Authority to provide a midpoint indication of the water level and flow response between Marchburn and Tuamarina. This site is not to be rated.

(f) A permanent flow monitoring station shall be installed in the Goulter River.

183. The permanent flow monitoring site to be installed by the Consent Authority at The Wash bridge will be used by the consent holder as an indicator of the total flow upstream of the Wairau River intake. The consent holder shall upgrade the telemetry at the Dip Flat site to act as a backup site, and shall ensure that the flow relationships between all three sites (Dip Flat, The Wash bridge and the Wairau River intake) are kept up to date. The consent holder shall ensure that regular gauging of the residual flow (quarterly and following freshes) downstream of the intake is carried out to confirm compliance.

Advice Note:
Any upgrade of the Dip Flat recorder shall be undertaken in accordance with the provisions of condition 223.

184. The consent holder shall continuously monitor (or derive by difference) the residual flow of the Wairau River in accordance with conditions 176 and 179. The monitoring shall be in real time and the residual flow data shall be recorded at hourly (average) intervals and forwarded electronically to



the Marlborough District Council's website twice daily (at 12 hour intervals).

Power Station 5

185. The consent holder shall ensure that if and when instantaneous flows in the Wairau River fall to 15.5m^3/s as measured at Tuamarina, Power Station 5 will be operated at all times to ensure that the magnitude of the flow fluctuations at Tuamarina will be no greater than ±10% about the rolling 24 hour average flow measured at Tuamarina.

186. The consent holder shall ensure that whenever the 24 hour rolling average inflow to Power Station 5 exceeds 5m^3/s the discharges from Power Station 5 are operated at all times to ensure that the minimum discharge (base flow) does not fall below 50% of the 24 hour rolling average inflow.

187. The consent holder shall ensure that Power Station 5 is operated to ensure that the discharge from it does not exceed a maximum ramping rate of 20m^3/s per hour.

188. On one occasion per calendar year from the commencement of operation the consent holder shall manage the discharge from Power Station 5 such that the discharge occurs on a steady state basis for a continuous 24 hour period to enable the Consent Authority to undertake state of the environment aquifer monitoring within the lower reaches of the Wairau River catchment as follows;

(a) The steady state discharge shall occur when flows as measured at Tuamarina are less than 50m^3/s and the daily average river flow has been in a natural decline for a minimum of 7 days.

(b) In order to provide a variety of monitoring opportunities, the steady state discharge shall occur within two different flow ranges in alternate years in one year, in flows below 25m^3/s as measured at Tuamarina; and in the following year, in flows between 25m^3/s and 50m^3/s as measured at Tuamarina.

(c) For the 24 hours previous to, and during the steady state discharge, the residual flows at the Wairau River and Branch River intakes shall be maintained at a constant rate.

(d) The consent holder shall provide not less than 72 hours notice to the Consent Authority that the steady state discharge from Power Station 5 is to occur subject to the river flow remaining in a state of natural decline.

(e) The steady state discharge shall commence between 12am and 5pm on the date advised, and continue for at least 24 hours.

(f) The commencement of the steady state discharge shall not be scheduled to occur on a Friday or Saturday, except with the prior written consent of the Consent Authority.

(g) In the event that the steady state discharge is interrupted by rising river levels, or other scheme operational issues which cause the discharge flows to fall outside of the definition below, the Consent

Authority may require the consent holder to repeat the steady state discharge.

Advice Note:
"Steady State discharge, in the context of this condition, shall mean that the discharge flow from the station shall be maintained within a range of ±10% or ±1m^3/s as measured by the flow discharge device at the outlet of Power Station 5, which ever is the lesser."

Northbank Tributaries

189. The consent holder shall monitor the connection between the Wairau River and Goulter River, Top Valley Stream, Timms Creek/Cat Creek and Fabians/Bartletts Creek to ensure flow connection is maintained and not interrupted by either the formation of a gravel obstruction or reduced surface water flows:

(a) Monitoring shall be carried out at least once a month during May – August (inclusive) in periods of low flow and once every four months for the remainder of the year;

(b) The consent holder shall submit the results of the monitoring to the Consent Authority with seven days of completion of the monitoring;

(c) In the event that the monitoring shows that connectivity between any of the monitored tributaries and the Wairau River has been lost, the consent holder shall immediately prepare and submit to the Consent Authority for approval a plan for restoring the lost connection and seek any necessary consents for its implementation;

(d) Having obtained the Consent Authority's approval and any necessary resource consents the consent holder shall immediately implement the plan in (c) to the satisfaction of the Consent Authority.

Spill Ways

190. The consent holder shall ensure that back up power systems or fail safe overrides are in place at critical locations being the isolating gates, to maintain key functions of the scheme operation at all times.

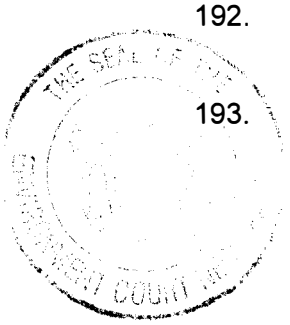
191. In the event that there is spill from an emergency spillway, the consent holder shall:

(a) Keep records of any spills that occur and responsive actions, and report to the Consent Authority where spills have caused damage and have required reparation;

(b) Maintain spill maps showing inundated areas and provide spill maps to the Consent Authority on request.

192. The consent holder shall ensure that the spillways and stabilising paths are inspected annually, consistent with NZSOLD requirements.

193. In the event that it is necessary to dewater the canal, the consent holder shall:



(a) Advise the Department of Conservation and the Nelson Marlborough Fish and Game Council that dewatering is to occur by giving them at least 24 hours notice that dewatering is to occur;

(b) Determine the rate and duration of any discharge required and, where the dewatering is via outlets other than the canal directly to the Wairau River, advise affected property owners by giving them at least 8 hours notice that dewatering is to occur;

(c) Ensure that the rate and duration of discharge established in condition 193(b) will not be exceeded during dewatering of the canal;

(d) Inspect the downstream receiving waterway for any potential damage that might occur from the discharge prior to dewatering of the canal, and any effects on property or access, and put in place appropriate mitigation measures to avoid damage or nuisance;

(e) Ensure that the inspection undertaken in accordance with condition 193(d) shall be documented and the records held by the consent holder shall be supplied to any affected property owners identified in condition 193(b);

(f) Inspect the downstream receiving waterway for any damage following the dewatering of the canal event and reinstate any damage that occurs by a method agreed by the consent holder and the property owner directly affected as a result of the discharge; and

(g) During emergency situations where dewatering is undertaken, the consent holder shall use its best endeavours to achieve conditions 193(a)-(e) above.

Sediment Flushing

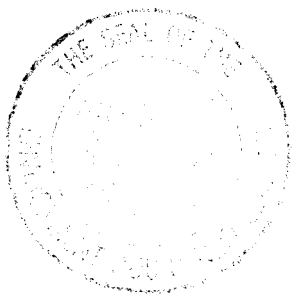
194. The consent holder shall ensure that sediment flushing from the sediment ponding area immediately in front of the intake ports and/or the sediment retention basin only occurs if the following requirements are met:

(a) When the river flow is greater than 80m³/s as determined immediately downstream of the intake and the river hydrograph is likely to rise further (the flow is to be determined by differencing the flow as measured at The Wash bridge recorder site and the intake flow);

(b) The turbidity in the river is greater than 5.6 NTU (nephelometric turbidity units) as recorded at The Wash bridge recorder site;

(c) Sediment flushing shall not occur during the period 1 May to 31 July except where necessary to avoid compromising the operation of the intake pond or the sediment retention basin. Operation of these facilities will be deemed to be potentially compromised, and flushing will be allowed during the trout spawning season, in the event that more than 65% of the designed sediment storage capacity is filled with sediment;

(d) The intake pond and the sediment retention basin shall not be flushed simultaneously but may be flushed sequentially on the same flow event.



195. The consent holder shall keep reliable records of sediment flushing activities and, shall supply a copy of relevant reports to the Consent Authority within 48 hours of each event.

196. The consent holder shall maintain a significant river braid continuous with each sediment flushing outlet to facilitate the conveyance of the flushed sediment and provide for the safe passage of fish from the fish screen bypass leading from the sediment retention basin.

197. The sediment flushing channel must be separate from the fish bypass.

198. For the purpose of assessing the effects of sediment flushing, the mixing zone shall extend to the confluence of the Branch River with the Wairau River.

199. Where practicable during the first year of scheme operation, the consent holder shall give advance notice to the Consent Authority and to nominated representatives of the Department of Conservation and of Nelson Marlborough Fish and Game Council of the possibility that a flushing event might occur. As soon as practicable after the decision by the consent holder to commence flushing, these parties shall be notified that flushing has commenced.

200. The consent holder shall monitor sediment flushing flows as follows:

(a) Maintain continuous records of turbidity at The Wash bridge recorder site, in the sediment flushing outlet channel and in the channel containing the major portion of the flushed sediment immediately upstream of the Branch confluence.

(b) These records shall be available to the Consent Authority on request within two weeks of a flushing event occurring, or on 48 hours notice at other times.

Groundwater Management

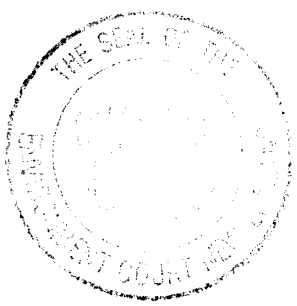
201. During the operation of the scheme the consent holder shall implement the monitoring and mitigation regime as described in condition 131.

202. Within 12 months following the commencing of the operation of the scheme the consent holder shall analyse the groundwater monitoring data. The analysis shall be provided to the Consent Authority and will identify:

(a) A comparison with the measurements made before the scheme activities commenced; and

(b) Comparison with measurements made outside of the areas that could be affected by the scheme activities.

203. (a) The consent holder shall implement mitigation measures as described within the Groundwater Management Plan if the following triggers are breached during the operation of the scheme:



(i) A breach of the 'natural' range of fluctuations in the groundwater monitoring network set out in condition 131.

(ii) A discharge of a quality that is likely to cause an abnormal exceedance or variances of existing levels of pH, electrical conductivity, alkalinity, E.Coli, Chloride, Nitrate-N, Nitrite-N, Ammonia-N, Total-N, Dissolved Reactive Phosphorous, Total Phosphorous and Arsenic in the receiving environment, as determined by the discharge quality measurements that are undertaken as part of the water quality monitoring detailed in condition 131.

(iii) In particular, the consent holder shall ensure that a water supply of similar, or better, quality and quantity is available to all groundwater users located within the area that is affected by groundwater changes resulting from the scheme activities, as determined by the groundwater level monitoring specified in condition 131.

(b) The provisions set out in conditions 133, 134 and 135 for assessing and addressing claims shall also be available during the operation of the scheme if there is a breach of the triggers set out herein.

204. Within six months following the first two years of operation of the scheme the consent holder shall prepare a report for the Consent Authority detailing the groundwater monitoring that has been undertaken, the effects created by the operation of the scheme and the mitigation measures that have been implemented.

Aquatic Ecology - Main Stem

205. The consent holder shall be responsible for the implementation of the Aquatic Ecology Management Plan through the operation of the scheme and its regular review as appropriate. Any review of the Aquatic Ecology Management Plan shall be completed to the satisfaction of the Consent Authority to ensure that it meets the objectives set out in condition 58.

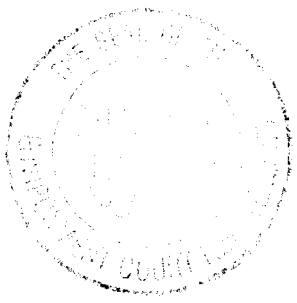
206. During the operational phase of the scheme the consent holder shall for a period of at least three years, continue to monitor at the sites listed in condition 65 to determine:

(a) Abundance and distribution of benthic macroinvertebrates, periphyton and fish;

(b) Water quality, including clarity, electrical conductivity, dissolved oxygen, pH, Nitrate/Nitrite-Nitrogen, Ammonia-Nitrogen, Total-Nitrogen, Dissolved Reactive Phosphorous, Total Phosphorous, and suspended sediment;

(c) Water temperature.

The monitoring period commences on the first day of the operational phase of the scheme. The consent authority is to be advised by the consent holder when the operational phase is considered to have commenced.



207. In the event that the monitoring undertaken in accordance with condition 206 shows that the early warning triggers identified in the Aquatic Ecology Management Plan have been exceeded then the consent holder shall report the monitoring results to an Ecological Advisory Group (EAG) made up of three independent and suitably qualified aquatic ecologists (approved by the Consent Authority). The EAG shall determine:

(i) Whether the recorded reduction or change is likely to be prolonged, or is a result of a natural perturbation, or a short term or unforeseen event; and

(ii) Whether the Scheme has contributed to or caused the recorded reduction or change.

(a) If in the opinion of the EAG the reduction or change is likely to have been caused by the operation of the Scheme, the EAG will recommend an appropriate contingency action which could include, amongst other things:

(i) A change to the minimum flow regime to the extent necessary to reverse the reduction or change and restore the ecological health of the affected reach of the river.

(b) The consent holder shall implement the recommendation of the EAG in accordance with condition 207 to the satisfaction of the Consent Authority. In the event that benthic invertebrates, periphyton, fish communities, water temperature and/or water quality parameters have not been restored to levels within the trigger values identified in condition 59 in monitoring carried out subsequent to the implementation of the recommendations of the EAG, the Consent Authority may review the conditions of consent.

208. In the first year of operation of the scheme the consent holder shall monitor four sediment flushing events from the sediment retention basin to assess the effects on embeddeness on riffle habitats and water clarity. The monitoring shall be undertaken at the following sites in the Wairau River immediately before and as soon as practicable after the flushing event:

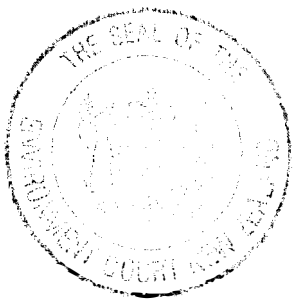
(a) A site known as 'Six Mile' located approximately 12km upstream of the bund associated with the intake for the scheme, to be used as a control site;

(b) A site known as 'Airstrip' located approximately 1 – 2km upstream of the bund associated with the intake for the scheme, to be used as a control site;

(c) A site approximately 1km downstream of the Scheme intake;

(d) A site known as 'Wairau Valley' located approximately midway between the intake for the scheme and the Power Station 5 tailrace confluence with the Wairau River;

(e) A site known as 'Marchburn' located just upstream of the Power Station 5 tailrace confluence with the Wairau River;



(f) A site approximately 1km downstream of the Power Station 5 tailrace confluence with the Wairau River;

(g) A site known as 'Renwick' located approximately 500m upstream of the Renwick Bridge (SH6).

209. The consent holder shall ensure that the monitoring of the sediment flushing events in accordance with condition 208 is undertaken using the black disk method to assess clarity.

210. (a) In the event that the monitoring undertaken in accordance with condition 208 shows:

(i) A 25% increase in the embeddedness of riffle habitats within the diversion reach over two consecutive monitoring occasions relative to pre operational levels and upstream control sites; and/or;

(ii) A decrease in water clarity downstream of the diversion reach greater than 50% relative to upstream control sites;

then the consent holder shall inform the Ecological Advisory Group.

(b) The EAG shall be made up of three independent and suitably qualified aquatic ecologists (approved by the Consent Authority) to determine:

(i) whether the recorded change is likely to be prolonged or is a result of a natural perturbation, or a short term or unforeseen event; and

(ii) whether the scheme has contributed to the recorded change.

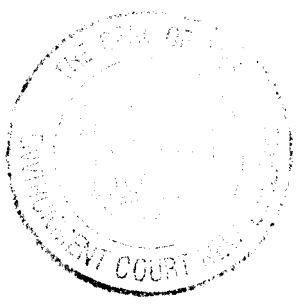
(c) If in the opinion of the EAG the change is likely to have been caused by the operation of the scheme, the EAG will recommend an appropriate contingency action which could include amongst other things:

(i) Reducing the sediment concentrations in the flushing discharge by approximately 25% by using alternative methods of disposal.

(d) The consent holder shall implement the recommendation of the EAG in accordance with condition 210(c) to the satisfaction of the Consent Authority. In the event that embeddedness and water clarity have not been restored to levels within the trigger levels identified in condition 210(a) in monitoring carried out subsequent to the implementation of the recommendations of the EAG, the Consent Authority may review the conditions of consent.

211. (a) The consent holder shall operate the Scheme to ensure that it does not cause or exacerbate conditions which impede trout spawning migration.

(b) The consent holder shall as part of the Aquatic Ecology Management Plan include methods to ensure that trout spawning migration is not impeded as a result of the Scheme including the following requirements:



(i) Monitor the mean daily flows calculated immediately below the Goulter River confluence (derived in accordance with condition 177) during the period from 1 March to 30 June each year;

(ii) In the event that from 1 March to 30 June each year the daily mean flow falls and remains below $20m^3/s$ for 30 consecutive days the consent holder shall ensure that on the next fresh of $45m^3/s$ or more (calculated below the Goulter) the flow in the river, immediately below the Goulter confluence, is at least $45m^3/s$ for at least 48 hours.

212. (a) In the event that nuisance periphyton growth (including didymo) has occurred in the Wairau River relative to pre-operational levels and/or the control sites for two consecutive monitoring occasions, the consent holder shall ensure that when ambient river flows increase to 150m3/s as measured at The Wash bridge recorder site following an extended period of low summer flow (ie conditions under which nuisance growths of periphyton have developed), the scheme intake shall be closed or water shall be diverted back to the river via the intake pond for a 24 hour period.

(b) Should nuisance levels of periphyton re-establish or persist an additional flushing flow is not required sooner than six weeks following a flushing flow provided in accordance with condition 212(a) or a high flow event in accordance with condition 173.

Advice Note:

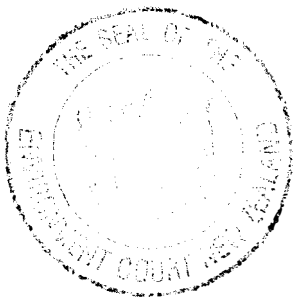
For the purpose of this condition, a nuisance periphyton growth shall be defined as a 60% maximum cover of diatoms/cyanobacteria on the visible stream bed that is >0.3cm thick or a 30% maximum cover of filamentous algae on the visible stream bed that is >0.2cm long between 1 November and 30 April in any given year.

213. The consent holder shall notify surrounding land owners and water abstractors of the intent to utilise herbicide control in the canal not less than four weeks in advance.

River Birds

214. Following commissioning of the scheme the consent holder shall immediately implement the monitoring and measures required by the Wairau Valley Black-Fronted Tern and Black-Billed Gull Work Plan and Programme in accordance with conditions 144 to 148. The consent holder shall continue to implement this plan for as long as such a plan is required in accordance with condition 144.

215. A report detailing the results of monitoring and management work undertaken in accordance with the Black-Fronted Tern and Black-Billed Gull Work Plan and Programme shall be reviewed by the expert panel established under condition 145. The consent holder shall submit the monitoring and management report together with the review panel's report



to the Consent Authority following the completion of monitoring in February each year by 1 May in the same year.

216. In the event that a biologically significant decline in Black-Fronted Tern and/or Black-Billed Gull population and/or fledging success is reported under condition 215 the consent holder shall instruct the expert panel required under condition 145 to advise the Consent Authority on the probable reasons for the reduction in fledging success. The expert panel shall prepare and submit a report to the Consent Authority by 31 July each year assessing whether the decline in population and/or fledging success is likely or unlikely to be a result of the scheme.

217. (a) In the event that a biologically significant decline is reported under condition 215 and unless in the opinion of the expert panel that decline is unlikely to have been caused by the scheme, the consent holder shall obtain further advice from the expert panel as to what measures should be implemented immediately in order to mitigate the decline, including determining whether it is necessary to increase the minimum residual flow during the river bird nesting season.

(b) Upon the receipt of the advice from the expert panel the consent holder shall implement the recommended measures.

218. In addition to the requirements of condition 217 the consent holder shall instruct the expert panel to:

(a) Prepare a report outlining and assessing methods for avoiding further reductions in fledging success in the next breeding season including where appropriate, but not limited to implementation of:

(i) a permanent increase in the minimum residual flow during the river bird nesting season;

(ii) further or amended predator management techniques; and/or:

(iii) habitat enhancement measures.

(b) This report shall be submitted to the Consent Authority.

219. If in accordance with condition 218(a) the expert panel recommends that the minimum residual flow should be permanently altered then a review of the conditions of consent by the Consent Authority shall be undertaken in accordance with condition 226. If a review is conducted in accordance with condition 226, the consent holder shall continue to implement the measures required by condition 218 during the river bird nesting season for the duration of the review period.

220. The consent holder shall place and maintain annually during the period 1 October to 31 January at public access points on the diversion reach as defined in the Annual Work Plan and Programme, appropriate signs advising of the Black-Fronted Tern and Black-Billed Gull nesting colonies and of the importance of avoiding disturbance to birds during the nesting season. This shall be completed in consultation with the Department of Conservation.

Advice Note:

For the purpose of these conditions fledging success means the percentage of eggs laid that produce a fledged chick.

Terrestrial Vegetation and Wetlands Management

221. The consent holder shall implement the requirements of the Vegetation Management Plan throughout the operation of the scheme. Monitoring shall be undertaken in accordance with the management plan and include:

(a) Routine monitoring of the sub-set of three Impact bush sites, as well as three wetland sites, and two control sites.

(b) Routine monitoring shall include monthly piezometer readings at all monitoring sites.

222. The consent holder shall monitor Vegetation Health Indices and implement contingency actions if required in accordance with the Vegetation Management Plan.

Flow Measurement

223. The consent holder shall ensure that the following international standards or any subsequent operative standard replacing the standard description in paras (a)-(f) are adhered to for all flow measurements associated with the scheme as may be relevant.

(a) ISO/TR 8363:1997 Measurement of liquid flow in open channels – New General guidelines for selection of method.

(b) ISO 11655:1995 Measurement of liquid flow in open channels – Method of specifying performance of hydrometric equipment.

(c) ISO 748 Measurement of liquid flow in open channels – Velocity area methods.

(d) ISO/TS 24154 Hydrometry – Measuring river velocity and discharge with acoustic Doppler profilers.

(e) ISO 1100-1 Measurement of liquid flow in open channels – Part 1; Establishment and operation of a gauging station.

(f) ISO 1100-2 Measurement of liquid flow in open channels – Part 2; Determination of the stage-discharge relation.

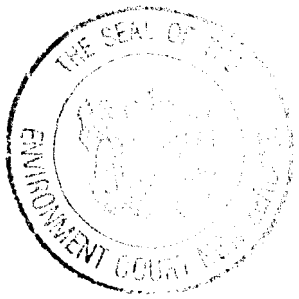
REVIEW CONDITIONS RELATING TO GROUNDWATER, FISH SCREENS & RIVER BIRDS

224. The conditions of this consent with respect to groundwater management may be reviewed in accordance with section 128 of the Resource Management Act 1991 at the following times:

(a) At any time up to six months after the consent holder completes the reporting required under condition 57;

(b) At any time up to six months after the consent holder completes the reporting required under condition 131;

(c) At any time up to six months after the consent holder completes the reporting required under condition 204;



(d) At five yearly intervals thereafter.

Advice note:

The results of all investigations and surveys will be used by the Consent Authority to assess whether the project is likely to have, or is having, any unforeseen and significant adverse effects on the groundwater resource within the area defined within the Groundwater Management Plan required by condition 51.

225. The conditions of consent concerning fish screens and fish barriers may be reviewed by the Consent Authority pursuant to section 128 of the Resource Management Act 1991 upon receipt of a report under condition 152 which concludes that the fish screening and/or fish barriers system is not meeting the terms of these conditions

226. The conditions of this consent with respect to River Birds may be reviewed in accordance with section 128 of the Resource Management Act 1991 at the following times:

(a) Immediately upon the receipt of a report under condition 216 which concludes that there has been a biologically significant reduction in breeding success and that an alteration to the residual flow regime is necessary to mitigate the decline in river bird population decline.

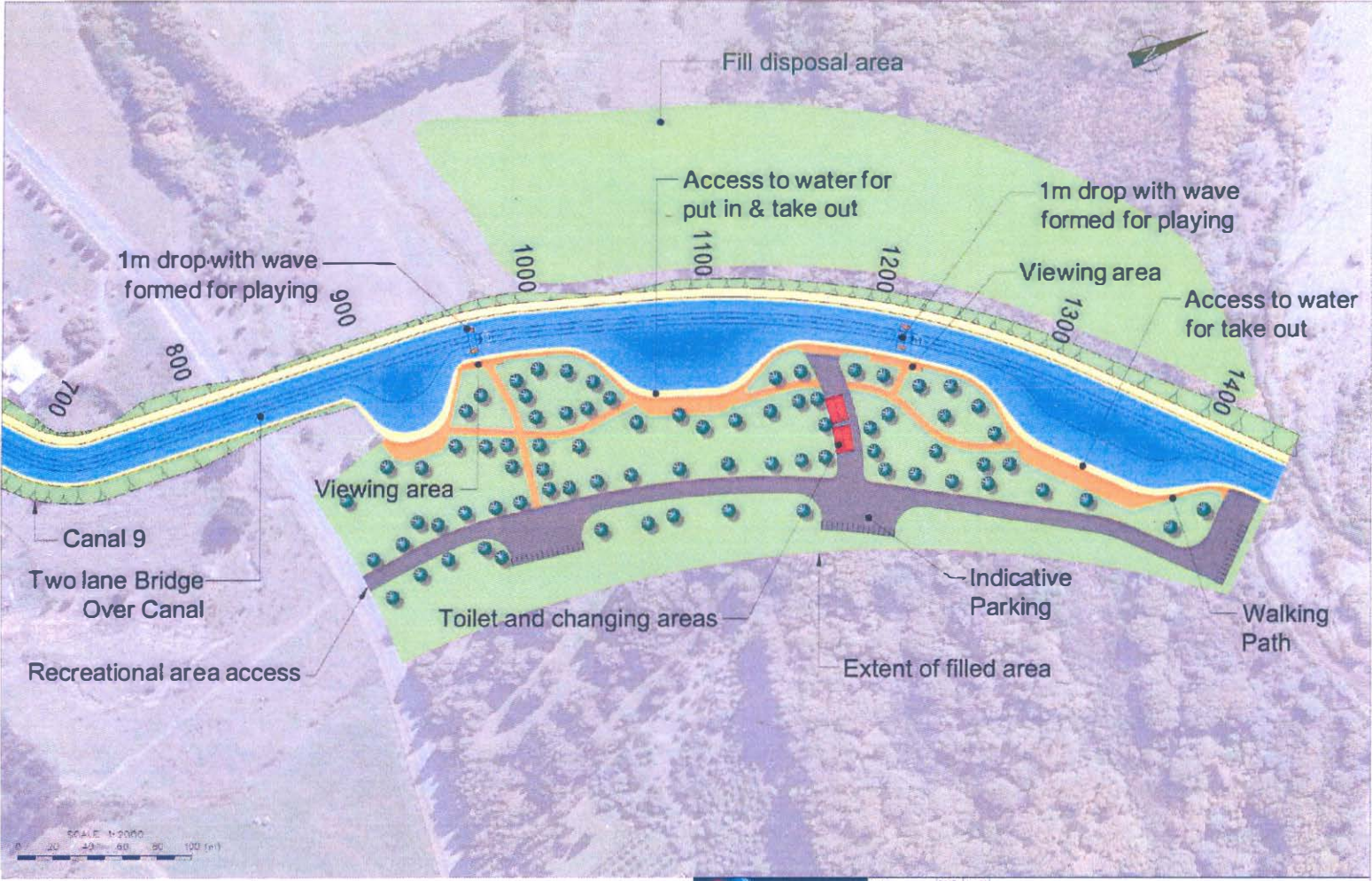
(b) At any time following the commencement of construction of the Scheme to address any unanticipated effects of the Scheme on avifauna (including, for the avoidance of doubt, any reduction in breeding success as a result of the Scheme).

Advice note:

It is recorded that this review condition is not intended to restrict, replace or abrogate the right of the Consent Authority to review the consent pursuant to the provisions of s128(1)(c) and section 132(4) of the Resource Management Act 1991.

227. The conditions of this consent with respect to Aquatic Ecology may be reviewed upon receipt of any report that trigger levels set in Condition 59 have been breached.

FIGURE A



Tonkin & Taylor
Environmental & Engineering Consultants
Auckland

DRAWN: RMC
DRAWING CHECKED:
APPROVED:
DATE FILE: V:\23093\Kayak Course.dgn
SCALE (IF A3 SIZE): AS SHOWN
PROJECT No: 23093

Trustpower Ltd
Wairau HEPS
Wairau River
Conceptual Kayak Course

FIG. No. Figure 1
REV: C

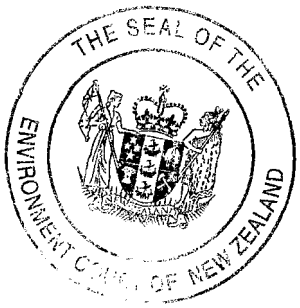
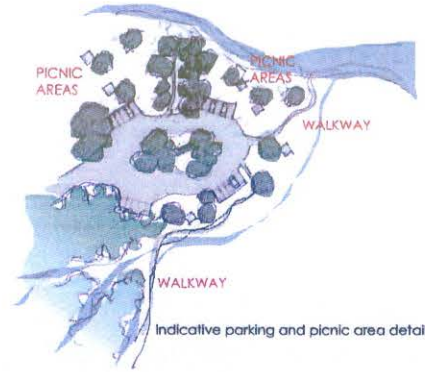


FIGURE B

Indicative view riverside recreation and picnic. area.



Indicative parking and picnic area detail.

RIVERSIDE parking and picnic area.

WAIRAU RIVER

MANUKA FOREST retained.

KANUKA FOREST retained.

VIEWING PLATFORM

WALKWAY

POWER STATION

ELEVATED VIEWING PLATFORM

WALKWAY

KANUKA/MANUKA FOREST AND SCRUB retained and enhanced.

WALKWAY

WETLAND enhancement planting.

KOWHAI STAND retained and enhanced.

PEDESTRIAN BRIDGE

SALTWATER STREAM

NEW

EXIST

ROAD ACCESS to State Highway 63.

Regulating pond walkway and interpretation.

Pedestrian bridge over canal.

SALTWATER STREAM Walkways.

SALTWATER STREAM Flume over canal.

CANAL

SCALE 1:8000 @ A3

1

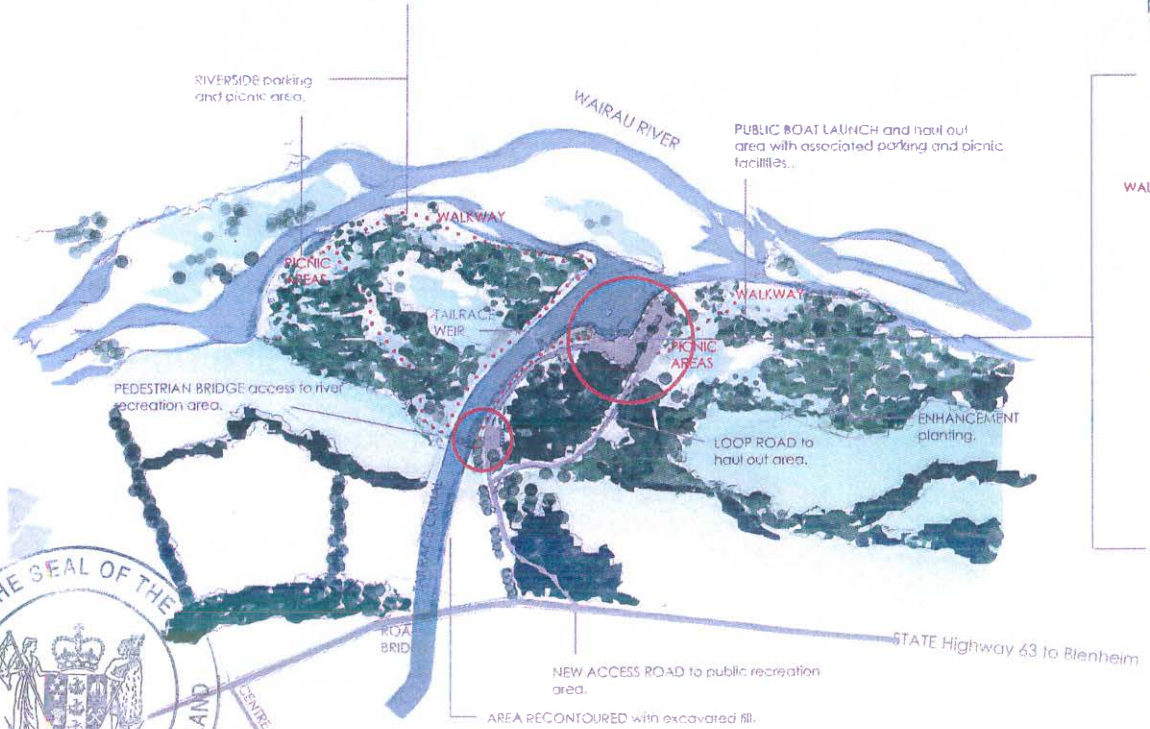
WAIRAU POWER STATION

Regulating Pond Landscape Enhancement and Recreation Area.

Prepared for Trustpower by Boffa Miskell Ltd.
April 2006.

Indicative view riverside recreation and picnic area.

Boat launching and haul out area with boardwalk and viewing platform.



Boat launching and haul out ramp with associated carparking area indicative detail.

SCALE 1:5

WAIRAU RIVER OUTFALL
Recreation Area.
Prepared for Trustpower by Boff
Febuary 2003.

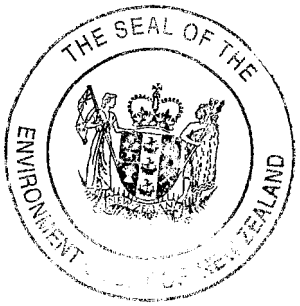
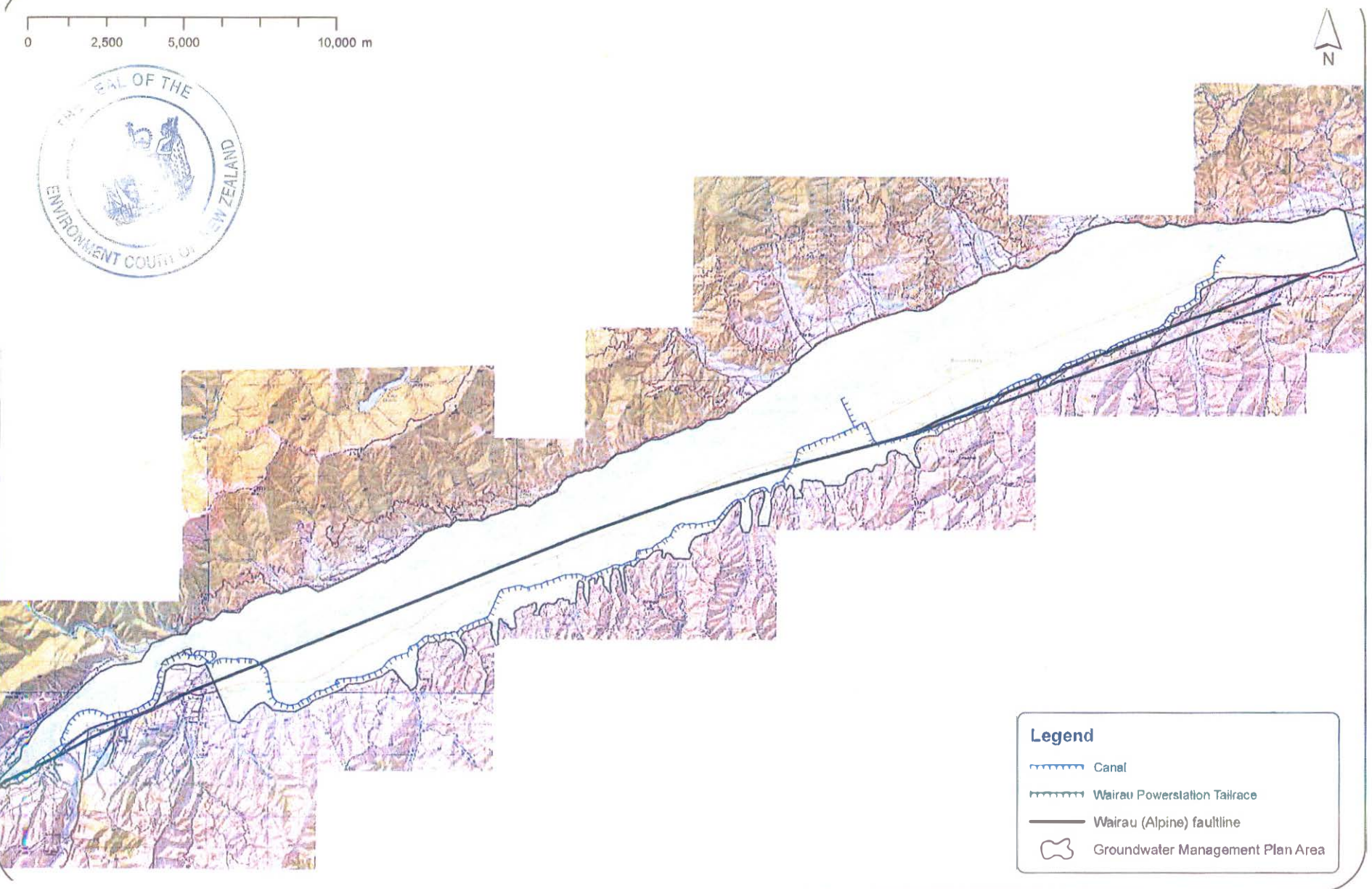


FIGURE C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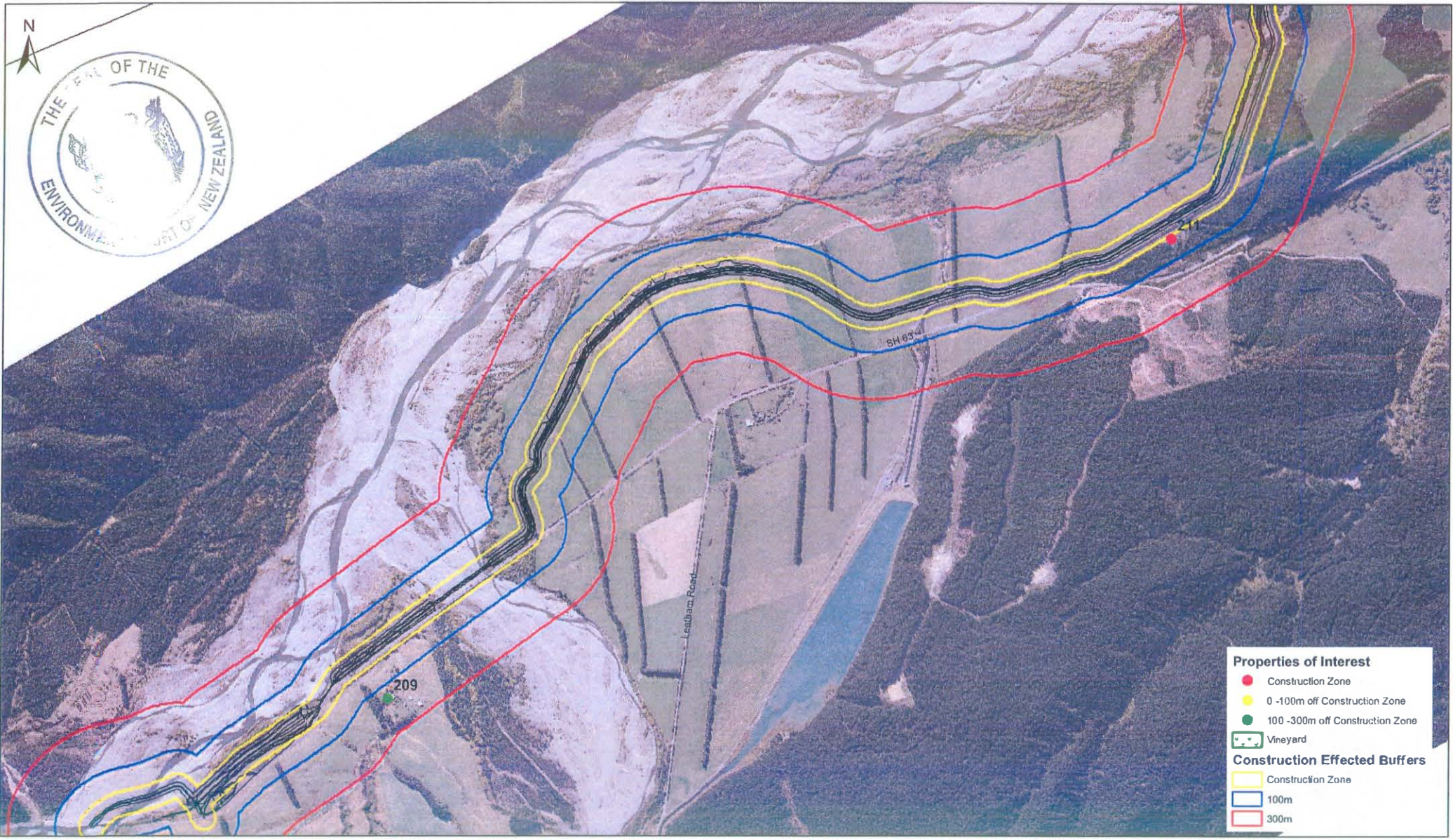
Legend
Canal
Wairau Powerstation Tailrace
Wairau (Alpine) faultline
Groundwater Management Plan Area

FIGURE D



Rev	Description	App	Date

URS New Zealand
6th Floor
URS Centre
13 - 15 College Hill
Auckland
P.O. Box 821
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New Zealand
Tel 09 355 1300
Fax 09 355 1333

Title: Wairau Hydroelectric Scheme:
Construction Dust Effect Zones

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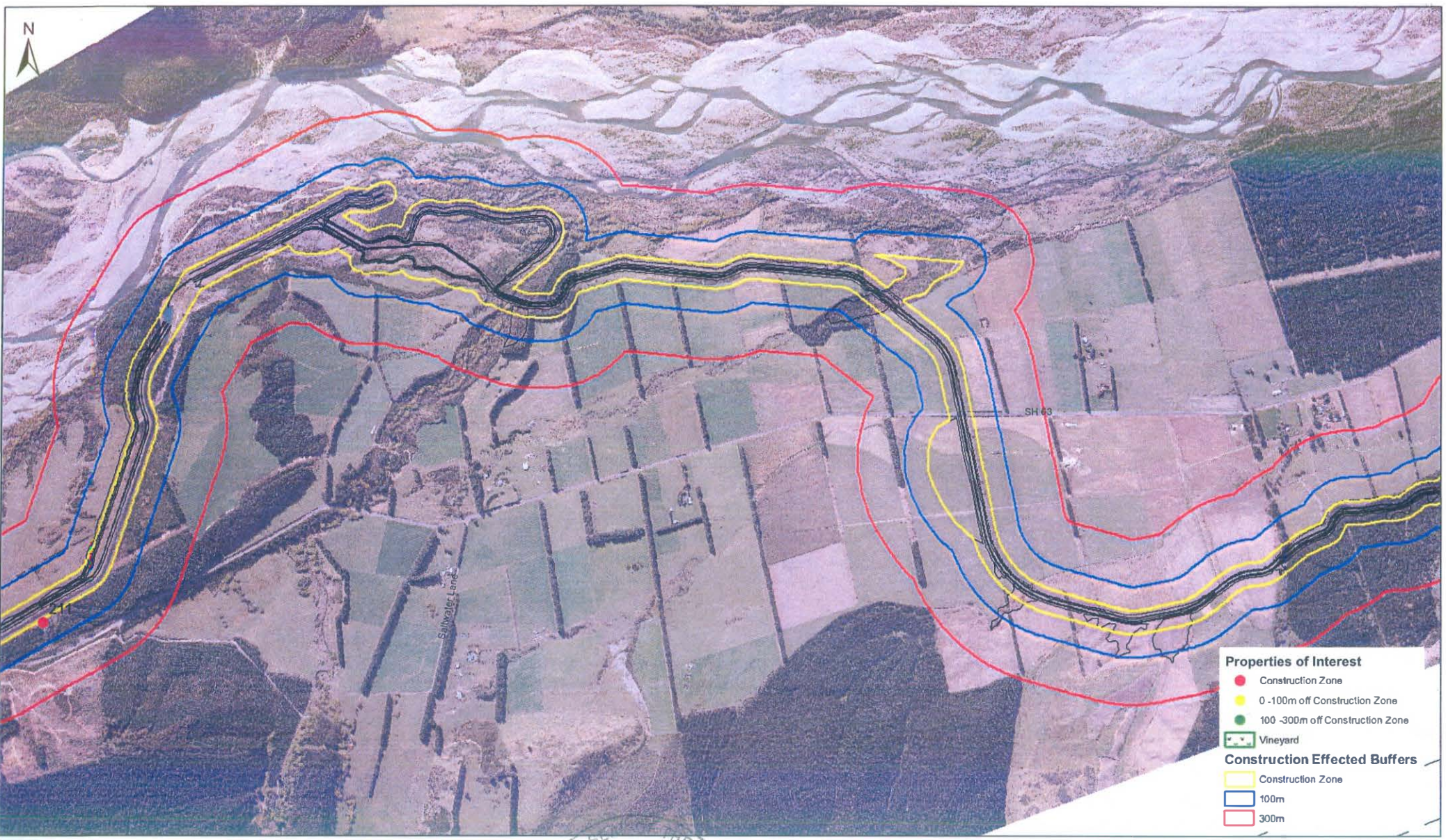
Original Size:	A3	Checked: AC	Page 1 of 8 / Rev A
Date Created:	21 Aug 2009	Approved: AC	



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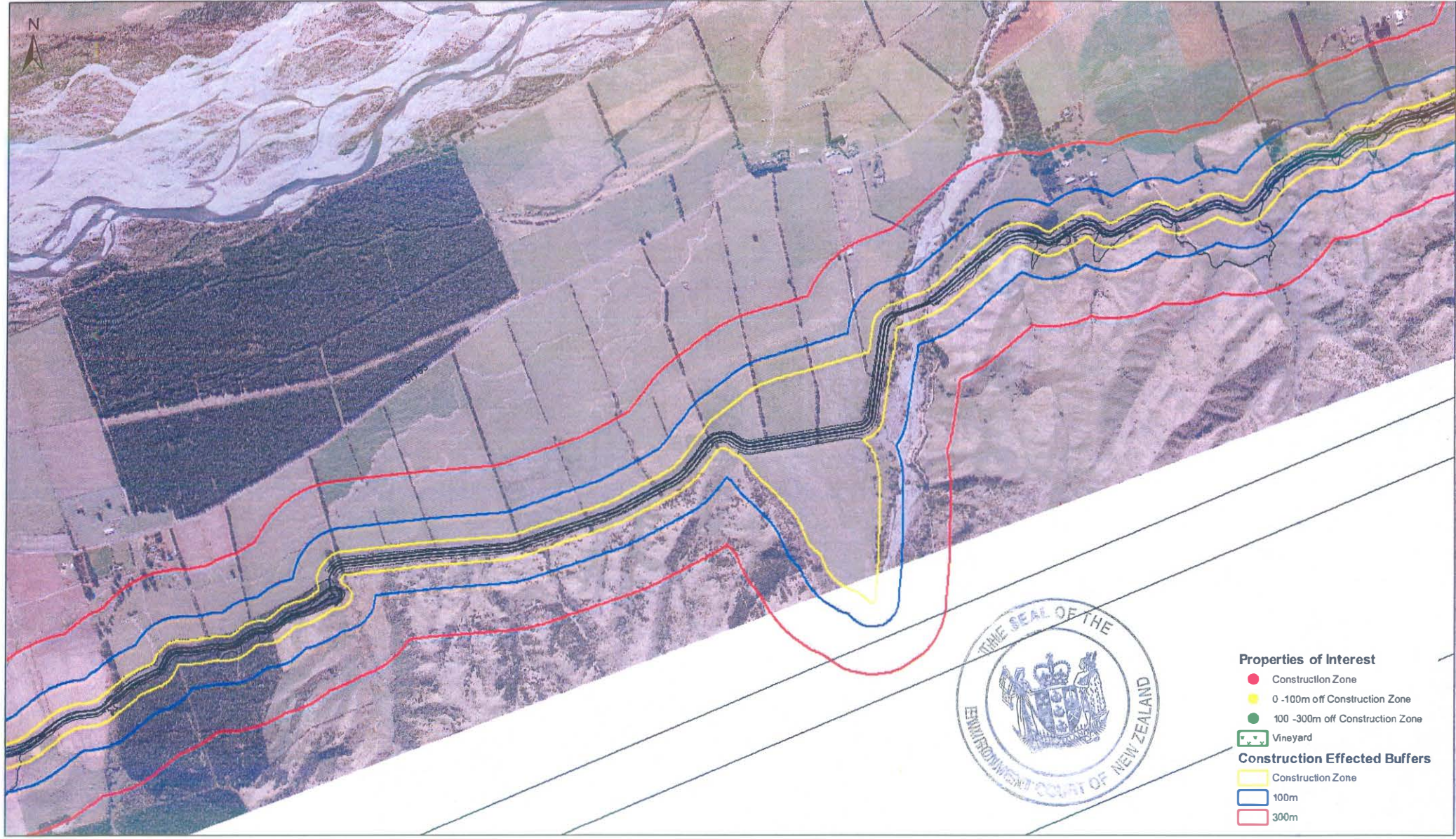
Rev: A



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Title: Wairau Hydroelectric Scheme:
Construction Dust Effect Zones

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Date Created:	21 Aug 2009	Approved:	AC

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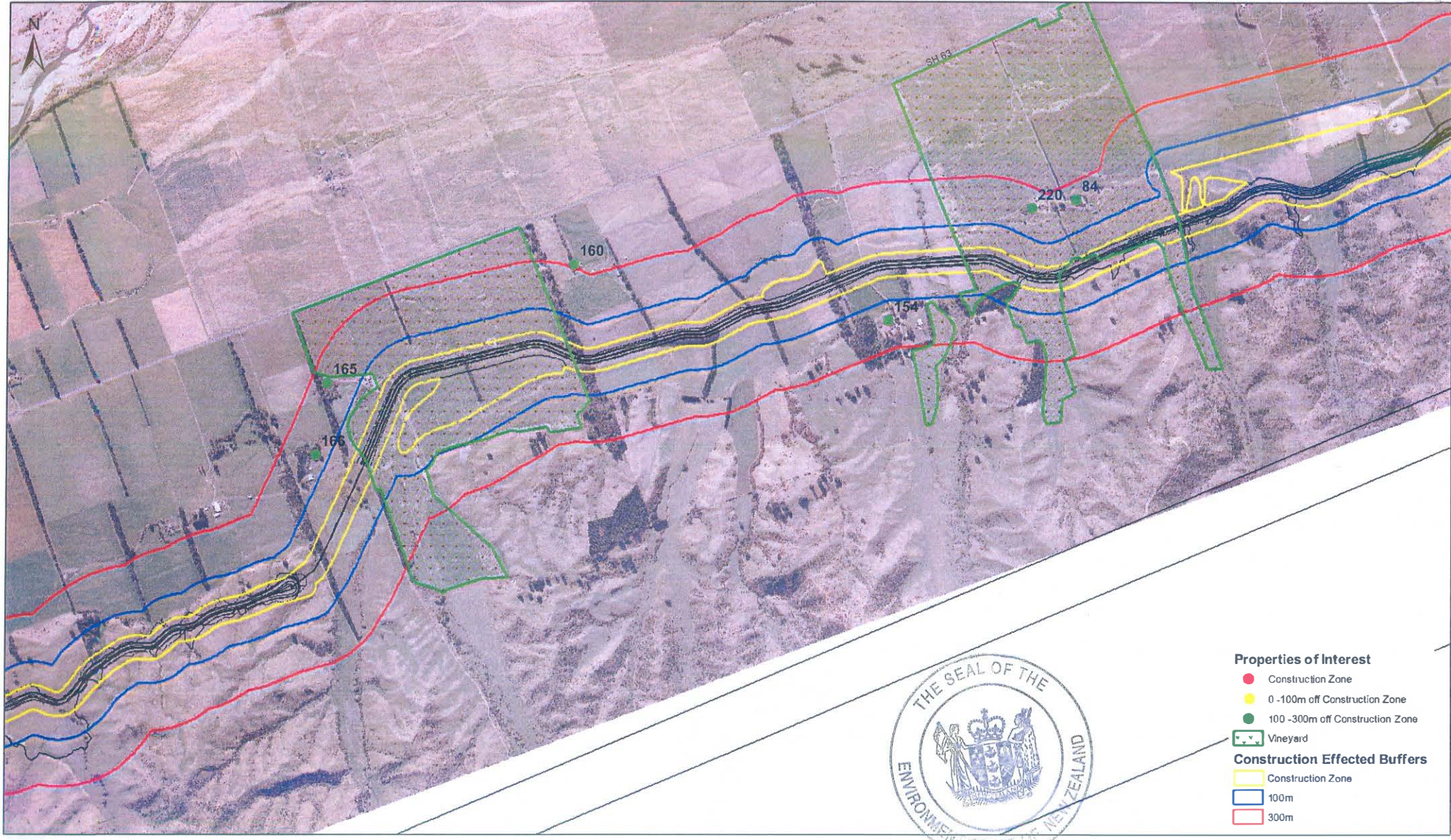

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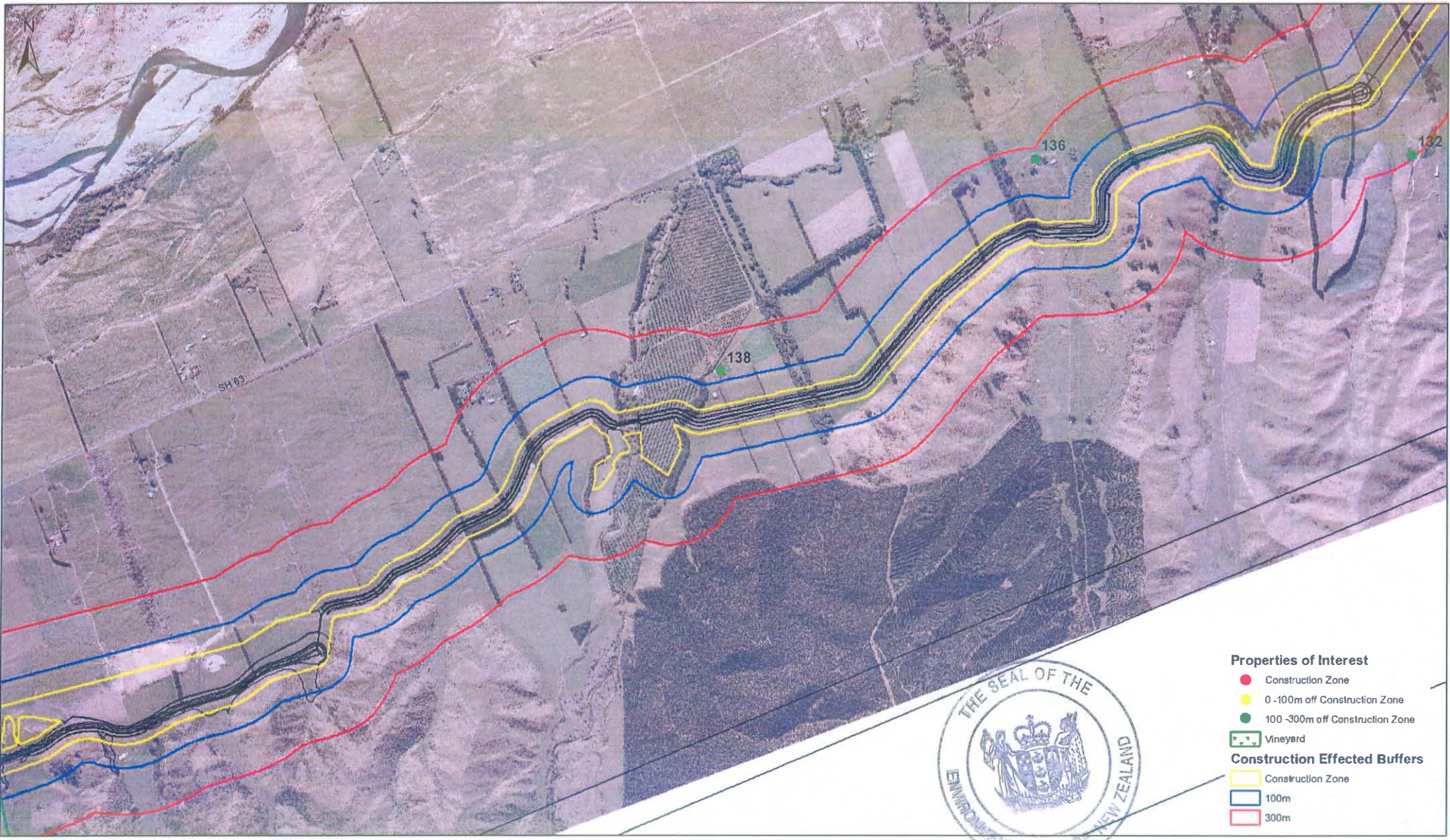
Rev: A



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Title: Wairau Hydroelectric Scheme:
Construction Dust Effect Zones

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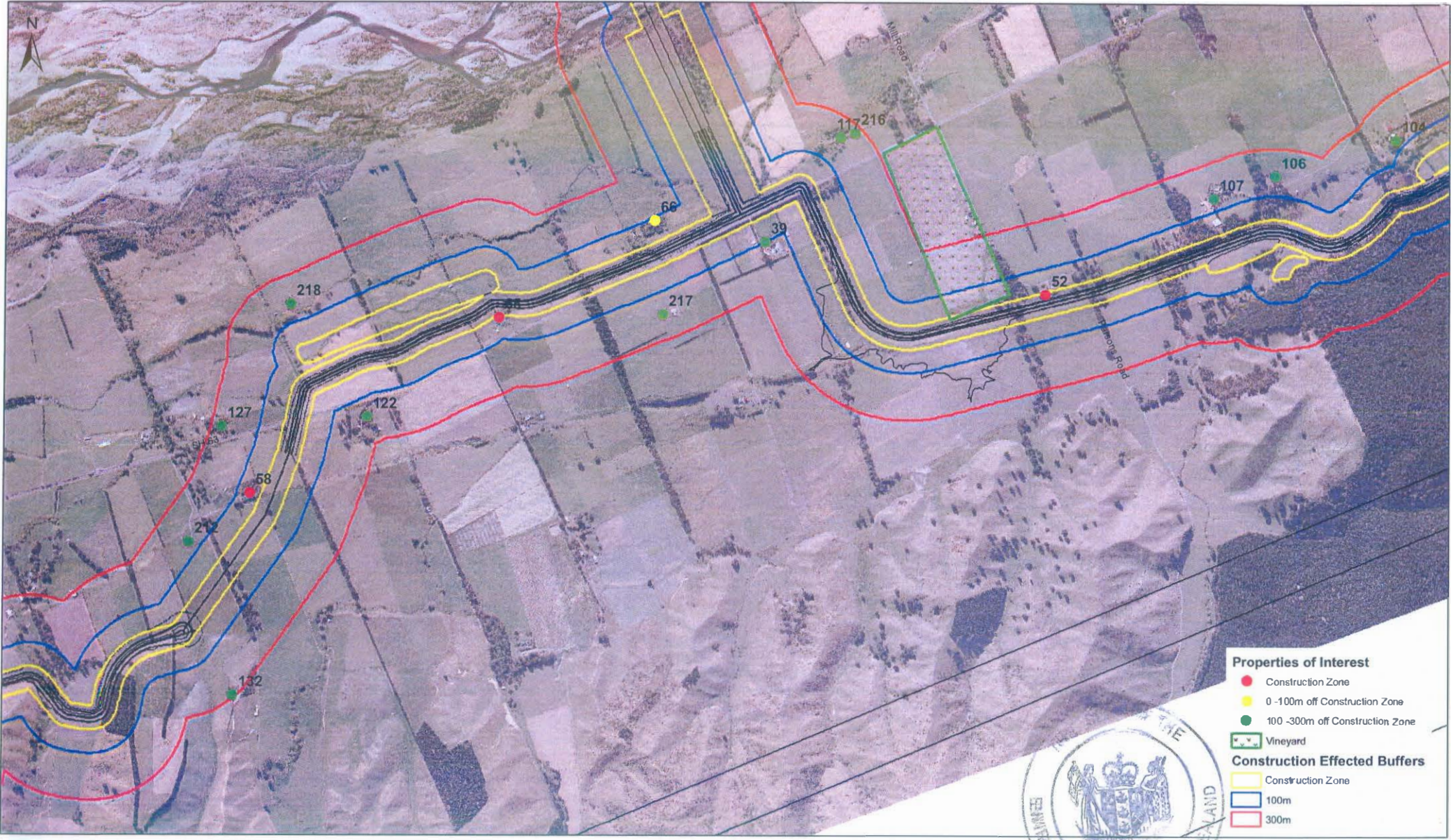

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New Zealand
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Title: Wairau Hydroelectric Scheme:
Construction Dust Effect Zones

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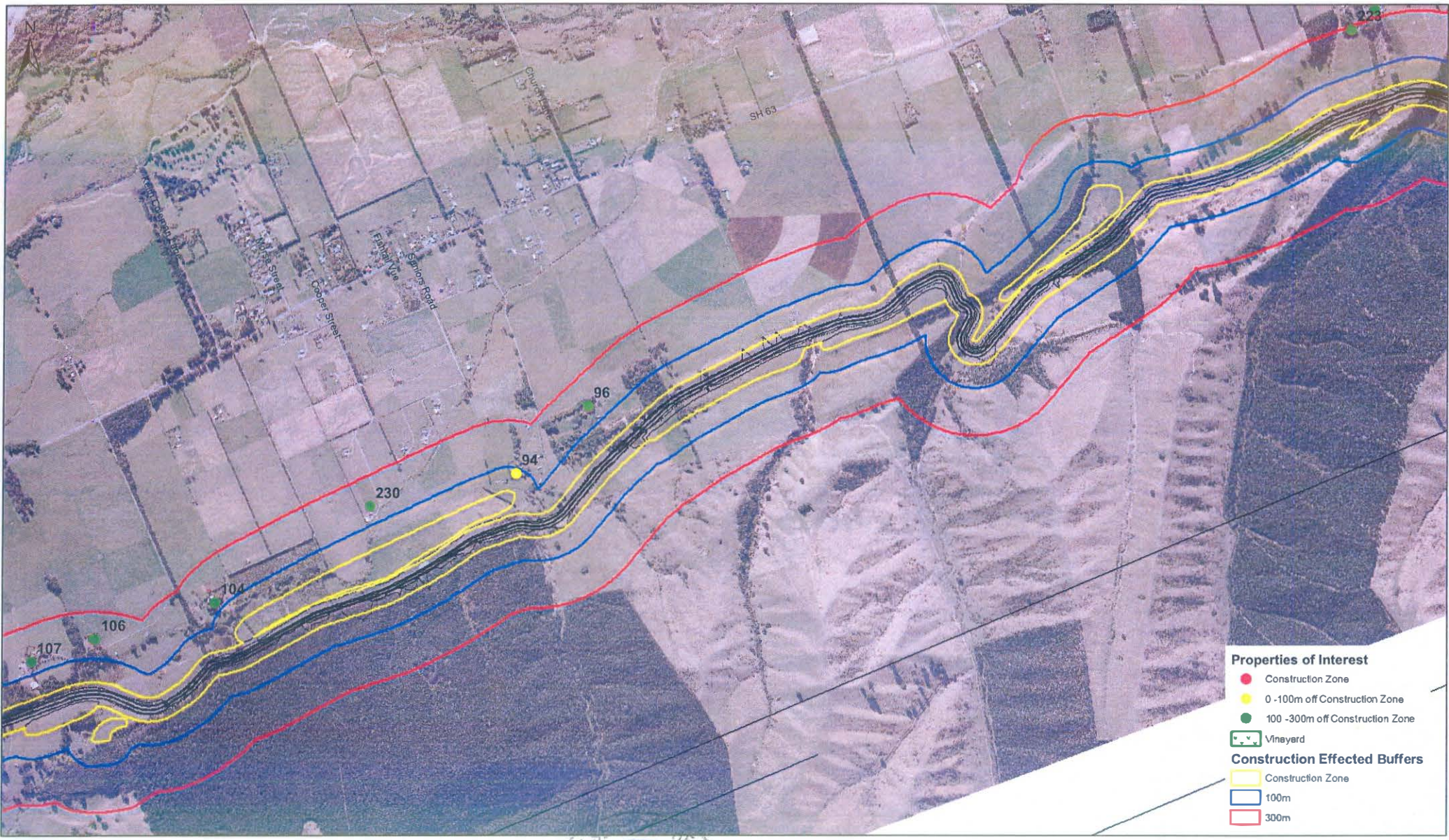
Status: FINAL

Rev: A



Rev	Description	App	Date

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Title: Wairau Hydroelectric Scheme:
Construction Dust Effect Zones

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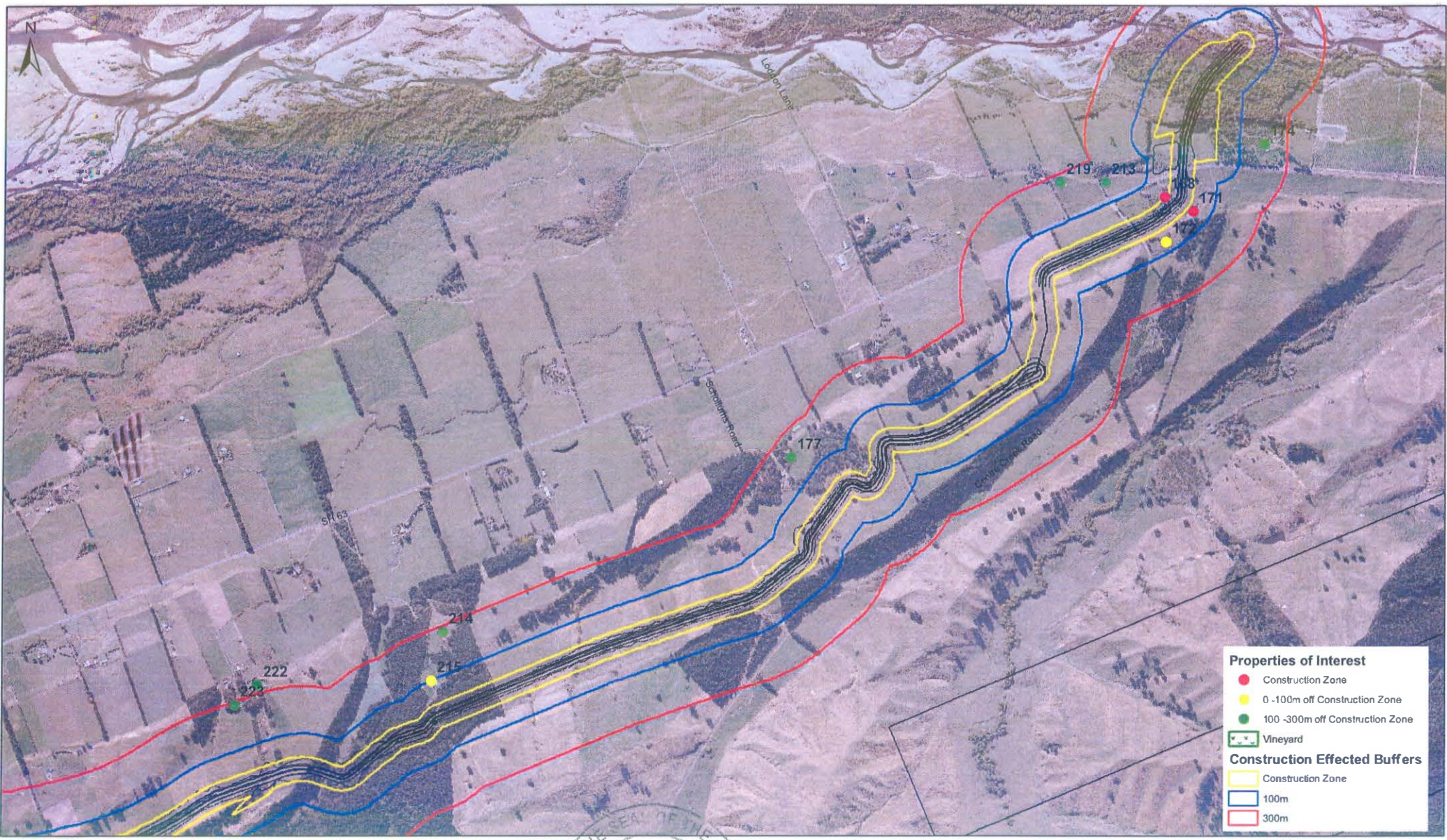

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